

Prilog poznavanju utvrde Citadela u Zadru - istraživanja Barbakana 2008. godine

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A Contribution to the Understanding of the Citadela Fort in Zadar – the 2008 Investigations at the Barbakan

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U sklopu radova na utvrdi Citadela na jugoistočnom dijelu gradskih zidina u Zadru, 2008. godine proveden je arheološki nadzor građevinskih radova na prostoru Barbakana. Istraživanja su donijela niz podataka o izgledu tog prostora i promijenila dosadašnje spoznaje o vremenu i načinu njegove gradnje. Manji dio nalaza pripada rimskom vremenu, dok veći potječe iz srednjovjekovnoga i novovjekovnog razdoblja. Među sitnim arheološkim nalazima prednjači keramika, unutar koje nalazimo i rijetke primjerke glazirane keramike iz 13. i 14. stoljeća, koji do sada nisu zabilježeni na zadarskom području. Osim keramike pronađen je i manji broj staklenih nalaza koji uglavnom pripadaju srednjovjekovnom razdoblju.

Ključne riječi: Barbakan, Citadela, glazirana keramika, srednji vijek, novi vijek.

Archaeological supervision of construction works in the zone of the Barbakan (Barbakan) was carried out in 2008 in the frame of the works on the Citadela fort (Citadela) in the southeastern part of the Zadar city walls. The investigations yielded a wealth of new information on the appearance of that space and changed our previous understanding of the time and method of its construction. A smaller number of finds belong to the Roman Age, while the majority comes from the Middle Ages and the Modern Period. Ceramic finds dominate among small archaeological finds, including rare specimens of glazed ware from the 13th and 14th centuries, formerly unregistered in the Zadar area. In addition to ceramic finds, there was also a small number of glass finds, mostly belonging to the mediaeval period.

Key words: Barbakan, Citadela, glazed ware, Middle Ages, Modern Period.

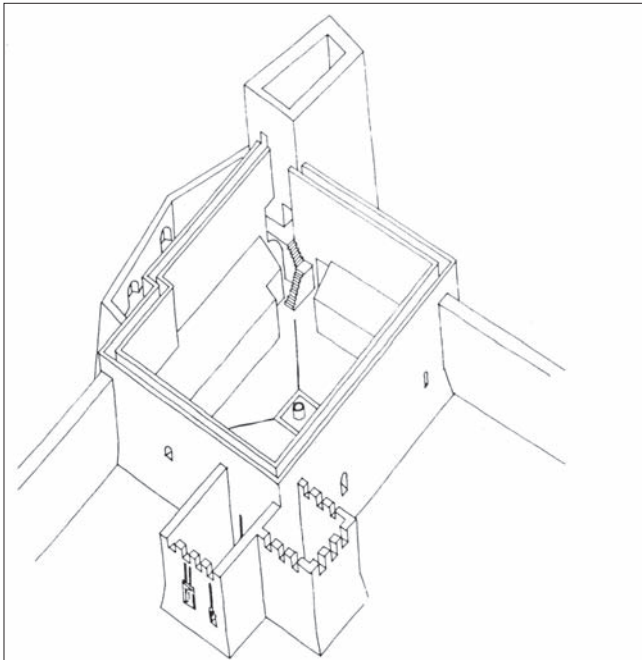
U razdoblju od 16. kolovoza do 1. studenog 2008. Odjel za arheologiju Sveučilišta u Zadru nadzirao je građevinske radove u sklopu projekta proširenja studentskog restorana *Citadelala* u Zadru. Riječ je o dijelu gradskih fortifikacija na prostoru uže gradske jezgre, tj. utvrdi koja je branila grad na jugoistočnoj strani (T. 4, 10). Samo proširenje restorana vezano je za uređenje prostora Barbakana ili obrambenog dvorišta *Citadelae* (sl. 1 i 2).

Citadela je mletačka utvrda koja je u današnjem obliku izgrađena 1409. godine i na svom je mjestu zamijenila starije srednjovjekovne fortifikacije. Tlocrt joj je u obliku izduženog peterokuta, koji je sa svoje dvije stranice obuhvatio ranije gradske zidine. Za istočni i južni zid s kulom na njihovu uglu iskorišteni su dijelovi starijih fortifikacija podignuti u 12. i 13. st., a uz njih su prigradeni sjeverni i zapadni (Vežić 1990, 14). Prilikom njezine izgradnje bilo je predviđeno da utvrda ima kule i mostove za obranu, koji se nalaze na sjevernoj strani objekta (Ljubić 1878, 5-6; Petricioli 1958, 113).

Between 16th August and 1st November 2008 the Department of Archaeology of the University of Zadar supervised the construction works undertaken as part of the project of the expansion of the *Citadela* student restaurant in Zadar. This is a zone of city fortifications in the area of the narrower town core, i.e. a fort that defended the town at the southeast (Pl. 4, 10). The expansion of the restaurant is connected with the adaptation of the Barbakan (*Barbakan*) or the defensive courtyard of the Citadela (Fig. 1 and 2).

Citadela (*Citadela*) is a Venetian fort built in its present form in 1409, replacing the earlier mediaeval fortifications. It has a layout in the form of an elongated pentagon, whose two sides encompassed the former city walls. Portions of older fortifications erected in the 12th and 13th cent. were used for the eastern and southern walls with a tower at their corner, while the northern and western walls were annexed to them (Vežić 1990, 14). It was planned in the construction that the fort have towers and bridges for defence, which are situated at the northern side of the structure (Ljubić 1878, 5-6; Petricioli 1958, 113).

There is not much information on the construction dating



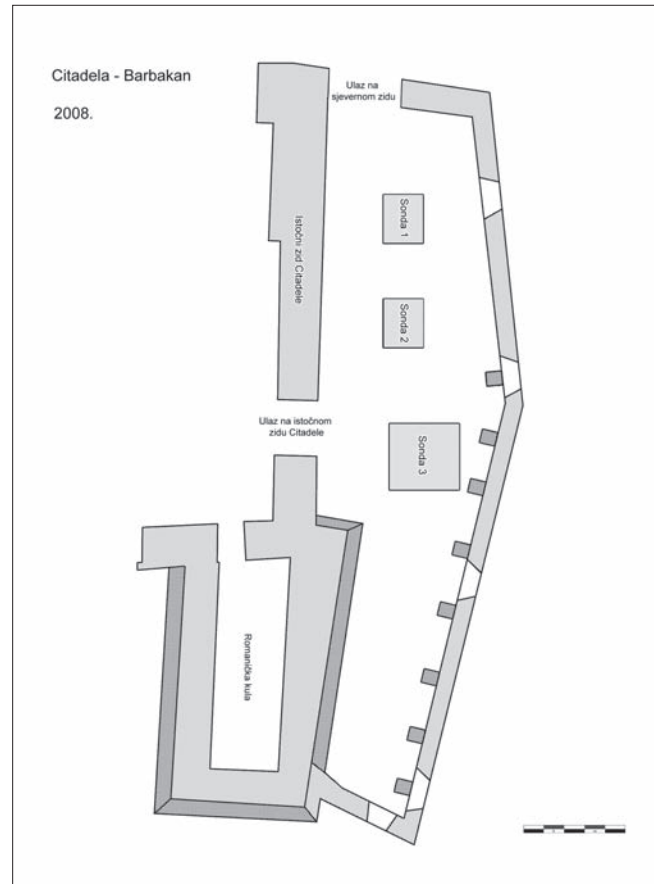
Sl. 1 Grafička rekonstrukcija Citadela (prema Vežić, 1990)
Fig. 1 Graphic reconstruction of the Citadela (after Vežić, 1990)

Iz tog vremena malo je podataka vezanih uz gradnju. To su, prije svega, dva arhivska podatka u kojima se spominje gradnja utvrde 1409. godine, a 1420. donosi se odluka o zadebljanju njezinih zidova (Ljubić 1878, 5-6; 1886, 15; Petricioli 1958, 113). Drugi izvori su razni prikazi Zadra, među kojima je najrealističnija maketa iz Pomorskog muzeja u Veneciji, gdje je Citadela prikazana u obliku kakav je imala u drugoj polovini 16. st. (Petricioli 1958, 113).

Podatke o izgledu Barbakana nakon prijašnjih istraživanja donosi P. Vežić te navodi: "On je svojevrsna platforma za topove. Od njega su u gornjem sačuvana dva, a u donjem, pod kasnijim nasipima, zacijelo sva tri zida. Građena su načinom zidanja kula i zidova same tvrđave 15. st. Na vanjskoj strani imaju strm pokos koji se spuštao do mora. U ograđenom prostoru smještenom između zidova barbakana i tvrđave bili su raspoređeni topovi. Sačuvani su otvori pet toparnica, jedna na južnom zidu i četiri na istočnom. Vjerojatno je još jedna bila na sjevernoj strani. Zid na tom mjestu je bio dugačak oko 4 m, onaj južni oko 3,5 te istočni blizu 30 m. Ovaj potonji se pod tupim kutom lomi u dva dijela. U cijelosti ograđeni prostor zaprema površinu od 120 m²" (Vežić 1990, 16).¹

Prilikom istraživanja 2008. godine utvrđeno je da je čitav prostor Barbakana zatrpan debelim slojem zemlje i kamena, koji je po svemu sudeći nasut u kraćem vremenu, što se u prvom trenutku poklapalo s pretpostavkama proizašlim iz prethodnih istraživanja (sl. 3). Od početka sloja pa do 1,5 m ispod današnje razine Citadela, na gotovo cijelom području rasprostiru se slojevi debeli oko 5m, s mješavinom nalaza iz različitih razdoblja. Na vrhu se nalazi sloj sivo-smeđe ze-

¹ Utvrda Citadela istraživana je u nekoliko navrata, počevši od 1959. do 1983. (Raukar et al. 1987, 127). Sustavna istraživanja pod vodstvom P. Vežića započela su 1979. godine prilikom izgradnje tadašnjeg Omladinskog doma, današnjeg Doma hrvatske mladeži, kada je otkriven i konzerviran prostor utvrde i Barbakana (Vežić 1990, 7).



Sl. 2 Tlocrt Barbakana
Fig. 2 Layout of the Barbakan

from that time. These are, primarily, two details from the archives mentioning the construction of the fort in 1409, and a 1420 decision on the thickening of its walls (Ljubić 1878, 5-6; 1886, 15; Petricioli 1958, 113). Other relevant sources are early depictions of Zadar, with the most realistic one being a model from the Naval History Museum in Venice, where the Citadela is shown in the form it had in the latter half of the 16th cent. (Petricioli 1958, 113).

P. Vežić provides information on the appearance of the Barbakan following the previous investigations, stating that: "It is a sort of a platform for cannons, with two preserved walls in the upper part and in the lower one, underneath later deposits, presumably all three walls preserved. The method of building was the same as that used in the building of towers and walls of the 15th century fort itself. The exterior face of the wall has a steep batter descending to the sea. Cannons were deployed within the enclosed space between the walls of the Barbakan and the fortress. Five cannon holes have remained preserved, one on the southern wall and four on the eastern wall. Another one probably stood on the north. The wall at that place was around 4 m long, the southern one was around 3,5 m long, while the length of the eastern wall was nearly 30 m. This last wall forks into two parts at an obtuse angle. The enclosed space occupies a total surface of 120 m²" (Vežić 1990, 16).¹

The 2008 investigations ascertained that the entire Bar-

¹ The Citadela fort was investigated on several occasions, starting from 1959 to 1983 (Raukar et al. 1987, 127). Systematic investigations under the direction of P. Vežić started in 1979 during the construction of the Youth Centre, present-day Centre of Croatian Youth, when the area of the fort and the Barbakan were discovered and conserved (Vežić 1990, 7).



Sl. 3 Pogled na prostor Barbakana tijekom radova 2008.
 Fig. 3 A view to the inside of the Barbakan during the 2008 investigations

mlje i sitnoga kamena u kojemu se nalazi vrlo malo kulturnih ostataka (sloj 1). Tek poneki fragment crijepa ili drugog građevinskog materijala, kojemu je teško odrediti starost te na nešto većim dubinama i pokoji fragment novovjekovne keramike. Ovaj sloj je posljedica preuređenja dijela parka i novijih radova na ovom području.

Osim toga, u nasipu Barbakana se razlikuju još dva glavna sloja. Prvi (sloj 2) ide ispod prethodno navedenoga površinskog sloja, ali nije ujednačeno raspoređen po cijelom prostoru. Riječ je o nasipu glinene zelenkaste zemlje koji pada ukoso i postaje nešto deblji prema središnjem dijelu Barbakana. Većina nalaza iz ovog sloja potječe iz kasnoga srednjega i ranoga novog vijeka, iako se pronalazi i nešto rimskog materijala, većinom na prijelazu u sljedeći sloj.

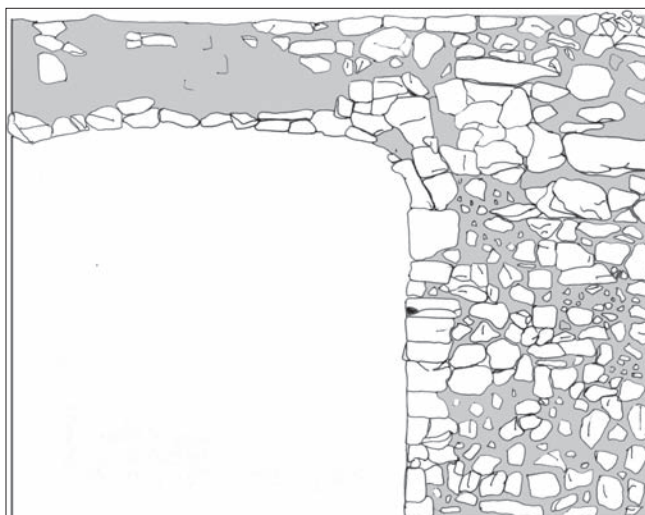
Ispod njega, a to se posebno primjećuje uza same zidove na sjevernom dijelu, na dubini 2-2,5 m od početka iskopa, javlja se tamniji sloj zemlje (sloj 3). On je također neujednačeno raspoređen i javlja se na različitim dubinama, a najniži je na središnjem dijelu Barbakana. Unutar njega se uz nalaze građevinskog materijala, srednjovjekovne i novovjekovne keramike (13.-16. st.), pronalazi i rimskodobni materijal. Većinom je riječ o fragmentima tegula i dijelovima amfora, a pronalaze se i manji broj fragmenata fine rimske keramike. Među nalazima naročito su zanimljivi oni koji po svojim značajkama ne mogu biti mlađi od 16. st., čime dobivamo *terminus ante quem non* za nasipanje Barbakana.

Nakon skidanja slojeva na sjevernom dijelu Barbakana

bakan zone was filled with a thick layer of soil and stone, in all probability deposited over a short period, which at first matched the assumptions based on previous investigations (Fig. 3). Layers around 5 m thick, with a mixture of finds from various periods, are spread over almost the entire area from the beginning of the layer down to the depth of 1,5 m below the present level of the Citadela. The top layer consists of grey-brown earth and small stones with very few cultural remains (layer 1), only an occasional fragment of a roof tile or other building material, whose age is difficult to assess, and a stray fragment of Modern Period ceramics at somewhat greater depths. This layer is a consequence of a partial adaptation of the park and recent works in this area.

In addition to this, two other main layers are discernible in the Barbakan fill. The first one (layer 2) extends beneath the aforementioned surface layer, but it is not evenly spread over the entire zone. The layer consists of a deposit of argillaceous greenish earth. The layer slopes, becoming thicker towards the central part of the Barbakan. Most finds from this layer come from the Late Middle Ages and Early Modern Period, although some Roman material is found, mostly at the contact with the next layer.

A layer of darker earth (layer 3) appears below this layer, which is particularly noticeable adjacent to the walls on the northern part, at the depth of 2-2,5 m from the surface. This layer is also unevenly spread and appears at various depths. It is at its lowest at the central part of the Barbakan. In addition to the finds of construction material, mediaeval and



Sl. 4 Vrata na sjevernom zidu
Fig. 4 Door in the northern wall

počeli su se javljati i ostali nalazi koji su ukazali na nedostatak o prvotnim pretpostavkama njegova izgleda. Na sjevernom zidu otkriven je obris velikog otvora s plitkim lukom na vrhu, koji je očito služio kao komunikacija s dvorištem Barbakana (sl. 4 i 5). Obris je većih dimenzija (420 cm širine), a protežu se od sredine sjevernog zida do njegova zapadnoga kraja, koji se naslanja na istočni zid Citadela. Cijeli zid je na tome mjestu u vrlo lošem stanju, što je značajka i ostalih očuvanih zidova. Unutar otvora jasno se primjećuju dva sloja (slojevi 2 i 3) koja smo prethodno naveli (sl. 5). Položajem tih slojeva u odnosu na vrata jasno je kako su nastali u vrijeme prestanka njihova korištenja, kao i cjelokupnog prostora, dakle, u vrijeme kada je Barbakan u svome izvornom obliku izgubio funkciju. Kako se nalazi iz slojeva mogu pratiti sve do 16. st., pokazalo se da Barbakan nije nasut u vrijeme prvotne gradnje Citadela da bi poslužio kao platforma za topove, nego je njegova unutrašnjost barem neko vrijeme funkcionirala kao otvoreno dvorište.

Nakon rješavanja statike zidova koji su se, odjednom oslobođeni većih količina zemlje, počeli naginjati prema unutrašnjosti - pristupilo se kopanju triju sondi. Mjesta su određena prema potrebama gradnje pa su dvije sonde postavljene na mjesto za temeljne stope nosivih stupova, a jedna na mjesto predviđeno za lift (sl. 2). Prve dvije su se kopale na dubinu od 80 cm ispod razine praga ulaznih vrata na istočnom zidu Citadela. Označene su kao sonda 1 i 2. U prvoj je zastupljen samo tamni sloj (sloj 3), u kojem se većinom pronalaze ostaci rimskih amfora i tegula te nešto manje finije keramike, ali i fragmenti glazirane srednjovjekovne i novovjekovne keramike, kao i 2 ulomka srednjovjekovnog stakla. Na vrhu sonde 2 javlja se tanki sloj zelene gline (sloj 2), ispod kojeg se nalazi sloj tamne zemlje, s nešto manje nalaza nego u prvoj, ali istih obilježja kao i u prethodnoj sondi (sloj 3).

Najdublje se kopalo u sondi 3, tj. prostoru za lift, gdje se iskop spustio na dubinu od 170 cm u odnosu na razinu današnjeg poda Citadela. U iskopu se razlikuje nekoliko slojeva. Gornji, čija debljina varira od 50 do 70 cm (debljina



Sl. 5 Slojevi nasipa unutar vrata
Fig. 5 Fill layers within the door

modern-period pottery (13th-16th cent.), it yielded also Roman Age finds, mostly tegulae and fragments of amphorae, but also a smaller number of fragments of fine Roman pottery. Of particular interest are the finds with features that date them no later than the 16th century, giving us a *terminus ante quem non* for filling up the Barbakan.

Other finds that drew attention to the weak points in the original conceptions about its appearance started to emerge following the removal of the layers in the north part of the Barbakan. An outline of a large opening with a shallow arch on top, which obviously served as a communication with the Barbakan courtyard (Fig. 4 and 5) was discovered on the northern wall. The outline is large (420 cm wide), stretching from the middle of the northern wall to its western end, which leans on the eastern Citadela wall. The entire wall at that place is in a very poor state, a feature shared by other preserved walls. Two layers that we already mentioned (layers 2 and 3) are clearly discernible within the opening (Fig. 5). The position of these layers with regard to the door makes it clear that they were formed when the door and the entire space ceased to be used, i.e. in the time when the Barbakan in its original form lost its function. Considering that the finds from the layers can be followed up until the 16th cent., it was demonstrated that the Barbakan was not filled up when the Citadela was first built, with the aim to serve as a platform for cannons, but that its interior functioned as an open courtyard at least during a certain time.

Three trenches were opened after solving the issue of the statics of the walls, which started leaning inwards once set free from the loads of earth. The positions were selected in line with the requirements of construction, so two trenches were opened at the place of the foundations of supporting posts, and the third one at the place planned for the elevator (Fig. 2). The first two trenches were dug 80 cm deep below the level of the entrance door in the eastern wall of the Citadela. They were marked as trenches 1 and 2. Trench 1 contained only a dark layer (layer 3), containing mostly remains

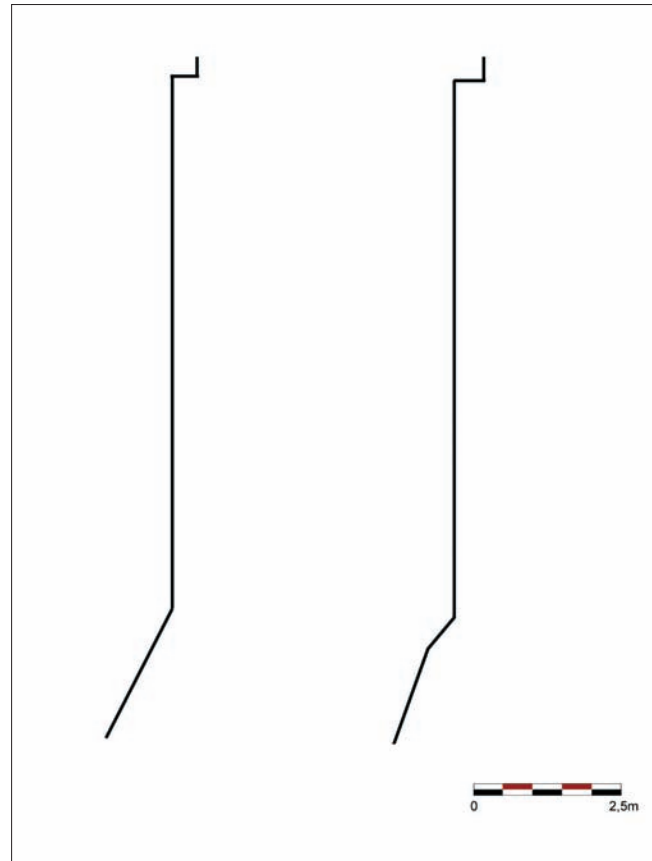


Sl. 6 Pogled na južni dio Barbakana s romaničkom kulom
Fig. 6 A view to the southern part of the Barbakan with a Romanesque tower

je veća prema istočnom zidu Barbakana), sastoji se od zelene glinaste zemlje u kojoj se većinom pronalaze fragmenti srednjovjekovne i novovjekovne keramike (sloj 2). Ako se usporede visine tog sloja na području vrata na sjevernoj strani i visine u sondi 3, primjećuje se da sloj pada, a ujedno postaje sve deblji prema središtu dvorišta. Ispod njega se, na S-SI strani nalazi nasip većega kamenja, ispod kojeg se proteže sloj tamne zemlje u kojem se javlja malo nalaza, i to uglavnom ostaci tegula i opeka te glazirane keramike 13.-16. stoljeća (sloj 3). Rasprostiranje tog sloja ukazuje kako je na ovoj dubini još uvijek riječ o nasipu i da se prvotna hodna površina nalazi ispod današnje razine Citadela. Na samom dnu sonde 3 pronađen je novi sloj nešto svjetlije zemlje (sloj 4), na žalost bez nalaza, ali nije isključeno da upravo taj sloj označava originalnu hodnu površinu dvorišta Barbakana.

Iskopavanja su donijela niz podataka koji do sada nisu bili poznati o tom prostoru. Prije svega, otkriven je pokos na dnu romaničke kule² koji ide po svim njezinim vidljivim stranama, za razliku od prijašnjih istraživanja nakon kojih je bio vidljiv samo južni i zapadni (sl. 6). Novootkriveni istočni pokos ne djeluje kao integralni dio kule, nego izgleda na-

2. Kula se u srednjovjekovnim dokumentima spominje kao *Turris Babarum*, a vjerojatno je izgrađena u 13. st. Prilikom gradnje Citadele uklopljena je u novu fortifikaciju zajedno s južnim i istočnim zidom utvrde (Petricioli 1965, 123; Vežić 1990, 13).



Sl. 7 Presjek romaničke kule s pokosom
Fig. 7 Cross-section of the Romanesque tower with a batter

of Roman amphorae and tegulae as well as fewer finds of fine earthenware, but also fragments of mediaeval and modern-period glazed ceramics, and 2 fragments of mediaeval glass. A thin layer of green clay (layer 2) appears on top of trench 2, above a layer of dark earth, containing fewer finds than trench 1, but sharing the same features (layer 3).

The excavation was deepest in trench 3, i.e. the space for the elevator, reaching down to 170 cm below the present level of the Citadela floor. Several layers are distinguishable in the excavation. The uppermost layer, with a thickness varying between 50 and 70 cm (thickness is greater towards the eastern wall of the Barbakan), consists of green argillaceous earth containing mostly fragments of mediaeval and modern ceramics (layer 2). A comparison of the level of this layer at the door on the north, and its level in trench 3, reveals that the layer descends and becomes thicker as it approaches the centre of the courtyard. A deposit of larger stones lies under this layer at the N-NE side. A layer of dark soil (layer 3) with few finds, mostly remains of tegulae and bricks and 13th-16th cent. glazed ware, extends below the pile of stones. The spread of this layer reveals that at this depth we still deal with the fill, and that the original walking surface lies beneath the present-day level of the Citadela. A new layer of somewhat lighter soil (layer 4) was discovered at the very bottom of trench 3. It is unfortunate that it contained no finds at all, but it cannot be excluded that this very layer marks the original walking surface of the Barbakan courtyard.

The excavations provided a wealth of previously unknown information regarding this area. First of all, they re-



Sl. 8 Pokos na istočnoj strani kule
Fig. 8 Batter on the eastern side of the tower

lijepljen na nju. Na sjevernoj strani je zaravnjen u donjem dijelu, odnosno donji mu je dio skraćen, vjerojatno zbog blizine vrata i nesmetanosti komunikacije tog dijela prostora (sl. 7). Na pokosu se primjećuju dvije tehnike gradnje, kao da je dodavan u dva navrata, s tim da je južni dio nešto rustičnije oblikovan (sl. 8). Slična situacija je otkrivena i prilikom prethodnih istraživanja sa zapadne strane romaničke kule, ali i dalje je nejasno što uzrokuje razliku u tehnici gradnje i je li ona posljedica vremenskog odmaka u gradnji.

Na jugozapadnom kutu dvorišta Barbakana, na spoju s romaničkom kulom, otkriveni su temelji kasnijih kavaliera³, gdje se jasno vidi do koje su dubine dolazili radovi prilikom njihove gradnje, odnosno da oni nisu utjecali na dublje slojeve nasipa Barbakana.

Uz istočni zid otkriven je niz kontrafora koji idu od razine otvora za topove do dna Barbakana (otkrivena visina kontrafora je 460 cm, a prosječna širina 70 cm) (sl. 3). Kontrafori su integralni dio zida, nisu naknadno dodani na zid nego su građeni zajedno s njim (sl. 9a, 9b, 9c). Oni su bili primijećeni i tijekom prvotnih iskopavanja, jer je njihov vrh konzerviran. No pokazalo se da je taj vrh dosta manji negoli su to kontrafori u cijelosti. Već nakon 50-ak cm kontrafori se naglo proširuju da bi do dna imali širinu oko 1 m.

Tijekom radova na istočnom zidu Citadelaee ponovno su otvorena vrata koja su otkrivena prijašnjim istraživanjima (sl. 10). S obzirom na tadašnje stanje istraživanja i vidljivu situaciju pretpostavljeno je da su ona u vrijeme gradnje Barbakana bila zazidana (Vežić 1990, 16). Međutim, kako su novija istraživanja pokazala da je Barbakan barem u jednom razdoblju funkcionirao kao dvorište, vrlo je vjerojatno da su vrata još neko vrijeme služila kao komunikacija između Citadelaee i dvorišta Barbakana. Treba spomenuti kako je prag tih vrata za 1,5 m viši od pretpostavljene hodne površine Barbakana pa možemo pretpostaviti da se drvenim stubi-štem spuštalo u samo dvorište.

3 Kavalieri su ostaci mletačke fortifikacije izgrađene tijekom 18. st. na prostoru Citadelaee (Vežić 1990, 19).

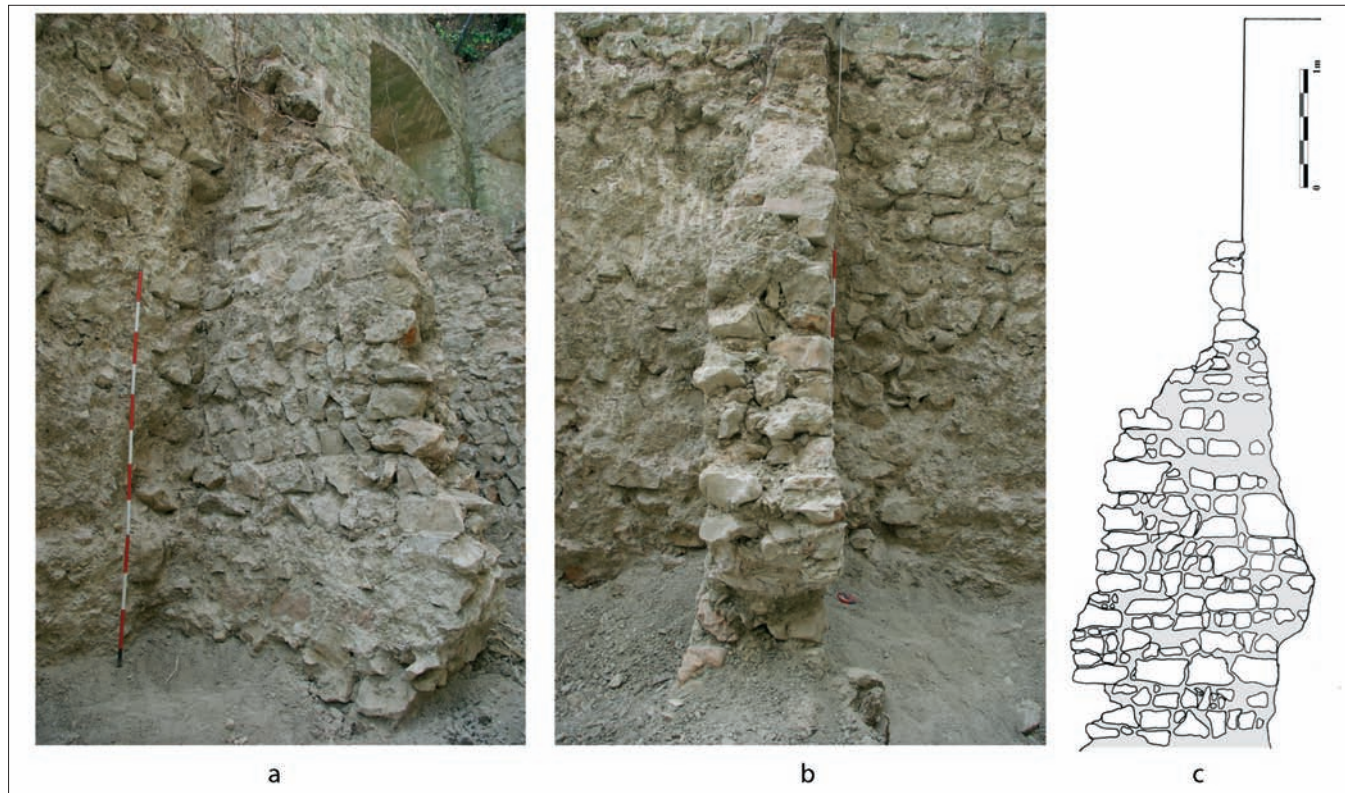
vealed a batter at the bottom of the Romanesque tower² running around all of its visible sides, in contrast to previous investigations, after which only the southern and western batters were visible. The newly discovered eastern batter does not appear to have been an integral part of the tower, but that it was subsequently added to it. Its lower part in the northern side is cut flat, i.e. it is shortened, presumably due to the proximity of the door and the wish to avoid obstruction of the communication of that part of the space (Fig. 7). Two building techniques are noticeable on the batter, suggesting that it was probably annexed on two separate occasions, with the southern part exhibiting somewhat more rustic features (Fig. 8). A similar situation was discovered also during previous investigations at the western side of the Romanesque tower, but it is still unclear what occasioned the difference in the building technique and whether it can be explained as a result of a temporal distance in the construction.

Foundations belonging to the cavaliers³ of a later date were discovered at the southwestern corner of the Barbakan courtyard, at the junction with the Romanesque tower. At that place one can clearly see the depth reached during the work on the building of the cavaliers, showing that they had no impact on the deeper layers of the Barbakan fill.

A sequence of counterforts extending from the level of the openings for cannons to the bottom of the Barbakan was discovered along the eastern wall. The discovered height of the counterforts is 460 cm with an average width of 70 cm (Fig. 3). They formed an integral part of the wall, and were not added subsequently to the wall but were built together with it (Fig. 9a, 9b, 9c). They were noticed during the first excavations, because their tops were conserved. However, it transpired that that top was considerably smaller than the counterforts as a whole, i.e. around 50 cm below the top the counterforts widen abruptly, becoming around 1 m wide at the base.

2 The mediaeval documents mention the tower as *Turris Babarum*, and it was probably built in the 13th cent. It was incorporated in the new fortification together with the southern and eastern walls of the fort during the construction of the Citadela (Petricioli 1965, 123; Vežić 1990, 13).

3 Cavaliers are the remains of a Venetian fortification built during the 18th cent. in the area of the Citadela (Vežić 1990, 19).



Sl. 9 a-Bočna strana kontrafora, b-Prednja strana kontrafora, c-Crtež kontrafora
 Fig. 9 a-Lateral side of the counterfort, b-Front side of the counterfort, c-Drawing of the counterfort

Na istom zidu otkriveni su i obrisi prozora Citadela, koji je kasnije bio zapunjen antičkom spolijom (sl.10 i 14), a čišćenjem gornjeg dijela zida ponovno su otkriveni obrisi kruništa Citadela koje je pronađeno ranijim istraživanjima⁴ (sl. 11).

Spomenuli smo kako je na sjevernom zidu pronađen ulaz većih dimenzija. Riječ je o dosad nepoznatim vratima. Ona bi prema položaju gradskih zidina vodila izvan utvrde uz bedeme gdje je, na mjestu današnje Foše, postojao nasip uz kanal. Kako su ovako postavljena velika vrata teško branjiva, moguće je da je ispred gradskih bedema na istočnoj strani postojao još jedan bedem ili manji zid. On bi štiti vrata, sužavao prostor i ujedno djelovao kao obrambeni hodnik na putu prema Barbakanu.⁵ Na to bi ukazivala i činjenica da vrata prije nasipanja nisu zazidana da zadrže nasip unutar dvorišta, nego se isti slojevi rasprostiru djelomično i izvan njih.

Ostaje još odgovoriti na dva glavna pitanja: kada je izgrađen Barbakan i kako je on zaista izgledao. I. Petricioli spominje da je nakon definitivne konsolidacije mletačke vlasti 1409. g., gradski zid pojačan barbakanima, dubokim jarkom, a ulazna vrata pokretnim mostovima u grad (Petricioli 1965, 183). Na drugome mjestu navodi da su u prvim

The door discovered in the previous investigations was opened anew during the works on the eastern Citadela wall (Fig. 10). In view of the state of investigation at the time and the visible situation, it was assumed that the door had been walled up during the construction of the Barbakan (Vežić 1990, 16). However, as the recent investigation has established that the Barbakan served as a courtyard at least during a certain period, it is quite likely that the door continued to serve as a communication between the Citadela and the Barbakan courtyard for a while longer. It has to be mentioned that the threshold of that door is 1,5 m higher than the presumed walking surface of the Barbakan, so we can assume that the courtyard itself was accessed over a timber staircase.

Outlines of a Citadela window were discovered on the same wall. This window was subsequently filled up with a spolia from antiquity (Fig. 10 and 14), and the clearance of the upper part of the wall once again uncovered the outlines of the Citadela battlements, discovered in the previous investigations⁴ (Fig. 11).

We have mentioned that a large, previously unknown entrance was found in the northern wall. Based on the position of the city wall, the gate appears to have led outside the fort along the walls, where a dike along the channel occupied the place of present-day Foša. Since a gate positioned in such a way can be defended only with great difficulty, it is possible that another rampart or a smaller wall stood in front of the city walls on the east. Its function would be to protect the gate, narrow the area and at the same time act as

4 Usp. Vežić, 1990, 13.

5 Na maketi Zadra iz Pomorskog muzeja u Veneciji neposredno uz poziciju tih vrata vidljiv je širi bedem, no s obzirom na restauraciju makete u 19. st. upitno je da li je činio dio izvorne makete ili je nastao prilikom njezine restauracije. Usp. Petricioli, 1958, sl. 2 i 3

4 Comp. Vežić, 1990, 13.



Sl. 10 Istočni zid Citadela
Fig. 10 Eastern wall of the Citadela

desetljećima 16. st. srednjovjekovne zidine bile dotrajale i nepodobne za obranu, posebno od artiljerijske vatre. "U to vrijeme srednjovjekovna Citadela bila je zapuštena i bila je potrebna djelomična obnova da bi ona ponovo mogla služiti za obranu grada. Vojni arhitekt Malatesta Baglione je predložio da se dijelovi Kaštela i Citadela utvrde zemljanim nasipima iznutra, pri čemu je vjerojatno u to vrijeme na južnom dijelu Citadela sagrađeno obrambeno dvorište sa zidom na kojem se nalaze otvori za topove." (Raukar et al. 1987, 277). P. Vežić navodi da su očuvani zidovi Barbakana građeni načinom zidanja kula i zidova same tvrđave 15. st., što bi značilo da je on podignut u isto vrijeme kad i Citadela, dakle, 1409. godine (Vežić 1990, 16).

Kao što se vidi iz tih navoda, autori spominju različite godine gradnje Barbakana, između kojih stoji vremenski raspon od jednog stoljeća, od početka 15. do početka 16. stoljeća. Istraživanja su samo dodatno zakomplicirala ovo pitanje. Spojevi zidova Barbakana nisu dobro vidljivi. Na jednom dijelu je ulaz, a na drugome se zid naslanja na romaničku kulu. Tehnika gradnje je na dijelu Barbakana rustikalnija nego na Citadeli, ali ona sama po sebi nije dovoljna za određivanje kronologije, tek može ukazivati na različite faze gradnje. Postojanje toparnica također ne nudi konkret-



Sl. 11 Obrisi kruništa na istočnom zidu Citadela
Fig. 11 Outlines of the battlement on the eastern wall of the Citadela

a defensive corridor on the way towards the Barbakan.⁵ This appears to be corroborated by the fact that the gate had not been walled up before the filling up to keep the fill within the courtyard, but that these same layers partly spread outside as well.

The remaining task is to give answers to two main questions: when was the Barbakan built and what it really looked like. I. Petricoli mentions that in the wake of the definite consolidation of the Venetian authority in 1409 the city wall was reinforced with Barbakans, a deep ditch, while the entrance gates to the town were equipped with drawbridges (Petricoli 1965, 183). At another place he states that in the first decades of the 16th cent. the mediaeval walls were decrepit and inadequate for defence, especially from artillery. "At that time the mediaeval Citadela was untended and required a partial reconstruction to once again fulfil its function of city defence. The military architect Malatesta Baglione put forward the idea that parts of the Kaštel and the Citadela be reinforced with earthen ramparts on the inside, during which a defensive courtyard with a wall containing openings for cannons was probably built in the southern part of the Citadela." (Raukar et al. 1987, 277). P. Vežić writes that the preserved walls of the Barbakan were built using the method of construction of the towers and walls of the fortress in the 15th cent., which would mean that it was erected at the same time as the Citadela, i.e. in 1409 (Vežić 1990, 16).

As can be seen from these statements, the authors mention various years as the date for the construction of the Barbakan, spanned by an entire century, from the beginning of the 15th to the beginning of the 16th century. The investigations, if anything, only rendered this whole issue more complex. The junctions of the Barbakan walls are not discernible well. On one side is the entrance, while on the other the wall leans on the Romanesque tower. The construction technique on part of the Barbakan is more rustic than on the Citadela, but it alone is not sufficient to determine the chronology, it can only point to different phases of construction. The pres-

⁵ A broad rampart is visible on the model of Zadar in the Venice Naval History Museum adjacent to the position of this gate. However, considering the restoration of the model in the 19th cent., it is doubtful whether it was present on the original model, or was placed there during the restoration. Comp. Petricoli, 1958, sl. 2 and 3.

no rješenje. One su lučno oblikovane i imaju ljevokasti presjek. Njih nema na ostatku Citadelaie gdje su prisutne samo strijelnice i kruništa na kulama, a u povijesnim spisima nema podataka kada su na zadarske bedeme prvi put postavljeni topovi. Izvještaje iz ovog vremena imamo tek iz Trogira, Dubrovnika ili Šibenika, gdje inventar pokazuje da je sredinom 15. st. na šibenskim tvrđavama postojalo 45 topova, tj. bombe. Pretpostavlja se da je kod šibenskih primjeraka većinom riječ o malim topovima težine do nekoliko desetaka kilograma, iako ima i većih (Aralica 2008, 11). S obzirom na otvore Barbakana, u Zadru bi morala biti riječ o većim primjercima topova. Početkom 15. st., ili u vrijeme kada P. Vežić smatra da se gradi Barbakan, postoji lijevaonica topova u Dubrovniku (Beritić 1960, 31) pa je moguće da su, iako topovi u ovo vrijeme predstavljaju luksuz, neki primjerci prisutni i u Zadru.⁶ S druge strane, treba primijetiti da se početkom 15. st. u mnogim gradovima i kaštelima i dalje zadržava stara obrambena arhitektura (Viličić 1983; 1988), a da se toparnice nadograđuju ili grade u drugoj polovini 15. st., češće tek u kasnijim razdobljima (Viličić 1988, 82; Pivac 2003). Rani spomen izgradnje otvora za topove nalazimo 1428. godine u Dubrovniku, ali s obzirom da je riječ o arhivskim podacima, ne znamo ništa o njihovu izgledu (Beritić 1955, 48).

Podatak koji govori o vremenskom slijedu gradnje je pronađeni pokos na romaničkoj kuli, na dijelu gdje ona ulazi u dvorište Barbakana. P. Vežić spominje kako su sjeverni i zapadni zid Citadelaie građeni s obrambenim pokosom, a pokos prati i dvije sjeverne kule. Vjerojatno je u isto vrijeme, dakle početkom 15. st., dodan pokos i na romaničku južnu kulu. Također, pretpostavlja da se identičan pokos nalazi i uokolo zidova Barbakana, a od pokosa na južnoj kuli u vrijeme njegova istraživanja bili su vidljivi samo oni sa zapadne i južne strane (Vežić 1990, 14). Otkrivanje pokosa s istočne i sjeverne strane kule, koje se nalaze u dvorištu Barbakana, mijenja navedeni vremenski slijed gradnje. Barbakan se na južnom dijelu prislanja na pokos romaničke kule koji završava upravo u njegovu dvorištu. U vrijeme gradnje pokosa, a time i u vrijeme gradnje zidova Citadelaie, Barbakan nije mogao biti izgrađen, jer u tom slučaju pokos kule ne bi imao nikakvu funkciju. Dakle, prvotna Citadela funkcionirala je neko vrijeme kao samostalna utvrda kojoj se na južnom uglu nalazila romanička kula koja je dodatno ojačana pokosom i služi određeno vrijeme kao vanjska linija fortifikacije. Proizlazi zaključak da je Barbakan izgrađen nešto kasnije od pokosa kula te da nije mogao biti izgrađen istodobno kao Citadela. U mletačkim dokumentima detaljno se opisuju plan Citadelaie iz 1409. godine te navode mjere utvrde, njezini zidovi, kule i jarci, ali nigdje se ne spominje obrambeno dvorište ili bilo kakav zid na tom dijelu.⁷ S obzirom na detalje opisa logično je zaključiti kako spomen Barbakana nije slučajno izostavljen, nego je rezultat činjenice da on u tom trenutku nije izgrađen. Arhivski spisi donose još nekoliko podataka iz 1410., 1414. i 1420. godine o gradnjama vezanim za Citadelaui, ali nigdje se izričito ne navodi Barbakan

6 U mletačkim dokumentima iz 15. st. bombe se u Zadru spominju 1412. godine, ali ne može se jasno reći o kakvim je bombardama riječ (Ljubić, 1878, 214).

7 Ljubić 1878, 5-6.

ence of the cannon holes likewise does not offer a concrete answer. These are arched and have a funnel-shaped cross-section. They are absent from the other parts of the Citadela, which has only embrasures and battlements on the towers, and there is also no mention in historical documents of the time when the Zadar fortifications were first equipped with cannons. Reports from that time come only from Trogir, Dubrovnik and Šibenik, where the inventories show that there were 45 cannons, i.e. bombards on the towers of Šibenik in the mid-15th cent. It is assumed that the Šibenik specimens were mostly small cannons weighing up to several dozen kilograms, even though larger pieces were also present (Aralica 2008, 11). Considering the openings of the Barbakan, the Zadar cannons were most probably larger. At the beginning of the 15th cent., or the time of building of the Barbakan in P. Vežić's opinion, a cannon-casting workshop was active in Dubrovnik (Beritić 1960, 31), and it is possible that, even though cannons were luxurious items at the time, Zadar also possessed several pieces.⁶ On the other hand, it is necessary to mention that at the beginning of the 15th cent. a number of towns and castles still preserve the old defensive architecture (Viličić 1983; 1988), and that the cannon holes are added or built in the second half of the 15th cent., and more frequently only in later periods (Viličić 1988, 82; Pivac 2003). An early mention of construction of openings for cannons is known from 1428 in Dubrovnik, but nothing is known about their appearance, as the information comes from the archives (Beritić 1955, 48).

A detail speaking of the chronological sequence of the building consists of the discovered batter on the Romanesque tower, at the point where it enters the Barbakan courtyard. P. Vežić mentions that the northern and western walls of the Citadela were built with a defensive batter, which continues also on the two northern towers. The batter was probably added to the Romanesque southern tower at the same time, the beginning of the 15th cent. Also, it is assumed that an identical batter is present around the walls of the Barbakan. As for the batters on the southern tower at the time of his investigation only those on the western and southern sides were visible (Vežić 1990, 14). The discovery of batters on the eastern and northern sides of the tower, situated in the Barbakan courtyard, changes the mentioned chronological sequence of the building. On its southern side the Barbakan leans on the batter of the Romanesque tower, which ends precisely in its courtyard. At the time of building of the batter, which is also the time of building of the Citadela walls, the Barbakan could not have been built, because this would have rendered the batter's function meaningless. Therefore, the original Citadela functioned for a time as an independent fort with a Romanesque tower on the southern corner, which was additionally reinforced with a batter and functioned during a certain time as an outer line of fortification. A conclusion arises that the Barbakan was built somewhat later than the batters of the towers, and that it could not have been built simultaneously with the Citadela. The Venetian documents contain a detailed description of the Citadela plan from 1409, as well as the dimensions of the fort, its walls, towers and ditches, but a defensive courtyard

6 In the 15th-cent. Venetian documents bombards are mentioned in Zadar in 1412, but the type of bombards cannot be clearly identified (Ljubić, 1878, 214).

(Ljubić, 1878, 56; 1882, 182; 1886, 15). Daljnje spomene Citadele tijekom 15. st. nalazimo u dokumentima iz 1435. i 1437., kada se govori o gradnji kuća za posadu unutar utvrde (Raukar et. al. 1987, 127).

U starijim radovima pretpostavljalo se da je Barbakan bio platforma sa zidom, tj. da je veći dio unutrašnjeg prostora nasut zemljom, čime se dobila platforma za topove (Vežić 1990, 16). Novijim istraživanjima se pak pokazalo da je on u određenom razdoblju morao funkcionirati kao otvoreno dvorište, vjerojatno s gornjim drvenim polukatom. U prilog tome može ići i oblik i proširenje kontrafora koji su, osim što su podignuti iz statičkih razloga, mogli poslužiti i kao nosivi elementi za drvenu hodnu platformu. Slične drvene platforme nalaze se na brojnim drugim utverdama iz tog vremena.

Zanimljiva je činjenica da se kontrafori nalaze samo na dijelu zida. No kada se promotri maketa Zadra u Pomorsko-muzej u Veneciji i drugi prikazi iz tog vremena, primjećuje se da je jedino taj dio zida bio izložen direktnom udaru pri napadu, dok su ostali dijelovi djelomično zaklonjeni i time zaštićeni pa nema ni potrebe da se ojačavaju.

Kosina istočnog zida Barbakana (zid je nagnut prema unutra) i nepostojanje a unutarnjeg lica zida koji bi odgovarao licu na dijelu s toparnicama rađenim od klesanaca, bili su glavni argumenti za predodžbu Barbakana kao nasute platforme za topove. No novijim istraživanjima pokazalo se kako unutrašnja strana ima lice, samo je ono rustično obrađeno, odnosno građeno je od priklesanoga kamena (sl. 12). Situacija je najbolje vidljiva na sjevernom zidu dvorišta (sl. 13). S obzirom na veće količine žbuke koja se pronalazila u blizini i uza same zidove Barbakana, nije isključeno da je ovakav način gradnje zahtijevao veće količine žbuke za izradu debelih fuga između kamenja.

Takvo oblikovanje zida javlja se do razine donjeg dijela toparnica, nakon čega slijedi dio građen od finijih klesanaca (sl. 3). Tu treba napomenuti da je samo dio zida koji je građen od priklesanoga kamena nakošen prema unutra, dok je finije oblikovani dio s toparnicama okomit, tj. ne prati kosinu donjeg dijela zida. Vjerojatno je zid djelomično popustio pod pritiskom zemlje s vanjske strane u vremenu kada se zasipa prostor novoizgrađenog bastiona krajem 16. st. ili se zbog loše gradnje i dotrajlosti u jednom trenutku i bez pritiska okoliša počeo naginjati prema unutrašnjem dvorištu. U takve pretpostavke uklapaju se i kontrafori koji su na dijelovima iskrivljeni i izobličeni te loše očuvani, što se moglo dogoditi zbog pritiska nastalog naginjanjem zida (sl. 9b).

Postavlja se pitanje zašto je gornji dio Barbakana, tj. dio s toparnicama postavljen poprilično ravno i zašto ne slijedi nagib ostatka zida. Prilikom prethodnih istraživanja, na osnovi izvorno očuvanih dijelova izvedena je restauracija zida te je već tada uočena promjena u načinu zidanja ispod razine toparnica, kao i donja kosina zida za koju je pretpostavljeno da je posljedica zapunjavanja dvorišta nasipom.⁸ S obzirom na arhivske navode iz 16. st., koji spominju toliko loše stanje gradskih bedema da su se određeni dijelovi gradskih fortifikacija na južnom dijelu sami urušili (Ljubić, 1876, 171; 1877, 11, 45), kao i već navedene različite datume gradnje

⁸ Usmeni podaci dobiveni su od prof. dr. sc. P. Vežića.

or a wall of any kind in that part are nowhere mentioned.⁷ In view of the details of the description it is logical to conclude that the mention of the Barbakan was not omitted by chance, it is rather the result of the fact that it did not exist at that moment. Archive documents from 1410, 1414 and 1420 contain several other details on the constructions connected with the Citadela, but there is no specific mention of the Barbakan in any of them (Ljubić, 1878, 56; 1882, 182; 1886, 15). Further mentions of the Citadela in the 15th cent. are found in the documents from 1435 and 1437, when the building of houses for the garrison of the fort is mentioned (Raukar et. al. 1987, 127).

It was assumed in the older works that the Barbakan had been a platform with a wall, i.e. that most of the interior space was filled up with earth, providing a platform for cannons (Vežić 1990, 16). However, recent investigations have shown that it must have functioned as an open courtyard at one time, probably with a timber mezzanine. This appears to be substantiated by the form and broadening of the counterforts, which, in addition to contributing to the statics of the building, may have served as supporting elements for a timber walking platform. Similar timber platforms are found at many other forts of the period.

It is an interesting fact that the counterforts are present only on a part of the wall. However, when one looks at the model of Zadar in the Naval History Museum in Venice, as well as at other depictions of the time, it is perceptible that this is the only part of the wall that would be exposed to a direct strike in an attack, while the other parts are partly sheltered and thereby protected, making it less necessary to be strengthened.

The slope of the eastern wall of the Barbakan (the wall inclines inwards) and the absence of the interior face of the wall that would be a counterpart to the face at the part with the cannon holes constructed of dressed stones, were the main arguments for the conception of the Barbakan as a filled-up platform for cannons. However, the recent investigations demonstrated that there was a face to the interior side, only it was rustically crafted, that is, built of semi-dressed stone blocks (Fig. 12). The situation is most easily discernible on the northern courtyard wall (Fig. 13). Taking into account the large quantities of mortar found in the vicinity and adjacent to the Barbakan walls, it is not excluded that this method of building required large quantities of mortar for making thick joints between the stones.

The walls were built in this way up to the level of the lower part of the cannon holes, while from that point the walls were built of finer dressed blocks of stone (Fig. 3). Here we have to mention that only the part of the wall built of semi-dressed stones inclines inwards, while the finer crafted part with the cannon holes is upright, i.e. does not follow the slope of the lower portion of the wall. It is likely that the wall partly collapsed under pressure of the earth on the outside at the time when the space of the newly-built bastion was filled up at the end of the 16th cent. Alternately, it is also possible that it started inclining towards the inner courtyard at one moment even without the outer pressure due to poor-quality construction or its run-down state. Such assumptions find corroboration in the counterforts, which are

⁷ Ljubić 1878, 5-6.



Sl. 12 Unutrašnje lice istočnog zida Barbakana
Fig. 12 Inner face of the eastern wall of the Barbakan

Barbakana, postoji mogućnost da je razlika u gradnji i nakošenosti dva dijela zida posljedica različitih faza gradnje. Prva faza bi podrazumijevala gradnju rustičnije građevine s kontraforima, velikim vratima na sjeveru i otvorenim dvorištem u prvoj polovini 15. stoljeća. Nešto kasnije, ta se građevina počinje urušavati i nagnjati prema unutra, zbog čega se pristupa zasipanju dvorišta tijekom prve polovine 16. st., a na postojeći zid dodaje se novi, nešto kvalitetnije izrađen zid s toparnicama. U ovakav slijed događaja uklapaju se i nalazi iz najnižih slojeva Barbakana, koji ne mogu biti raniji od 16. st., što bi značilo da je Barbakan sigurno funkcionirao kao otvoreno dvorište do prve polovine 16. st., nakon čega je zatrpan. Početak 16. stoljeća obilježen je mletačko-turskim ratom (1499.-1502.), a uz ratnu opasnost u Zadru se 1500. g. pojavila i kuga (Raukar *et. al.* 1987, 183). Zbog rata, oskudice i kuge, grad je oslabljen, a broj stanovništva znatno se smanjio. Loše prilike u Zadru nastavljaju se i tijekom prvih desetljeća 16. st., koje spominju i izvori. Godine 1520. Giovanni Moro izvještava mletačke vlasti o vojnim prilikama u Zadru i predlaže da se ukine posada u Citadelai, jer je utvrda postala posve beskorisna za obranu grada (Raukar *et. al.* 1987, 195). Zadarski knez Victor Barbado 1528. u svom izvještaju navodi da se tada u Citadelai nalazi svega 14 pješaka (Raukar *et al.* 1987, 207). Turska opasnost kulminirala je za vrijeme novog mletačko-turskog sukoba 1537. godine, koji je



Sl. 13 Unutrašnje lice sjevernog zida Barbakana
Fig. 13 Inner face of the northern wall of the Barbakan

curved and distorted at places, as well as poorly preserved, which may have occurred from the pressure occasioned by the inclination of the wall (Fig 9b).

A question is raised why the upper part of the Barbakan, i.e. the part with the cannon holes, was positioned quite upright and does not follow the gradient of the remaining part of the wall. Based on the original preserved portions, the wall was restored during the previous investigations, and already at that time a change was noticed in the method of building below the level of the cannon holes, as well as the lower slope of the wall, assumed to be a consequence of the filling-up of the courtyard.⁸ In view of the archival notes from the 16th cent. mentioning that the state of the city walls was so poor that certain parts on the southern stretch of town fortifications collapsed by themselves (Ljubić, 1876, 171; 1877, 11, 45), as well as the already mentioned different dates for the construction of the Barbakan, there is a possibility that the difference in the building and inclination of the two parts of the wall is a consequence of different phases of construction. The first phase would imply a construction of a more rustic building with counterforts, the large gate on the north and the open courtyard in the first half of the 15th century. A while later, this building started to fall apart and to lean inwards, which brought about the filling-up of the courtyard in the first half of the 16th cent., and the addition of a new wall to the existing one, but of somewhat better quality and equipped with cannon holes. This sequence of events is substantiated by the finds from the lowest layers of the Barbakan, not earlier than the 16th cent., which would mean that the Barbakan certainly functioned as an open courtyard until the first half of the 16th cent., after which it was filled up. The beginning of the 16th century is marked by the Venetian-Turkish war (1499-1502), and in addition to the danger of war, a plague also appeared in Zadar in 1500 (Raukar *et. al.* 1987, 183). Due to the war, shortages and plague, the city was weakened, and the number of inhabitants decreased significantly. Poor conditions in Zadar continued in the first decades of the 16th cent., which is mentioned also in the sources. In 1520 Giovanni Moro informed the Venetian

⁸ Personal information from Prof. P. Vežić.

ozbiljno zaprijetio ne samo zadarskom zaleđu, već i samom gradu. Zanimljiv podatak koji svjedoči o velikoj turskoj opasnosti je i činjenica da 1537. godine, osim vojnika, Venecija Zadru šalje i 1500 dukata za radove na zadarskim utverdama koji uključuju i različitu građu za njihovo opremanje (Raukar et al. 1987, 209). S obzirom na značajnu količinu novca koja se nakon dužeg vremena troši na zadarske utvrde, možda se upravo tada na Barbakanu nadograđuje gornji dio zida s toparnicama koji će poslužiti kao dodatno utvrđenje grada pred nadolazećim Turcima.

Daljnji razvoj ovog prostora vezan je za gradnju bastiona. Konceptija obrane s Citadelaom i Barbakanom uskoro je postala zastarjela, pa se za njezino pojačanje predlažu različita rješenja, da bi 1574. godine bio izgrađen bastion oblika peterokuta s uskim vrhom, o čemu svjedoči natpis na njegovu vrhu (Raukar et al. 1987, 281). Prostor unutar bastiona se nasipa radi bolje amortizacije napada. Gradnjom bastiona, Citadela, a s njom i Barbakan postaju nepotrebni za obranu pa je i njegov prostor vjerojatno nasut do vrha. Ovakvo stanje se može pratiti i na prikazima Zadra, gdje je na planovima iz 1565. Barbakan još otkriven, a na planu iz 1585. godine taj je prostor već zatrpan (Vežić 1990, 19). Kasnije je prostor djelomično otkopan i uklopljen u kazamate izgrađene 1765. godine (Raukar et al. 1987, 127).

Prilikom istraživanja Barbakana pronađeno je dosta sitnih nalaza, od kojih najveći broj čine ulomci keramike i građevinskog materijala iz različitih razdoblja. Keramički materijal iz rimskog vremena se može podijeliti u tri skupine: amfore, kuhinjsko posuđe i *terra sigillata*, a osim njega pronađeno je i nekoliko kamenih spolija. Većina databilnog materijala ukazuje na 1. i 2. st., iako manji dio potječe i iz kasnijeg vremena. Kako se nalazi iz rimskog vremena pronalaze u svim slojevima, a svi oni čine jedinstven nasip Barbakana, nije potrebno opisivati materijal za svaki sloj posebno, nego se on može predstaviti kao jedna cjelina (T. 1).

Većinu materijala iz rimskog vremena čine dijelovi amfora. Među njima prepoznata su četiri različita tipa: Dressel 2 - 4, Dressel 6A, Dressel 6B i Camulodunum 184. Amfore tipa Dressel 2 - 4 imaju prstenasto zadebljan rub i jajoliko tijelo s naglašenim prijelazom u rame. Dno može biti prošireno. Karakteristične su duže bifidne drške postavljene pod oštrijim kutom. Javljuju se na cijelom Mediteranu i predstavljaju najrašireniji oblik amfora u Rimskom Carstvu. Sukladno tomu služile su za prijevoz različitog materijala, iako ih se najčešće veže uz prijenos vina (Peacock, Williams 1986, 106). Dativaju se od kraja 1. st. pr. Kr. do sredine 2. st. po. Kr. Na Barbakanu se pronalaze većinom ostaci drški (T. 1, 11), a pronađena su i dva proširena dna koja svojim oblikom i fakturom ukazuju na ovaj tip.

Amfore tipa Dressel 6A predstavljaju evoluciju Lamboglia 2 tipa. Obod ove forme gubi izbočenost, a vrat je nešto duži i vitkiji u odnosu na tijelo. Porijeklom su italske, a karakteristične su za jadranske obale, gdje se najviše i pronalaze. Izvorno su korištene za transport vina, a datiraju se u 1. st. po. Kr. (Peacock, Williams 1986, 99-100). Prilikom istraživanja pronađen je samo jedan fragment oboda i dijela vrata amfore ovog tipa (T. 1, 14).

authorities about the military circumstances in Zadar and proposed that the Citadela crew be abolished, as the fort became entirely useless for the defence of the town (Raukar et al. 1987, 195). The 1528 report of the Zadar duke Victor Barbado mentions that only 14 infantrymen man the Citadela at that time (Raukar et al. 1987, 207). The Turkish danger reached its peak during the new Venetian-Turkish confrontation in 1537, which threatened not only the hinterland of Zadar, but also the city itself. An interesting piece of information bearing testimony to a great danger from the Turks is the fact that in 1537, besides soldiers, Venice dispatched to Zadar also 1500 ducats for works on the fortifications of Zadar, which included also various materials for furnishing thereof (Raukar et al. 1987, 209). Taking into account the substantial amount of money spent on the Zadar walls after a long time, perhaps this was precisely the moment when the upper portion of the wall with the cannon holes was annexed to the Barbakan, which would serve as an additional fort of the town before the advancing Turks.

Subsequent development of this space is connected with the building of the bastion. The concept of defence with the Citadela and the Barbakan soon became obsolete, and various solutions were put forward for its reinforcement. A pentagonal bastion with a narrow point was built in 1574, as corroborated by an inscription at its top (Raukar et al. 1987, 281). The space within the bastion is filled up to better withstand an assault. The construction of the bastion rendered the Citadela and the Barbakan useless for defence, which is why the latter was probably filled up to the top. Such situation can be followed on the depictions of Zadar, where the plans from 1565 show the Barbakan open, while a 1585 plan shows it already filled up (Vežić 1990, 19). This space was partially excavated at a later date and incorporated into the casemates built in 1765 (Raukar et al. 1987, 127).

A lot of small finds were discovered in the investigations of the Barbakan, mostly consisting of fragments of pottery and construction material of various periods. Roman ceramics can be divided into three groups: amphorae, kitchenware and *terra sigillata*. In addition to this, there were also several finds of stone spolia. Most of the datable material points to the 1st and 2nd cent., although a smaller part comes from a later period. As Roman Age finds are found in all the layers, which together make up the integral fill of the Barbakan, it is not necessary to describe the material for each layer separately, but it can be presented as a single assemblage (Pl. 1).

Most of the finds from the Roman period are pieces of amphorae. Four different types were recognized among them: Dressel 2 - 4, Dressel 6A, Dressel 6B and Camulodunum 184. Dressel 2 - 4 type amphorae have a ring-thickened rim and an oval body with a pronounced transition to the shoulder. The base is sometimes widened. A characteristic feature are longer bifid handles set at an acute angle. They appear all over the Mediterranean and represent the most widely spread type of amphorae in the Roman Empire. In line with this, they served for transport of various materials, although they are most often connected with transport of wine (Peacock, Williams 1986, 106). They are dated from the end of the 1st cent. B.C. to the mid-2nd cent. A.D. The Barbakan yielded mostly remains of handles (Pl. 1, 11), and there were also two widened bases, whose form and fabric indicate that they belonged to this type.

Amfore tipa Dressel 6B imaju zvonolik obod, blago naglašeno rame i zaobljen trbuh. Drške počinju ispod ruba i završavaju na ramenom dijelu. Kao njihovo proizvodno središte općenito je prihvaćena Istra, ali se pronalaze po cijelom Mediteranu. Općenito ih se veže za prijevoz maslinova ulja, iako pojedini izvori spominju garum i vino (Peacock, Williams 1986, 100). Najčešće se javljaju u 1. st. po. Kr. Prilikom istraživanja pronađeni su fragmenti oboda i drški dvaju amfora ovog tipa (T. 1, 13, 15).

Tip Camulodunum 184 ili tzv. Rodske amfore, prepoznatljive su po ručkama koje na mjestu loma imaju rogoliko izbočenje. Tijelo je izduženo i završava zašiljenim dnom. Vrat je cilindričan i izdužen, s rubom prstenasto zadebljanim prema van. Samo ime kaže da su se proizvodile na otoku Rodosu, a njihov teret su bile različite vrste vina, iako pojedini nalazi pokazuju i da su se u njima prenosile i smokve. Upotrebljavane su u dužem razdoblju, od 1. st. pr. Kr. do čak 2. st. po. Kr. (Peacock, Williams 1986, 102). Na području Barbakana pronađen je samo jedan fragment drške koji pripada ovom tipu (T. 1, 10).

Ostali materijal predstavljaju fragmenti amfora neodredivih formi, zbog premalo prepoznatljivih detalja.

Od kuhinjskog posuđa pronađeno je svega dvadesetak fragmenata neprepoznatljivih oblika, iako se po fakturi može govoriti skko je riječ o proizvodima iz rimskog vremena. Osim neodredivih fragmenata, većinu prepoznatljivih ostataka čine fragmenti rimskih vrčeva s trakastom drškom (T. 1, 3, 5, 9).

Među nalazima iz Barbakana *terra sigillata* je zastupljena s desetak fragmenta. Tri fragmenta pripadaju kasnoj rimskoj keramici afričke proizvodnje, dok ostatak pripada istočno mediteranskim formama ili italskoj keramici (T. 1, 1) (Robinson, 1959, 87, Plate 61, M31; Topić, 2003, 232, T. 23-24, 208-215). Od prepoznatljivih oblika treba spomenuti fragment plitice tipa Hayes 67 iz sonde 1 (T. 1, 8). Riječ je o zdjelama s zakrivljenim, blago nagnutim tijelom i ravnom bazom, koje su bile česte, ali su trajale relativno kratko, od kraja 4. do kraja 5. stoljeća (Hayes 1972, 112-116). Uz ovaj, pronađen je još jedan fragment u istoj sondi koji može pripadati istom tipu (T. 1, 7), a budući da mu je uščuvan samo dio oboda, može biti riječ i o tipovima Hayes 67-70 (Hayes 1972, 116-119). Pronađen je i fragment posude tipa *Conspectus 20* (T. 1, 2) (*Conspectus*, 1990, 86-87; Brukner 1981, 18-19, T6) te fragment plitice s kratkom nogom i dva manja utora koja se također može svrstati u kategoriju kasne rimske keramike afričke proizvodnje (T. 1, 6).

Na prostoru Barbakana pronađen je mali broj arhitektonskih spolija, a za svega dvije se može tvrditi da pripadaju rimskom vremenu. Obje su pronađene ugrađene u istočni zid Citadela. Južno od malih vrata pronađen je dio natpisnog polja, ali nažalost nema nikakvih ostataka samog natpisa (sl. 15). U sloju oko ove spolije pronađeno je nekoliko fragmenata rimske i novovjekovne keramike. Druga spolija je zatvorila prozor Citadela. Riječ je o dijelu arhitrava profiliranog s jedne strane (sl. 14a, 14b).

Među nalazima koji pripadaju srednjem i novom vijeku također prevladava keramički materijal, čiji veći dio pripada

The Dressel 6A type amphorae are an evolution of the Lamboglia 2 type. The rim of this form is less prominent, and the neck is somewhat longer and more slender than the body. They are of the Italic origin, and are characteristic for the coasts of the Adriatic Sea, which yielded most of the finds. They originally served for transport of wine, and are dated to the 1st cent. A.D. (Peacock, Williams 1986, 99-100). Only one fragment of a rim and a part of a neck of an amphora of this type was found in the investigation (Pl. 1, 14).

Amphorae of the Dressel 6B type have a bell-shaped rim, a slightly pronounced shoulder and rounded belly. The handles start below the rim and end on the shoulder. Istria is generally accepted as the centre of production of this type of amphora, but they are found all around the Mediterranean. They are generally connected with the olive oil transport, even though certain sources mention garum and wine (Peacock, Williams 1986, 100). They appear most often in the 1st cent. A.D. Fragments of rims and handles of two amphorae of this type were found in the investigation (Pl. 1, 13, 15).

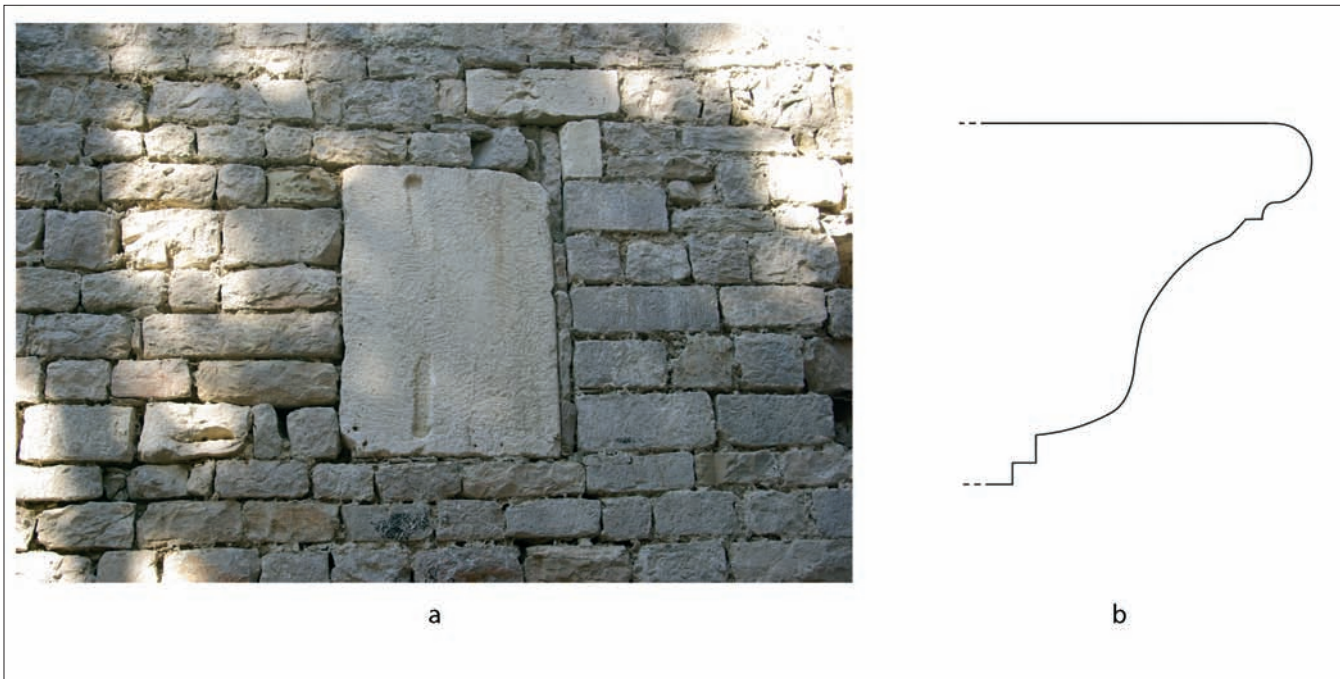
The Camulodunum type 184 or the so-called Rhodian amphorae are recognizable by the handles, which have a horn-like protrusion on the point of break. The body is elongated, with a pointed base. The neck is cylindrical and elongated, with the rim thickened on the outside. The name itself reveals that they were produced on the island of Rhodes, and were used for transport of various types of wine, even though certain finds indicate that they were also used for carrying figs. They were in use over a longer period, from the 1st cent. B.C. up until the 2nd cent. A.D. (Peacock, Williams 1986, 102). The area of the Barbakan yielded only one fragment of a handle belonging to this type (Pl. 1, 10).

The remaining material consists of fragments of amphorae of indeterminate form, with too few identifiable details.

Regarding kitchenware, only some twenty or so fragments of indeterminate shape were found, although their fabric appears to indicate that they belonged to Roman Age products. In addition to unidentifiable fragments, most of the recognizable remains consist of fragments of Roman jugs with a strap handle (Pl. 1, 3, 5, 9).

Among the finds from the Barbakan *terra sigillata* is represented with around ten fragments. Three fragments belong to late Roman pottery of African origin, while the remainder belongs to the eastern Mediterranean forms or Italic ware (Pl. 1, 1) (Robinson, 1959, 87, Plate 61, M31; Topić, 2003, 232, T. 23-24, 208-215). Among identifiable forms one has to mention a fragment of a plate of Hayes 67 type from trench 1 (Pl. 1, 8). These are bowls with a curved, slightly inclined body and straight base. They were frequent, but lasted during a relatively short period, from the end of the 4th to the end of the 5th century (Hayes 1972, 112-116). The same trench yielded another fragment that might belong to the same type (Pl. 1, 7). As only a part of the rim has remained, it may belong to Hayes types 67-70 (Hayes 1972, 116-119). A fragment of a vessel of *Conspectus type 20* (T.1.2) (*Conspectus*, 1990, 86-87; Brukner 1981, 18-19, T6) was also found, as well as a fragment of a plate on a short foot and with two smaller grooves, which can also be classified into the category of late Roman pottery from African workshops (Pl. 1, 6).

The area of the Barbakan yielded a small number of architectural spolia, only two of which can be attributed with



Sl. 14 a-Antička spolija ugrađena u prozor na istočnom zidu Citadela, b-Presjek antičke spolije
 Fig. 14 a-Ancient spolia built into a window in the eastern wall of the Citadela, b-Cross-section of the ancient spolia

nalazima glaziranoga stolnog posuđa, dok je kuhinjska keramika nešto slabije zastupljena.

Unutar kuhinjskog posuđa prisutni su nalazi grubog, ali i glaziranoga keramičkog materijala. Ulomci grube kuhinjske keramike dosta su rijetki i zastupljeni su sitnim fragmentima. Oni uglavnom pripadaju kuhinjskim loncima, čiji su oblici jako dugo nepromijenjeni te ih je dosta teško pobliže datirati, no njihova faktura odaje pripadnost navedenim razdobljima. Iz ovog materijala izdvaja se ulomak dna bikoničnog lončića, koji ima prilično tanke stijenke grube zrnate strukture (T. 2, 1). Ovakvi lonci mogu biti raznih dimenzija, u gornjem dijelu završavaju profiliranim obodom te mogu imati jednu ili dvije ručke. Česta pojava su lonci ovog oblika rađeni od fine pročišćene gline koji mogu biti premazani i olovnom glazurom (Saccardo 1993a, 142, 149, Fig. 4/2; Cunja 2004, 77-80, kat. 44). Lonci grube fature nešto su rjeđi i

certainly to the Roman period. Both of them were found built into the eastern Citadela wall. A part of the inscription field was found south of the small gate, but unfortunately without any traces of the inscription (Fig. 15). Several fragments of Roman and modern-period pottery were found in the layer surrounding this spolia. The second spolia blocked the Citadela window. It was a part of an architrave profiled on one side (Fig. 14a, 14b).

Ceramics also dominate among the finds belonging to the Middle Ages and the Modern Period. The major part belongs to the finds of glazed tableware, while kitchenware is less well represented.

Kitchenware includes finds of coarse pieces, but also of glazed ones. Fragments of coarse kitchenware are quite rare and present in tiny fragments. These by and large belong to kitchen pots, whose forms remained unchanged for a long time and are difficult to date with precision, although their fabric allows attribution to the mentioned periods. A fragment of a base of a small biconical pot with fairly thin walls of coarse-grained fabric stands out from this assemblage (Pl. 2, 1). Pots of this type vary in size. Their upper part ends with a profiled rim and they can have one or two handles. Pots of this type, made of finely refined clay, sometimes coated with a lead glaze, are a frequent occurrence (Saccardo 1993a, 142, 149, Fig. 4/2; Cunja 2004, 77-80, kat. 44). Pots of coarse fabric are somewhat rarer, and are dated to the 15th cent. and the first half of the 16th cent. (Nepoti 1992, 295, Fig. 2/5, Fig. 3/5; Librenti, Vallini 2006, 193, Fig. 1/1-2). The remaining finds belong to the group of glazed kitchenware, characterized by a ceramic body coated with a layer of transparent or coloured lead glaze. A fragment of a vessel of an unusual shape should be added to this type. The fragment belongs to a flat base with an applied conical foot on the outer side (Pl. 2, 5). The fragment was made of light ochre ceramics, and exhibits remains of brown glaze in the interior, now present



Sl. 15 Fragment natpisnog polja
 Fig. 15 Fragment of an inscription field

datiraju se u 15. i prvu polovinu 16. st. (Nepoti 1992, 295, Fig. 2/5, Fig. 3/5; Librenti, Vallini 2006, 193, Fig. 1/1-2). Ostali nalazi pripadaju skupini glazirane kuhinjske keramike kod koje je na keramičko tijelo nanesen sloj prozirne ili kolorirane olovne glazure. Ovoj vrsti treba pridružiti ulomak posude neobičnog oblika. Riječ je o ulomku ravnog dna koje s vanjske strane ima apliciranu koničnu nogu (T. 2, 5). Ulomak je rađen od svijetle oker keramike, a s unutarnje strane vidljivi su ostaci smeđe glazure, danas očuvane samo u tragovima. Što se tiče oblika posude, vjerojatno se radi o zdjeli na tri noge, odnosno tavi. To su uglavnom konične posude na tri noge koje imaju profiliran otvor, a mogu imati i vodoravno položenu tubularnu ručku. Unutrašnjost im je u pravilu glazirana, noge su im najčešće svijene prema van, a javljaju se od 15. do 17. st. (Guštin *et al.* 2001, kat. 200; Kovács 2001, 202, Fig. 6; Bikić 2003, Tip I/13; Radić, Bojčić 2004, kat. 343; Čimin 2008a, 128, T. 14). Ovom tipu pripada još jedan ulomak gornjeg dijela posude otvorene forme. Posudi je olovnom glazurom bila premazana samo unutrašnjost, a ima i širok obod s naglašenim unutarnjim rubom (T. 2, 6). Tako oblikovan otvor posude javlja se uglavnom kod zdjela ili lonaca, a služi za umetanje poklopca. Navedeni oblik javlja se među talijanskim nalazima od sredine 15. do sredine 16. st. (Nepoti 1992, 300, Fig. 4).

Skupina stolne glazirane keramike puno je brojnija i zastupljena je različitim vrstama. Najjednostavniju skupinu čine ulomci zdjelica kod kojih je s unutrašnje strane nanesen sloj olovne glazure, što ujedno predstavlja i jedinu dekoraciju posuda (T. 2, 2-4). Zdjelice mogu biti loptaste ili bikonične forme, a neke pripadaju i tzv. *a listelo* tipu kojima se ispod otvora nalazi vertikalno istaknuto reljefno rebro (T. 2, 4). Dno im završava prstenastom nogom unutar koje je štitasto ispupčenje. Svi primjerci rađeni su od crvene keramike, a maslinastozelenom ili smeđom glazurom prekrivena im je samo unutrašnjost. Ovaj tip zdjelica karakterističan je proizvod venetskih radionica tijekom 14. i u prvoj polovini 15. st. (Gelichi 1988, Fig. 17/2a-c, 3a-b, 18/4b-c), a često ih nalazimo i na našoj obali (Bradara 2006, 19-20, T. III/30).

Iduću vrstu predstavlja engobirana keramika, kod koje je ispod glazure nanesen sloj svijetle engobe, pogodan za daljnje ukrašavanje posuda tehnikama slikanja i graviranja. Osim u oslikanoj i graviranoj, engobirane posude pojavljuju se i u jednostavnoj neukrašenoj varijanti.

Najranije primjerke engobirane keramike predstavljaju dva ulomka slikane keramike. Kod ove vrste slikana dekoracija izvodi se iznad sloja engobe. Prvi je ulomak diskastog dna posude otvorene forme, rađene od svijetle keramike i ukrašene samo s unutarnje strane (T. 2, 9). Dekoracija se sastoji od koncentrične kružnice crvene boje i ostatka ukrasa zelene boje, smještenog na sredini dna. Ovaj tip keramike naziva se RMR, a njegova proizvodnja započinje na području južne Italije u 13. i traje do sredine 14. st.⁹ (Campanella 2000, 149; Riavez 2000, 215). Posude karakterizira tanak sloj engobe na kojem se izvodi slikana višebojna dekoracija

⁹ Naziv RMR potječe od početnih slova boja koje se koriste za ukrašavanje ovog tipa: zelena (Ramina), smeđa (Manganese) i crvena (Rosso) (Dufornier *et al.* 1986, 253).

only in traces. As for the vessel form, it was probably a bowl on three feet, that is, a pan. These are mostly conical vessels on three feet, with a profiled mouth, sometimes with a horizontal tubular handle. They are normally glazed on the inside, with feet mostly curving outwards. They appear from the 15th to the 17th cent. (Guštin *et al.* 2001, kat. 200; Kovács 2001, 202, Fig. 6; Bikić 2003, Tip I/13; Radić, Bojčić 2004, kat. 343; Čimin 2008a, 128, T. 14). Another fragment of the upper part of a wide-open vessel belongs to this type. Lead glaze was applied only to the interior of the vessel, which has a wide mouth whose rim is pronounced on the inside (Pl. 2, 6). A vessel opening of this form appears mostly in bowls and pots, and serves for inserting a lid. The mentioned form appears among the Italian finds from the mid-15th cent. to the mid-16th cent. (Nepoti 1992, 300, Fig. 4).

A group of glazed tableware is much more numerous and comprises various types. The simplest group consists of fragments of small bowls with a coating of lead glaze in the interior, which is at the same time the only decoration on the vessels (Pl. 2, 2-4). The bowls can have a globular or biconical shape, and some belong to the so-called *a listelo* type, with a pronounced relief rib below the rim (Pl. 2, 4). The base ends with a foot ring with a shield-like protrusion within it. All the pieces were made of red ceramics, with only the interior coated with an olive-green or brown glaze. This type of small bowls is a characteristic product of the Venetian workshops of the 14th cent. and the first half of the 15th cent. (Gelichi 1988, Fig. 17/2a-c, 3a-b, 18/4b-c), and they are frequently found on the Croatian coast (Bradara 2006, 19-20, T. III/30).

The next type is slipware, which has a coating of light engobe applied below the glaze, suitable for further decoration of the vessels by painting and engraving. In addition to their painted and engraved variants, slipware vessels appear also in simple undecorated form.

The earliest pieces of slipware are two fragments of painted pottery. In the case of this type, painted decoration is applied over the engobe layer. The first fragment belongs to a discoid base of an open-form vessel, made of light ceramics and decorated only on the inside (Pl. 2, 9). The decoration consists of a red concentric circle and remains of decoration in green, situated at the middle of the base. This type of ware is referred to as RMR. Its production started in the area of southern Italy in the 13th cent., lasting to the mid-14th cent.⁹ (Campanella 2000, 149; Riavez 2000, 215). The vessels are characterized by a thin layer of engobe, to which polychrome painted ornament is applied (Riavez 2000, 209), although certain pieces appear without a layer of engobe, with decoration painted directly on the biscuit (Gregory 1993, 294). The mentioned piece bears most resemblance to the vessels decorated with concentric circles of various colours, discovered in Atilit in Israel, originating from the workshops in the area of Salento, which are dated to the latter half of the 13th cent. (Riavez 2000, 209, 215, Tav. II). A fragment of a base with a foot ring, decorated on the inside with oblique brown and red lines, belongs to the same type (Pl. 2, 10). Such conception of decoration can be connected with the heraldic motifs that frequently appear on the RMR

⁹ The name RMR comes from the initial letters of colours used in the decoration of this type: green (Ramina), brown (Manganese) and red (Rosso) (Dufornier *et al.* 1986, 253).

(Riavez 2000, 209), mada se pojavljuju i pojedini primjerci bez engobe, kod kojih je ukras slikan direktno na biskvit (Gregory 1993, 294). Navedeni primjerak najbliži je posudama ukrašenim raznobojnim koncentričnim kružnicama pronađenim u Atilitu u Izraelu koje potječu iz radionica na području Salenta, a datiraju se u drugu polovinu 13. st. (Riavez 2000, 209, 215, Tav. II). Istom tipu pripada ulomak dna s prstenastom nogom, ukrašen s unutarnje strane kosim linijama smeđe i crvene boje (T. 2, 10). Ovakva koncepcija ukrasa može se vezati uz heraldičke motive koji se dosta često pojavljuju na RMR keramici južne Italije krajem 13. i u 14. st. (Dufornier et al. 1986, 271, Fig. 7/1, 2, 4). Na tlu Hrvatske RMR keramika predstavlja uistinu rijedak nalaz te je do sada registrirana jedino u Splitu (Zglav Martinac 2004, 45-48, kat. 31-49).

Nešto kasniju dataciju imaju jednostavni neukrašeni primjerci engobirane keramike kod kojih engoba i olovna glazura čine jedinu dekoraciju. Jednostavan primjerak ove vrste predstavlja bikonična zdjelica s obodom izvijenim prema van i prstenastom nogom na dnu, unutar koje je štitačasto ispupčenje (T. 2, 7). S obje strane zdjelice ispod prozirne glazure nanesen je sloj bijele engobe. Istom tipu premazanim bijelom engobom i olovnom glazurom pripada i ulomak stijenke vrča nađen pri dnu sonde 3 (T. 2, 8). Posude s bijelom engobom i olovnom glazurom javljaju se u 16. st., a karakteristične su za područje Veneta (Bradara 2006, 33, 34; Bradara, Saccardo 2007, kat. 133).

Istom razdoblju pripada ulomak trolisnog oboda vrča, ukrašen slikanom dekoracijom (T. 2, 11). Vrč je rađen od crvene keramike, a s vanjske strane ima sloj engobe preko kojeg je slikan ukras zelenom bojom. Posudi je ukrašena i glazirana samo vanjšina. Zbog fragmentarnosti ulomka dekorativni motiv danas je nejasan, no slično ukrašene posude dekorirane samo potezima zelene i okeržute boje, karakteristične za radionice sjeveroistočne Italije u 16. st. (Visser Travagli 1990, 59-60; Bojani 1997, 66-68), nalazimo i izvan matičnog teritorija duž istočne obale Jadrana (Cunja 2004, 97-99; Gusar 2007, 178, kat. 3; Zagarčanin 2004, kat. 102).

Posljednju inačicu engobirane keramike predstavljaju posude ukrašene tehnikom graviranja kod kojih se dekorativni motiv urezuje upravo na sloj engobe, nakon čega se posuda može oslikavati ili samo glazirati. Najraniji primjerak s ovog lokaliteta je ulomak dna zdjelice na prstenastoj nozi, glaziran s obje strane (T. 2, 12). Dekoracija se sastoji od urezane kružne spirale u unutrašnjosti, preko koje je nanesena glazura žute boje. Prema dekorativnom motivu, ovaj tip posuda naziva se *spirale-cerchio*¹⁰ i predstavlja proizvod radionica talijanske pokrajine Veneto u drugoj polovini 13. i tijekom prvih desetljeća 14. st. (Saccardo 1993b, 211-212; Saccardo, Riavez 2006, 242, Fig. 3/1-5). Iako se ovakve zdjelice često javljaju i izvan područja Italije, u Hrvatskoj su do sada registrirane jedino u Splitu (Zglav Martinac 2004, 44; Grković, Lovrić 2006, 151, Fig. 3/1-3).

Češći nalaz predstavljaju primjerci *arhajske gravirane keramike* zastupljeni u monokromnoj i polikromnoj varijanti.

¹⁰ Posude tipa *spirale-cerchio* su obično premazane oker, smeđom ili rjeđe zelenom glazurom. Također se javljaju i primjerci ovog tipa bez engobe. Usp. Saccardo, 1993b, 212.

ware of southern Italy at the end of the 13th and in the 14th cent. (Dufornier et al. 1986, 271, Fig. 7/1, 2, 4). In Croatia, the RMR ware is an exceptionally rare find, registered so far only in Split (Zglav Martinac 2004, 45-48, kat. 31-49).

Simple undecorated pieces of slipware where the engobe and lead glaze are the only ornament date from a somewhat later time. A simple specimen of this type is a small biconical bowl with an everted rim and a foot ring with a shield-like protrusion within it (Pl. 2, 7). A layer of white engobe is applied on either side of the bowl under a transparent glazing. A fragment of a side of a jug found near the bottom of trench 3 (Pl. 2, 8) belongs to the same type, coated with white engobe and lead glaze. Vessels with white engobe and lead glaze appear in the 16th cent., and are characteristic for the Veneto region (Bradara 2006, 33, 34; Bradara, Saccardo 2007, kat. 133).

A fragment of a trefoil-shaped rim of a jug, with painted decoration (Pl. 2, 11), belongs to the same period. The jug is made of red ceramics, and it has an engobe coating on the outside, with green painted decoration on it. Only the exterior of the vessel is decorated and glazed. The decorative motif is now unclear due to the fragmented state of the sherd, but vessels with similar decoration with green and ochre-yellow strokes, characteristic of the 16th-cent. north Italian workshops (Visser Travagli 1990, 59-60; Bojani 1997, 66-68), are found also outside the core territory along the eastern Adriatic coast (Cunja 2004, 97-99; Gusar 2007, 178, kat. 3; Zagarčanin 2004, kat. 102).

The last variant of engobe ware are vessels decorated with engraving, in which the decorative motif is incised precisely into the layer of engobe, after which the vessel can be painted or only glazed. The earliest example from this site is a fragment of a base of a small bowl on a foot ring, glazed on both sides (Pl. 2, 12). Decoration consists of an incised circular spiral on the inside, coated over with a yellow glaze. This vessel type is named *spirale-cerchio*¹⁰ after the decorative motif, and it is a product of workshops in the Italian Veneto region from the latter half of the 13th cent. and during the first decades of the 14th cent. (Saccardo 1993b, 211-212; Saccardo, Riavez 2006, 242, Fig. 3/1-5). Even though small bowls of this type frequently appear outside the Italian territory, in Croatia they have so far been registered only in Split (Zglav Martinac 2004, 44; Grković, Lovrić 2006, 151, Fig. 3/1-3).

Pieces of *Archaic engraved ware*, present in the monochrome and polychrome variants, are better represented. The first fragment is a part of the base of a bowl on a foot ring, with engraved decoration and green glaze only on the inside (Pl. 2, 13). Decoration consists of four fields filled with a stylized motif of a palmette, of which only one has remained well preserved. The fragment is a product of the Padan Archaic engraved ware made in the workshops of Veneto at the end of the 14th and the beginning of the 15th cent., and similar examples are found in Nin and Split (Gusar 2007, 197, kat. 6; Zglav-Martinac 2004, kat. 68-71). The polychrome variant is represented by a fragment of a neck of a jug, divided into fields filled with wave-lines, and decoration is complemented with green painted motifs (Pl. 3, 1). Jugs of this type are frequently found in Italy and come from

¹⁰ The *spirale-cerchio* type vessels are usually coated with ochre, brown or, more rarely, green glaze. Pieces of this type without engobe also appear. Comp. Saccardo, 1993b, 212.

Prvi ulomak dio je dna zdjele na prstenastoj nozi ukrašene graviranim dekoracijom i zelenom glazurom samo s unutarnje strane (T. 2, 13). Ukrašenje sastoji od četiri polja ispunjena stiliziranim motivom palmete, od kojih je danas bolje očuvano samo jedno. Ulomak pripada produkciji padanske arhajske gravirane keramike nastale u venetskim radionicama krajem 14. i početkom 15. st., a slične primjerke nalazimo u Ninu i Splitu (Gusar 2007, 197, kat. 6; Zglav-Martinac 2004, kat. 68-71). Polikromnoj varijanti pripada ulomak grla vrča, podijeljen na polja ispunjena valovitim linijama, a dekoracija je dopunjena oslikavanjem zelenom bojom (T. 3, 1). Ovakvi tipovi vrča čest su nalaz na području Italije i potječu iz venetskih radionica (Leonarduzzi, Valent 1993, kat. 234; Cozza 1988, kat. 69, 70; Magnani, Munarini 1998, kat. 21, 29; Visser Travagli 1990, kat. 1, 2), a sličan primjerak koji pripada 15. st. na zadarskom području pronađen je u Ninu (Gusar 2007, 179, kat. 7). Navedenom vremenu i tipu pripada ulomak oboda poluloptaste zdjelice, kojem je od dekoracije u unutrašnjosti preostao samo gornji dio listova palmete dopunjen oker bojom (T. 3, 2). Vanjština je potpuno neukrašena. Slične zdjelice ukrašene palmetama, smještene u radionice Veneta, tijekom 15. st. pronađene su u Splitu i Aquileji (Zglav Martinac 2004, kat. 76-77; Bertacchi 1977, 103). Nakon arhajske faze javlja se *predrenesansna gravirana keramika* koju karakterizira *horror vacui*, odnosno potpuno prekrivanje površine dekoracijom (Gelichi 1987, 37-39; Nepoti 1991, 102). Takav je i ulomak naglašenog oboda zdjele na kojem je motiv stilizirane prepletene učvorene trake (*cordone a nodi* ili *a nodi e bastoni*) (T. 3, 3). Između prepleta trake vide se tragovi graviranja oštrom alatkom u obliku okomitih poteza. Na plaštu je danas nejasan motiv. Tako ukrašene posude 15. st. čest su nalaz u pokrajini Emiliji-Romagni (Nepoti 1991, 102-105; Guarnieri et al. 2006, 152, n. 114). *Renesansna gravirana keramika* karakterizira veća raznolikost u dekoraciji i tehnici ukrašavanja. Ulomak dublje zdjele s naglašenim obodom na kojem je ukrasni motiv izlomljene trake (*a nastro spezzato* ili *a meandro triangolare*) pripada upravo ovom tipu (T. 3, 4). Na plaštu je vidljiv mali ostatak dekoracije od koje je danas prepoznatljivo jedno stablo i dio točkaste zelene livade. Ovi detalji odaju da je riječ o prikazu tzv. *hortusa conclusa*, tj. prikaza ograđenog vrta u koji se obično smještaju figure ljudi ili životinja. Takva tematika pripada *amatoria* tipu posuda, tj. posuda s ljubavnom tematikom koje se na poklon davalo voljenoj osobi, a figure unutar vrta obično simboliziraju ljubav i vjernost. Ovi prikazi karakteristični su za radionice pokrajina Veneta i Emilije Romagne u 15. i početkom 16. st. Tom tipu pripada i ulomak dna zdjelice (T. 3, 6). S unutarnje strane prikazano je poprsje mlađe osobe okrenute ulijevo, smještene ispred cvjetne livade. Figura je prikazana unutar kružnog medaljona, okruženog vegetabilnom ornamentikom. Gravirani ukras dopunjen je oker, zelenom i smeđom bojom. Vjerojatno se radi o prikazu mladića na što upućuje odjeća, iako je po fizionomiji moguće da se radi o djevojci.¹¹ Kod vegetabilnog motiva karakteristična je tehni-

¹¹ Osoba je odjevena u tuniku ili košulju uz vrat, što je karakteristično u prikazu muškaraca, dok su žene na ovakvim prikazima u pravilu odjevene u dekolitiranu haljinu. Kod muškaraca je također često da su prikazani s naborima na vratu što je slučaj i kod ovog ulomka.

the Veneto workshops (Leonarduzzi, Valent 1993, cat. 234; Cozza 1988, cat. 69, 70; Magnani, Munarini 1998, cat. 21, 29; Visser Travagli 1990, cat. 1, 2), and a similar piece from the 15th cent. was found in the Zadar area in Nin (Gusar 2007, 179, kat. 7). A fragment of a rim of a small semi-globular bowl belongs to the mentioned time and type. Its decoration is completely gone except for the upper part of the palmette leaves complemented with ochre paint (Pl. 3, 2). The exterior is entirely undecorated. Similar small bowls decorated with palmettes, originating from the Veneto workshops in the 15th cent., were found in Split and Aquileia (Zglav Martinac 2004, kat. 76-77; Bertacchi 1977, 103). After the Archaic phase appears the *pre-Renaissance engraved ware*, characterized by *horror vacui*, i.e. decoration applied to the entire surface of the vessel (Gelichi 1987, 37-39; Nepoti 1991, 102). One such piece is a fragment of a pronounced bowl rim with a motif of a stylized interlaced knotted stripe (*cordone a nodi* or *a nodi e bastoni*) (Pl. 3, 3). Traces of engraving with a sharp instrument in the shape of vertical strokes are visible between the interlaced elements. The motif on the mantle is presently unclear. The 15th-cent. vessels with a decoration of this type are frequently found in the Emilia-Romagna region (Nepoti 1991, 102-105; Guarnieri et al. 2006, 152, n. 114). *Renaissance engraved ware* is characterized by a greater variety of decoration and decorative technique. A fragment of a deeper bowl with a pronounced rim, which has an ornamental motif in the shape of a broken stripe (*a nastro spezzato* or *a meandro triangolare*) belongs precisely to this type (Pl. 3, 4). The mantle exhibits a small remnant of decoration, of which only a tree and a part of a dotted green meadow are recognizable today. These details reveal that the scene depicts the so-called *hortus conclusus*, i.e. a fenced garden usually used for figures of people or animals. A subject of this kind belongs to the *amatoria* type vessels, i.e. those with love as the theme, presented to a loved person, while the figures within the garden normally symbolize love and fidelity. These depictions are characteristic for the workshops of the Veneto and Emilia-Romagna regions in the 15th and the beginning of the 16th cent. A fragment of a base of a small bowl belongs to this type (Pl. 3, 6). A bust of a young person turned to the left, situated in front of a meadow in bloom, is depicted on the inside. The figure is shown within a round medallion surrounded by vegetable ornaments. Engraved decoration is complemented with ochre, green and brown colour. The depicted figure is probably that of a young man, as indicated by his clothes, even though the physiognomy could also be that of a girl.¹¹ A characteristic feature of the vegetable motif is its workmanship, i.e. engraving was carried out in the way that the engobe coating is almost entirely removed. This technique, called the "sunken base", is used to achieve impression of depth of the background, and derives from the pre-Renaissance ware, where the same effect was achieved by vertical strokes with a sharp instrument (Nepoti 1991; Magnani, Munarini 1998). The same method was used in decoration of the entire exterior surface of the small bowl, where strokes of the instrument are visible. All this suggests that the object was produced in the latter half

¹¹ The person wears a tunic or a shirt at the neck, which is characteristic for depictions of men, while women in such representations generally wear a low-cut dress. Men are also frequently depicted with pleats on the neck, which is also the case with this fragment.

ka njegove izvedbe tj. graviranje je rađeno na taj način da se podloga engobe gotovo u potpunosti uklanja. Ovakva tehnika naziva se "sniženo dno" kojom se postiže reljefnost pozadine, a derivira iz predrenesansne keramike kod koje je taj efekt postignut okomitim potezima oštre alatke (Nepoti 1991; Magnani, Munarini 1998). Na isti način ukrašena je i cijela vanjšina zdjelice kod koje su vidljivi potezi alatke. Sve to upućuje da je riječ o proizvodu iz druge polovine 15. st. koji je mogao nastati u radionicama Emilije Romagne ili Veneta. *Postrenesansnoj graviranoj keramici* pripada samo jedan ulomak dna posude na prstenastoj nozi. Ulomak je slabo očuvan pa je od ukrasa preostala engobirana podloga ušćuvana u tragovima i dvije kružne spirale (T. 3, 5). Takav tip dekoracije, koji je karakterističan za venetske radionice u drugoj polovini 16. st., čest je nalaz na našoj obali (Bradara, Saccardo 2007, kat. 115; Gusar 2006, 144, Fig. 8; Zglav Martinac, 2004, kat. 203-219).

Posljednju vrstu glazirane keramike predstavlja keramika s kositrenom glazurom ili majolika, koja je na ovom lokalitetu zastupljena s ranim primjercima. U keramiku s kositrenom glazurom spada i *protomajolika* koja je zapravo rana inačica karakteristična za proizvodna središta južne Italije i Sicilije od početka 13. do sredine 14. st. (Patitucci Uggeri 1997). Na Barbakanu je pronađen samo jedan ulomak ovog tipa (T. 3, 7). Radi se o dnu posude manjih dimenzija, otvorena oblika, rađene od svijetle oker keramike. Vanjšina je popuno bez ukrasa i premaza, a u unutrašnjosti se nalazi stiliziran prikaz cvijeta čiji krajevi prelaze u vitice. Glazura je loše očuvana pa je danas vidljiv samo obrubni crtež smeđe boje, unutar kojeg se javlja plava boja. Identični ulomak protumačen kao heraldički prikaz ljiljana pronađen je na venecijanskom području i pripisan radionicama na području Salenta tijekom 13. st. (Saccardo 1998, 57, Fig. 7/4; 2006, 243, Fig. 3/13). U ranu inačicu majolike spada i *arhajska majolika*, karakteristična za radionice na sjeveru Italije. Ovom tipu pripada ulomak ručke vrča, ovalnog presjeka, rađen od svijetle oker keramike (T. 3, 8). Dekoraciju čine vodoravni potezi zelene i smeđe boje, koji karakteriziraju tzv. standardnu arhajsku majoliku. Drugi ulomak je dio stijenke vrča rađenog od crvene keramike, ukrašen smeđim linijama (T. 3, 9). Oba primjera treba pripisati radionicama sjeveroistočne Italije i vremenu druge polovine 14. stoljeća. Prvoj polovini 15. st. pripadaju dva ulomka majoličkog vrča s bijelom sjajnom glazurom na obje strane, dok su s vanjske strane ukrašene stiliziranim geometrijsko – vegetabilnim motivima plave boje (T. 3, 10-11). Oni pripadaju skupini *talijansko-maurske majolike*, nastale u radionicama Faenze, najpoznatijega radioničkog središta majolike na tlu Italije (Ravanelli Guidotti 1998, 128, fig. 19a-d; Guarnieri *et al.* 2006, Tav. XXX/163). Plava kao dominantna boja pojavljuje se na još jednom ulomku donjeg dijela vrča na ravnoj stopi (T. 3, 12). Glazura vrča slabije je kvalitete od prethodno navedenih ulomaka, a dekoraciju čine dvije linije plave boje, nanesene u debelom premazu. Ovakav način oslikavanja karakterizira majoliku sa *zaffera in rilievo* dekoracijom, kod koje je kobaltno plava boja nanošena u debljem, gotovo reljefnom sloju (Gardelli 1986, 99). No kako je kod ovog tipa majolike dekoracija nešto drugačije koncipirana,

of the 15th cent., presumably in the workshops in Emilia-Romagna or Veneto. Only one fragment of a base of the vessel on a ring-shaped foot belongs to the *Post-Renaissance engraved ware*. The fragment is poorly preserved and the only remaining part of the ornament is the engobe background, preserved in traces, and two round spirals (Pl. 3, 5). This type of decoration, characteristic for the Veneto workshops in the second half of the 16th cent., is frequently found on the Croatian coast (Bradara, Saccardo 2007, kat. 115; Gusar 2006, 144, Fig. 8; Zglav Martinac, 2004, kat. 203-219).

The last type of glazed ware is that with a tin glaze or maiolica, represented at this site with early pieces. The category of ware with a tin glaze includes also *proto-maiolica*, in fact an early variant characteristic for production centres of southern Italy and Sicily from the beginning of the 13th to the mid-14th cent. (Patitucci Uggeri 1997). Only one fragment of this type was found at the Barbakan, the base of a small vessel of an open form, made of light ochre ceramics. The outside has no decoration or coating whatsoever, while the inside is decorated with a stylized flower whose ends transform into tendrils. The glaze is poorly preserved so presently only the brown borderline is visible, with blue colour appearing within it. An identical fragment interpreted as a heraldic depiction of a lily flower was found in the Venetian territory and it was ascribed to the 13th-century workshops in the area of Salento (Saccardo 1998, 57, Fig. 7/4; 2006, 243, Fig. 3/13). *Archaic maiolica* is another early variant of maiolica, characteristic for workshops in the north of Italy. This type is represented here by a fragment of a jug handle of an oval cross-section, made of light ochre ceramics (Pl. 3, 8). Decoration consists of horizontal strokes of green and brown colour, characteristic for the so-called standard archaic maiolica. The second fragment belongs to a side of a jug made of red ceramics, decorated with brown lines (Pl. 3, 9). Both pieces should be attributed to the workshops of northeastern Italy and the period of the latter half of the 14th century. The first half of the 15th cent. is represented by two fragments of a maiolica jug with a white lustrous glaze on both sides, while the decoration on the outside consists of stylized geometric-vegetable motifs in blue (Pl. 3, 10-11). They belong to the group of *Italian-Moorish* maiolica, created in the workshop of Faenza, the most famous workshop centre for maiolica on the Italian soil (Ravanelli Guidotti 1998, 128, fig. 19a-d; Guarnieri *et al.* 2006, Tav. XXX/163). Blue is the dominant colour on another fragment of the lower part of a jug on a flat foot (Pl. 3, 12). The quality of the glaze on the jug is poorer than on the previously mentioned fragments, and the decoration consists of two blue lines, applied as a thick coating. This type of painting is characteristic for the maiolica with a *zaffera in rilievo* decoration, in which cobalt-blue is applied as a layer so thick that it can almost be classified as relief decoration (Gardelli 1986, 99). As the decoration on this type of maiolica is conceived in a somewhat different way, the only parallel for this fragment is found on a jug from Zagreb from the first half of the 15th cent. (Čimin 2008b, 103, sl. 7, T. 2:6).

A specific category of maiolica is that of the Spanish origin, present at this site with fragments belonging to two small bowls. The first bowl is semi-globular with a concave base and one horizontal tongue-shaped handle (Pl. 3, 13).

jedinu paralelu za ovaj ulomak nalazimo kod vrča iz Zagreba iz prve polovine 15. st. (Čimin 2008b, 103, sl. 7, T. 2:6).

Posebnu kategoriju majolike čini ona španjolske proizvodnje, koja je na ovom lokalitetu zastupljena s ulomcima dviju zdjelica. Prva zdjelica poluloptasta je oblika s konkavno uvučenim dnom i jednom vodoravno položeno jezičastom ručkom (T. 3, 13). Nažalost, posuda nema očuvane nikakve tragove dekoracije, no po njezinu obliku i fakturi možemo je odrediti kao proizvod 15. st. Od druge zdjelice očuvao se samo dio dna na uvučenoj diskastoj nozi (T. 4, 1). Posuda je bila ukrašena s obje strane. S unutarnje strane na bijeloj glazuri je središnji heraldički prikaz unutar kojeg je vegetabilni motiv. Uokolo središnjeg motiva, dekoracija na plaštu podijeljena je na polja ispunjena geometrijskim motivima. Ukrašen je slikan tamnocrvenim lustrom¹², a njegovi ostaci vide se i s vanjske strane u formi kružnice koja je išla oko cijele posude. Sličnu zdjelicu ukrašenu heraldičkim motivom slikanim crvenim lustrom nalazimo u Puli (Bradara 2005, kat. 4). Španjolska majolika ukrašena lustrom ide u red najraskošnijega i najluksuznijeg posuđa na Mediteranu tijekom kasnoga srednjeg i početkom novog vijeka, a obje zdjelice nastale su u radionicama Valencije u 15. st.

Posljednji primjerak keramike izdvaja se od dosad navedenih koji pripadaju kuhinjskom ili stolnom posuđu. Riječ je o luli za duhan izrađenoj od porculana (T. 4, 2). Lula pripada tzv. mediteranskom tipu koji se sastoji od dva dijela: keramičkog recipijenta i duge cjevčice – kamiša (Brusić 1987, 474, 478; Bekić 2000, Sl. 1 A). Keramička lula sastoji se od čašice u koju se stavljao duhan i tuljca. U tuljac se umetao drveni kamiš koji služi za uvlačenje duhanskog dima, a čašica s prostorom za duhan je jednom veznom rupom povezana s tuljcem. U Hrvatskoj su puno češći nalazi lula za duhan izrađenih od keramike, stoga su one i jedine publicirane.¹³ Porculanske lule mediteranskog tipa proizvodile su se i na području Austro-Ugarske Monarhije (Boscolo 2000, 36), uz koju vezujemo i ovaj primjerak koji vjerojatno pripada kraju 19. ili početku 20. st.

Zaključno, nalazi srednjovjekovne i novovjekovne keramike, pronađene u Barbakanu, mogu se datirati od 13. do kraja 16. st. Jedini keramički predmet koji izlazi iz ovog vremenskog okvira je porculanska lula koja predstavlja površinski nalaz. Ostali predmeti uglavnom pripadaju luksuznom glaziranom stolnom posuđu koje je uvezeno iz keramičarskih radionica Italije i Španjolske. Domaća produkcija može se jedino pretpostaviti za jednostavne primjerke kuhinjske keramike. Među analiziranim materijalom treba posebno istaknuti rane talijanske proizvode glazirane keramike 13. i 14. st., poput RMR, *spirale-cerchio* i protomajolike, koje do sada nisu zabilježene na zadarskom području, a također spadaju i u rijetke nalaze na tlu Hrvatske.

Osim keramike pronađeni su i ulomci staklenih posuda. Prvi ulomak izdvaja se od ostalih staklenih nalaza s ovog lokaliteta. Riječ je o donjem dijelu ljevkašte uljanice, izrađene

¹²Lustro je sjajni ukras dobiven od pigmentata metalnih oksida koja imitira sjaj metalnih proizvoda. Ovisno o pigmentu dobivala se različita boja; za dobivanje crvenog lustra koristio se pigment bakra, a za zlatnu pigment srebra (Zglav Martinac 2004, 66-67).

¹³Usp. Brusić 1987; Bekić 2000.

Unfortunately, all traces of decoration are gone, but its shape and fabric allow us to classify it as a 15th-century product. Only a part of the base on a concave discoid foot has remained of the second bowl (Pl. 4, 1). The vessel was decorated on both sides. The central heraldic representation, inside of which is a vegetable motif, is represented on the white glaze on the inside of the vessel. Around the central motif, the decoration on the mantle is divided into fields filled with geometric motifs. The decoration is painted with a dark red lustre,¹² and its remains are visible also on the outside in the form of a circle surrounding the entire vessel. A similar vessel decorated with a heraldic motif painted with a red lustre is found in Pula (Bradara 2005, kat. 4). Spanish lustre-decorated majolica is considered one of the most lavish and luxurious wares in the Mediterranean during the Late Middle Ages and Early Modern period, and both vessels were produced in the workshops in Valencia in the 15th cent.

The last piece of ceramics is distinguished from the aforementioned ones that belong to kitchenware or tableware. It is a porcelain tobacco pipe (Pl. 4, 2). The pipe belongs to the so-called Mediterranean type, which consists of two parts: a ceramic bowl and a long thin stem – *kamiš* (Brusić 1987, 474, 478; Bekić 2000, Sl. 1 A). A ceramic pipe consists of a small bowl into which tobacco was inserted and of a stem. A wooden *kamiš* for inhaling tobacco smoke was inserted into the stem, and the bowl with a chamber for tobacco is joined with the stem by a connecting hole. Finds of ceramic tobacco pipes are much more frequent in Croatia, and consequently, were the only ones that have been published.¹³ Porcelain pipes of the Mediterranean type were produced also in the territory of the Austro-Hungarian Monarchy (Boscolo 2000, 36), with which we connect also this piece, probably belonging to the end of the 19th or the beginning of the 20th cent.

In conclusion, the finds of mediaeval and modern-period ceramics discovered at the Barbakan can be dated from the 13th to the end of the 16th cent. The only ceramic object outside this chronological frame is the porcelain pipe, which is a surface find. The remaining objects by and large belong to luxury glazed tableware imported from ceramic workshops of Italy and Spain. The local production can only be presumed for simple pieces of kitchenware. Among the analyzed material, one has to single out the early Italian products of the 13th and 14th-cent. glazed ware, such as RMR, *spirale-cerchio* and proto-majolica, previously unregistered in the Zadar area, and considered a rare find in the entire Croatia.

In addition to the ceramics, the finds also included fragments of glass vessels. The first fragment is distinguished from the other glass finds from this site. It is a lower part of a funnel-shaped oil-lamp made of pale yellowish-brown glass (Pl. 4, 4). Such vessel types are most characteristic for late antiquity. Not many such finds are known from Croatia, and mostly consist of a wide upper recipient and a hollow lower one, with a narrow cylindrical ending, while certain pieces

¹²Lustro is a lustrous decoration obtained from pigments of metal oxides that imitates the lustre of metal products. Various colours were obtained depending on the pigment; a copper pigment was used for red lustre, while a silver pigment was used for gold.

¹³Comp. Brusić 1987; Bekić 2000.

od blijedoga žućkastosmeđeg stakla (T. 4, 4). Ovakvi tipovi posuda najkarakterističniji su za kasnoantičko razdoblje. Na tlu Hrvatske nisu brojni, a uglavnom se sastoje od širokoga gornjeg recipijenta i donjega šupljega, uskoga cilindričnog završetka, dok poneki primjerci imaju i male ručice. Ovakve uljanice su se samostalno vješale ili su činile dio metalnog lusteru (Belošević 1992, 138; Fadić 1994, 215). S obzirom na njihovu dugu upotrebu, izvan arheološkoga konteksta dosta ih je teško datirati. Iako su kod nas ovakve lampe vezane uglavnom uz starokršćanske sakralne komplekse, one se i dalje javljaju u srednjem vijeku. Ovakav tip staklenih uljanica javlja se u 9. st. u Egiptu, u 11. i 12. st. u Korintu, a talijanski primjerci datiraju se od 8. do 13. st. (Gasparetto 1977, 78, 79; Stiaffini 1991, 182-184, 196-198, T. I/1-2, T. II/9). Kako ovom ulomku analogije nalazimo na hrvatskim starokršćanskim lokalitetima (Belošević 1992, T. XXXVII; Fadić 1994, 216; 2005, kat. 117-120), ali i u Italiji, u Pisi, gdje je pronađena lampa datirana u 12./13. st. (Stiaffini 1991, 196, T. II/9), ne isključujemo mogućnost da on može pripadati i srednjovjekovnom razdoblju.

Ostali stakleni nalazi pronađeni unutar Barbakana zasigurno pripadaju srednjem vijeku i tipološki se mogu svrstati u dvije skupine, a to su čaše i boce. Upravo ovi oblici čine najčešći dio srednjovjekovnog inventara staklenoga stolnog posuđa, namijenjenog serviranju pića. Najveći dio ovog materijala potječe iz sjevernotalijanskih radionica venecijansko-muranskoga kruga, koje u navedenom razdoblju preuzimaju primat u staklarskoj proizvodnji. Izuzetno popularan oblik tijekom srednjeg vijeka u Europi su staklene čaše oblika krnjeg stožca s konkavno udubljenom nogom, raširene od sredine 13. do kraja 15. stoljeća (Guarnieri 2006, 177). Ovoj tipološkoj skupini pripadaju tri ulomka.

Prvoj čaši očuvao se samo njezin donji dio s konkavno udubljenim dnom i dijelom stijenke blijede žućkastosmeđe boje (T. 4, 6). Čaša je oblika krnjeg stožca i dekorirana je vertikalnim kanelurama, izvedenim u plitkom reljefu koje se protežu preko čitave površine. Izrađena je tehnikom puhanja u kalup koja postaje popularna u drugoj polovini 14. st. (Lazar 2004, 26).¹⁴ Ovakve izrađene čaše mogle su biti različito ukrašene pa se javljaju primjerci s vertikalnim kanelurama, rombovima, krugovima, šesterokutima i cik-cak motivima (Stiaffini 1991, T. V, T. IX; Cassani *et al.* 1993, 93-95; Guarnieri 2006, 178; Lazar 2001, 70). Analogije za zadarsku čašu s ukrašenom vertikalnim kanelurama nalazimo među primjercima datiranim u 15. st. iz raznih regija Italije (Gasparetto 1977, 92, Pl. 4; Stiaffini 1991, 248, 250, T. IX/7; Guarnieri 2006, Fig. 23/4-6), dok su u Sloveniji nalazi ovog tipa zabilježeni u Celju (Lazar 2001, 70, sl. 1, kat. 1-4, 7-8, 13).

Od druge čaše očuvano se samo dno, svijetle žućkasto-zelene boje (T. 4, 7). Kao i kod prethodnog primjerka dno je konkavno udubljeno, no za razliku od njega s vanjske strane ima apliciranu girlandu koja služi kao prstenasta nožica. Girlanda je izvedena štipanjem vrućim kliještama tijekom procesa izrade, čime se u konačnici postizao učinak čipka-

also have small handles. Oil-lamps of this type were hung independently or formed part of a metal chandelier (Belošević 1992, 138; Fadić 1994, 215). In view of their long duration, outside an archaeological context they are quite difficult to date. Even though in Croatia such lamps are connected by and large with early Christian sacral complexes, they continue to appear in the Middle Ages. This type of glass oil-lamps appears in Egypt in the 9th cent., in Corinth in the 11th and 12th cent., while the Italian examples are dated from the 8th to the 13th cent. (Gasparetto 1977, 78, 79; Stiaffini 1991, 182-184, 196-198, T. I/1-2, T. II/9). As analogies for this fragment are found at early Christian sites in Croatia (Belošević 1992, T. XXXVII; Fadić 1994, 216; 2005, kat. 117-120), but also in Italy, in Pisa, where a discovered lamp was dated to the 12th/13th cent. (Stiaffini 1991, 196, T. II/9), we cannot exclude the possibility that it belongs to the mediaeval period.

The remaining glass finds from the Barbakan certainly belong to the Middle Ages and typologically can be divided into two groups – cups and bottles. These are the forms that represent the most frequent parts of the mediaeval assortment of glass tableware for serving drink. The major part of this material comes from northern Italian workshops of the Venice and Murano circle, which took precedence in glass making in the mentioned period. Glass cups in the shape of a truncated cone with a concave foot, spread from the mid-13th cent. to the end of the 15th century, are an exceptionally popular form during the Middle Ages in Europe (Guarnieri 2006, 177). This typological group is represented with three fragments.

Only the lower portion with a concave bottom and a part of a wall of pale yellowish-brown colour have remained of the first cup (Pl. 4, 6). The cup is shaped like a truncated cone and decorated with vertical grooves in low relief, which extend over the entire surface. It was produced by blowing into a mould, a technique that gained in popularity in the second half of the 14th cent. (Lazar 2004, 26).¹⁴ Cups made in this manner were decorated in various ways, for instance, with vertical grooves, rhombs, circles, hexagons and zigzag motifs (Stiaffini 1991, T. V, T. IX; Cassani *et al.* 1993, 93-95; Guarnieri 2006, 178; Lazar 2001, 70). We find analogies for the Zadar cup decorated with vertical grooves among 15th-cent. specimens from various regions of Italy (Gasparetto 1977, 92, Pl. 4; Stiaffini 1991, 248, 250, T. IX/7; Guarnieri 2006, Fig. 23/4-6), while in Slovenia finds of this type were registered in Celje (Lazar 2001, 70, sl. 1, kat. 1-4, 7-8, 13).

Only the light yellowish-green base has remained of the second cup (Pl. 4, 7). Same as the previous piece, the base is concave, but unlike the former, it has an applied garland on the outside, which serves as a foot ring. The garland is executed by pinching with hot pliers during the making, which gave the effect of a lace hem (Gudelj 2000, 175; Lazar 2001, 71). Bases of this type appear most frequently during the 14th and 15th cent. on variously decorated pieces. The entire mantle of the cup may have been decorated with wart-like, teardrop-shaped protrusions and plastic vertical ribs, or the decoration may have been concentrated only on the central part of the mantle, that is, below the rim (Han 1976, Fig. 7,

¹⁴ Takvi kalupi bili su jednodijelni, izrađeni od drveta ili metala, a nakon puhanja u kalup dekoracija se mogla dopunjavati i slobodnim puhanjem (Lazar 2001, 70).

¹⁴ Moulds of this type consisted of a single part, made of wood or metal. Following the blowing into a mould, decoration could be complemented also with free blowing (Lazar 2001, 70).

stog obruba (Gudelj 2000, 175; Lazar 2001, 71). Ovakva dna javljaju se najčešće tijekom 14. i 15. st. na različito ukrašenim primjercima. Cijeli plašt čaše mogao je biti ukrašenim bradavičastim, kapljičastim ispupčenjima i plastičnim vertikalnim rebrima, ili je dekoracija mogla biti koncentrirana samo na srednji dio plašta, odnosno ispod otvora (Han 1976, Fig. 7, Fig. 11; T. I; Stiaffini 1991, 231, 248, T. V/ 4-5, T. IX/5-6, Gudelj 2000, 176; Lazar 2001, kat. 18-34; 2004, sl. 7/7; Delonga 1996, 70; Anđelić 1973, T. I-IV; Bikić 2006, Fig. 3, 5/1-7). Kako ovaj čaši nije očuvana stijenka, ne možemo sa sigurnošću utvrditi kojem tipu pripada.

Trećoj čaši pripada žućkastozeleni ulomak stijenke, ukrašene plastičnim okomitim rebrima, izrađen puhanjem u kalup (T. 4, 8). Dekoracija okomitih rebara počinje na drugoj trećini ulomka, a rebra se sužavaju prema dnu. Iznad njih stijenka se lagano lomi i sužava prema gornjem dijelu. Čaše ovog tipa koničnog su oblika, s proširenjem koje počinje od otvora i sužava se upravo na dijelu gdje počinju rebra. Dna su konkavno udubljena i imaju prstenastu nožicu u obliku girlande. Ovakav tip nalaza javlja se na području Hrvatske, Bosne i Hercegovine te Srbije (Delonga 1996, 70; Gudelj 2000, 177-178; Pešić 2006, 117, Fig. 7; Anđelić 1975, Fig. 7-11; Han 1976, 124-125, Fig. 11; Bikić 2006, 203, Fig. 3/10-11). Dok je u Hrvatskoj registriran samo na tri lokaliteta u Dalmaciji, i to na Bribiru (Delonga 1996, 70), u Čačvini (Gudelj 2000, 177-178) i u Zadru (Pešić 2006, 117, Fig. 7), na tlu Bosne i Hercegovine osobito je brojna (Anđelić 1975, Fig. 7/7-8, 8/9-11). Naš primjerak najviše sličnosti pokazuje upravo s čašama iz Kraljeve Sutjeske (Anđelić 1975, Fig. 7, 10). V. Han iznosi kako s obzirom da za ove nalaze nema izravnih analogija u muranskoj produkciji 15. st. (kao ni u ostalom dijelu Italije), moguće je pretpostaviti da su proizvod dubrovačkih radionica iz kojih su takvi proizvodi distribuirani i na područje Bosne i Hercegovine, iz kojeg potječe najveći broj primjeraka (Han 1969, 15; 1976, 124, 125).

Iduću tipološku skupinu čine srednjovjekovne staklene boce. Uz spomenute čaše one su ujedno i jedan od najpopularnijih oblika staklenog posuđa, namijenjenog posluživanju vode i vina, koje se u talijanskim staklarskim radionicama javlja već tijekom 11.-12. stoljeća (Stiaffini 1991, 214, 237). Prvi ulomak je dio profiliranog ljevkastog oboda boce blijede svijetloplave boje, izrađene tehnikom slobodnog puhanja (T. 4, 5). Najrašireniji oblik predstavljaju upravo slobodno puhanje boce s dugim koničnim vratom koji najčešće završava ljevkastim otvorom s profiliranim obodom, a kod nekih primjeraka se na vratu nalazi prstenasto zadebljanje. Tijelo im je kružno, kruškoliko ili cilindrično, a dno im je najčešće konkavno udubljeno s rubom koji tvori prstenastu nogu (Lazar 2001, 77). Paralele za ovaj popularni oblik boca u 14. i tijekom 15. st. nalazimo u Hrvatskoj u Zadru i u Ružici (Pešić 2006, 119, fig. 11; Radić, Bojčić 2004, kat. 446), u Sloveniji u Celju (Lazar 2001, 77-78) te na više nalazišta sjeveroistočne Italije (Gasparetto 1975, T. III: 9; 1979, 81-82; Stiaffini 1991, 237, 252, T. VI/1-2, 4; Cassani et al. 1993, 90, T. I).

Drugi ulomak boce je dio duga ljevkastog vrata blijede žućkastosmeđe boje, ukrašen okomitim kanelurama koje se lagano šire prema donjem dijelu (T. 4, 9). Ovaj ulomak

Fig. 11; T. I; Stiaffini 1991, 231, 248, T. V/ 4-5, T. IX/5-6, Gudelj 2000, 176; Lazar 2001, kat. 18-34; 2004, sl. 7/7; Delonga 1996, 70; Anđelić 1973, T. I-IV; Bikić 2006, Fig. 3, 5/1-7). As the wall of this cup is not preserved, we cannot ascertain the type it belongs to.

The third cup is preserved in the form of a yellowish-green fragment of a wall, decorated with plastic vertical ribs, made by blowing into a mould (Pl. 4, 8). Decoration of the vertical ribs starts on the second third of the fragment, and the ribs taper towards the bottom. Above them the wall gently breaks and becomes narrower towards the upper part. The cups of this type are conical, with a widening starting from the mouth and narrowing precisely at the point where the ribs begin. The bases are concave and have a foot ring in the shape of a garland. Finds of this type are present in Croatia, Bosnia and Herzegovina, and Serbia (Delonga 1996, 70; Gudelj 2000, 177-178; Pešić 2006, 117, Fig. 7; Anđelić 1975, Fig. 7-11; Han 1976, 124-125, Fig. 11; Bikić 2006, 203, Fig. 3/10-11). While in Croatia it has been registered only at three sites in Dalmatia: Bribir (Delonga 1996, 70), Čačvina (Gudelj 2000, 177-178) and Zadar (Pešić 2006, 117, Fig. 7), it is particularly numerous in Bosnia and Herzegovina (Anđelić 1975, Fig. 7/7-8, 8/9-11). Our specimen bears most resemblance precisely to the cups from Kraljeva Sutjeska (Anđelić 1975, Fig. 7, 10). V. Han states that, considering that the 15th cent. production of Murano (or other parts of Italy) have no direct analogies for these pieces, it is possible to assume that they were produced by workshops in Dubrovnik, from where such products were distributed to the territory of Bosnia and Herzegovina, which yielded the largest number of pieces (Han 1969, 15; 1976, 124, 125).

The next typological group consists of mediaeval glass bottles. In addition to the mentioned cups, they are at the same time one of the most popular forms of glass ware, used for serving water and wine, appearing in the glass workshops in Italy as early as the 11th-12th centuries (Stiaffini 1991, 214, 237). The first fragment is part of a profiled funnel-shaped bottle rim of pale light blue colour, made by the free blowing method (Pl. 4, 5). The most widely spread form are precisely the free-blown bottles with a long conical neck that mostly ends in a funnel-shaped mouth with a profiled rim. Certain pieces have an annular thickening on the neck. They have a round, pear-shaped or cylindrical body, while the base is by and large concave, with an edge forming a foot ring. Parallels for this popular bottle shape in the 14th and 15th cent. are found in Croatia in Zadar and in Ružica (Pešić 2006, 119, fig. 11; Radić, Bojčić 2004, kat. 446), in Slovenia in Celje (Lazar 2001, 77-78), as well as at several sites in northern Italy (Gasparetto 1975, T. III: 9; 1979, 81-82; Stiaffini 1991, 237, 252, T. VI/1-2, 4; Cassani et al. 1993, 90, T. I).

The second bottle fragment is part of a long funnel-shaped neck of pale yellowish-brown colour, decorated with vertical grooves that gently widen towards the lower part (Pl. 4, 9). This fragment belongs to a group of bottles made by blowing into a mould, which appear in the latter half of the 14th cent. and continue during the 15th cent. (Stiaffini 1991, 242, 252). Parallels are found among bottle fragments discovered in Zadar (Pešić 2006, 119, Fig. 12), in Celje (Lazar 2001, 77-78, kat. 97, 99-101) and in Cividale (Gasparetto 1975, 148, T. III/10; 1979, 82, 83, Fig. 9).

pripada skupini boca izrađivanih puhanjem u kalup koje se pojavljuju tijekom druge polovine 14. i nastavljaju tijekom 15. st. (Stiaffini 1991, 242, 252). Usporedbe nalazimo među ulomcima boca pronađenim u Zadru (Pešić 2006, 119, Fig. 12), u Celju (Lazar 2001, 77-78, kat. 97, 99-101) i Cividaleu (Gasparetto 1975, 148, T. III/10; 1979, 82, 83, Fig. 9).

Ovi ulomci čaša i boca pripadaju srednjovjekovnoj proizvodnji 14. i 15. st., karakterističnoj za staklarske radionice Italije, s Muranom i Venecijom na čelu kao najpoznatijim radionicama, čije proizvode imitiraju različite radionice diljem Europe. Jedini staklarski radionički centar na području Hrvatske, poznat iz povijesnih izvora je Dubrovnik, čije su radionice aktivne od početka 14. do kraja 16. st., u kojima djeluju i muranski majstori (Han 1981). Stoga postoji mogućnost da neki od ovih predmeta potječe upravo iz ovog centra.

Posljednji predmet u ovoj kolekciji je cjelovito očuvana staklena bočica svijetloplave boje, pronađena u površinskom sloju nasipa. Bočica ima cilindričan kratki vrat koji završava profiliranim obodom (T. 4, 3). Tijelo joj je četvrtasto i ima zaobljene rubove, a na dnu završava laganim koničnim udubljenjem. Nalaz najvjerojatnije pripada kraju 19. ili početku 20. st. te je vjerojatno služio kao bočica za tintu.

Istraživanjima Barbakana 2008. godine proširila su se saznanja o izgledu Zadra u vrijeme kraja srednjeg i početka novog vijeka, iako se i dalje ne može govoriti o konkretnim datumima različitih faza gradnje. Nalazi iz nasipa nisu u primarnom kontekstu, ali pojavljivanje fragmenata keramike iz 16. st. na dnu iskopa daje jasan *terminus ante quem non* za nasipanje prostora. S obzirom na te nalaze i novootkrivene dijelove arhitekture, nameće se određeni vremenski slijed građevinskih faza. Zbog odnosa Barbakana i pokosa romaničke kule primjećuje se da je Barbakan građen nakon pokosa, dakle nešto iza 1409. godine, ali koliki je vremenski raspon između gradnje Citadela i Barbakana, ostaje nepoznato. Možda je to bilo krajem rata sa Sigismundom (1409.-1420.), nakon kojeg Venecija nema većih vojnih akcija sve do sukoba s Turcima u 16. st., ili u vrijeme izgradnje kuća za vojnu posadu Citadela između 1435. i 1437. Pronalaskom ulaza na sjevernom zidu postaje jasno kako je Barbakan u ovoj fazi služio kao obrambeno dvorište koje je bilo u istoj razini s Citadelaom. Za drugu fazu nema jasnih dokaza, ali nalazi i arhivski podaci ukazuju da je najkasnije u prvoj polovini 16. st. zatrpan i dobio toparnice, možda 1537. tijekom velike obnove zadarskih utvrda, te da je u tom obliku služio kao obrana jugoistočnog dijela grada do izgradnje bastiona u drugoj polovini 16. stoljeća.¹⁵

These fragments of cups and bottles belong to the medieval production of the 14th and 15th cent., characteristic for the glass workshops of Italy, with Murano and Venice at the front as the most renowned workshops, with products imitated by various workshops throughout Europe. Dubrovnik is the only glass workshop centre in Croatia known from historical sources. Its workshops were active from the beginning of the 14th to the end of the 16th cent., and employed also master craftsmen from Murano (Han 1981). There is therefore a possibility that some of these products come precisely from this centre.

The last object in this collection is a completely preserved small bottle of light blue glass, discovered in the surface layer of the fill. The bottle has a short cylindrical neck ending in a profiled rim (Pl. 4, 3). It has a rectangular body with rounded edges, and its base ends with a gentle conical depression. The find most probably belongs to the end of the 19th or the beginning of the 20th cent., and probably served as an ink bottle.

The 2008 investigations at the Barbakan expanded our knowledge on the appearance of Zadar in the period from the end of the Middle Ages and the beginning of the Early Modern Period, although we still cannot speak of the concrete dates of various phases of construction. The finds from the fill are not in their primary context, but the presence of 16th-cent. ceramic fragments at the bottom of the excavation gives a clear *terminus ante quem non* for the filling-up of the space. Considering these finds and newly-discovered architectural remains, a specific time sequence of construction phases is imposed. It is evident from the relationship of the Barbakan and the batter of the Romanesque tower that the former was built after the batter, i.e. somewhat after 1409, but the chronological span between the building of the Citadela and the Barbakan remains unknown. It may have occurred towards the end of the war with Sigismund (1409-1420), after which Venice did not have any major military actions until the confrontation with the Turks in the 16th cent., or during the building of the houses for a military crew of the Citadela between 1435 and 1437. With the discovery of the entrance in the northern wall it becomes clear that in this phase the Barbakan served as a defensive courtyard at the same level with the Citadela. No clear evidence is present for the second phase, but the finds and the information from the archives suggest that it was filled up in the first half of the 16th cent. at the latest, when it also received cannon holes, perhaps in 1537 during the great renovation of the fortifications of Zadar, and that in this form it served as a defence of the southeastern part of the town until the building of the bastion in the second half of the 16th century.¹⁵

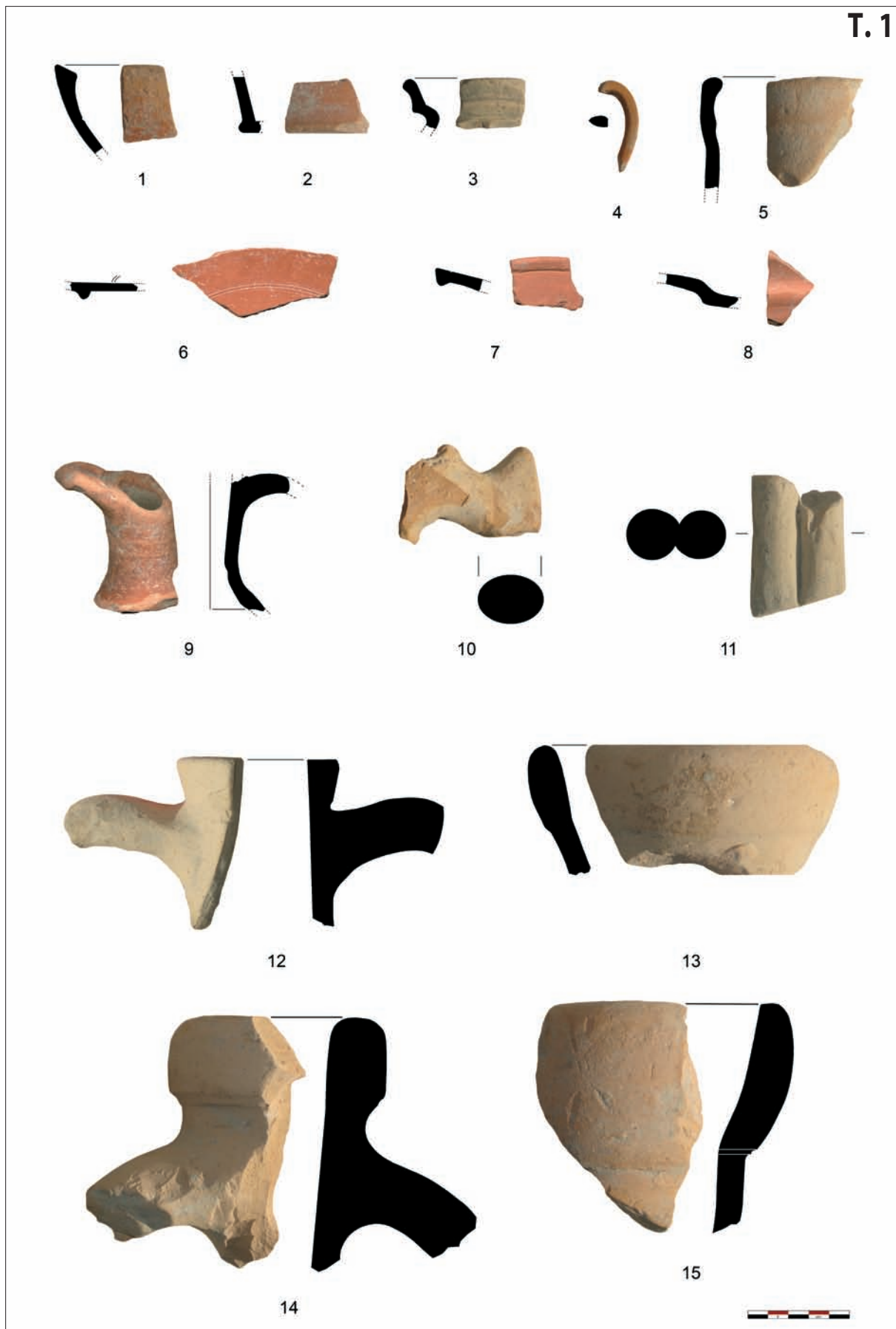
¹⁵ Zahvaljujemo se prof. dr. sc. Pavuši Vežiću na podacima s prethodnih istraživanja i mr. sc. Igoru Borziću na pomoći oko determiniranja predmeta iz rimskog vremena.

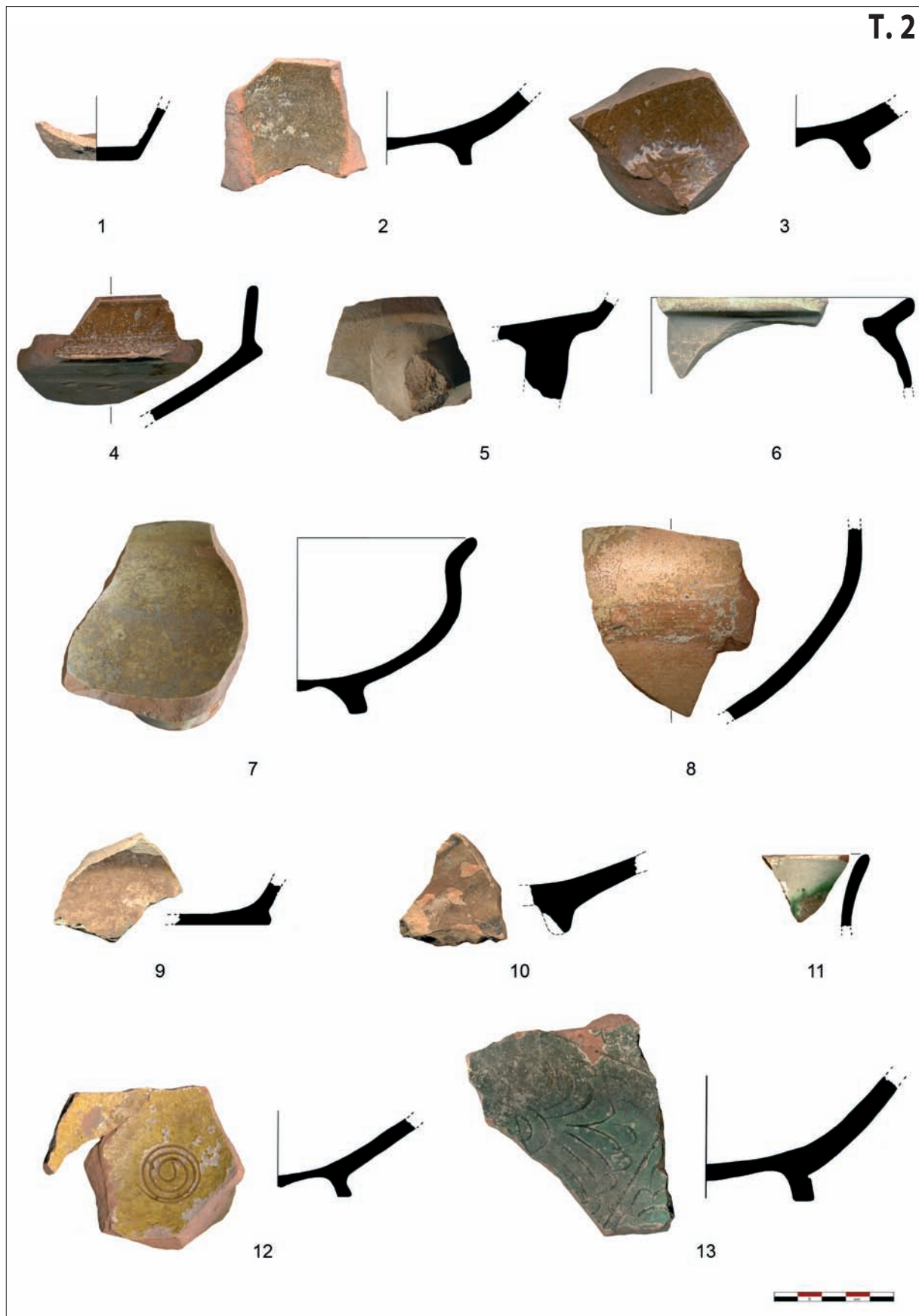
¹⁵ We thank Prof. Pavuša Vežić on the information from the previous investigations, as well as Igor Borzić, M.Sc., for his help in the determination of the objects from the Roman Age.

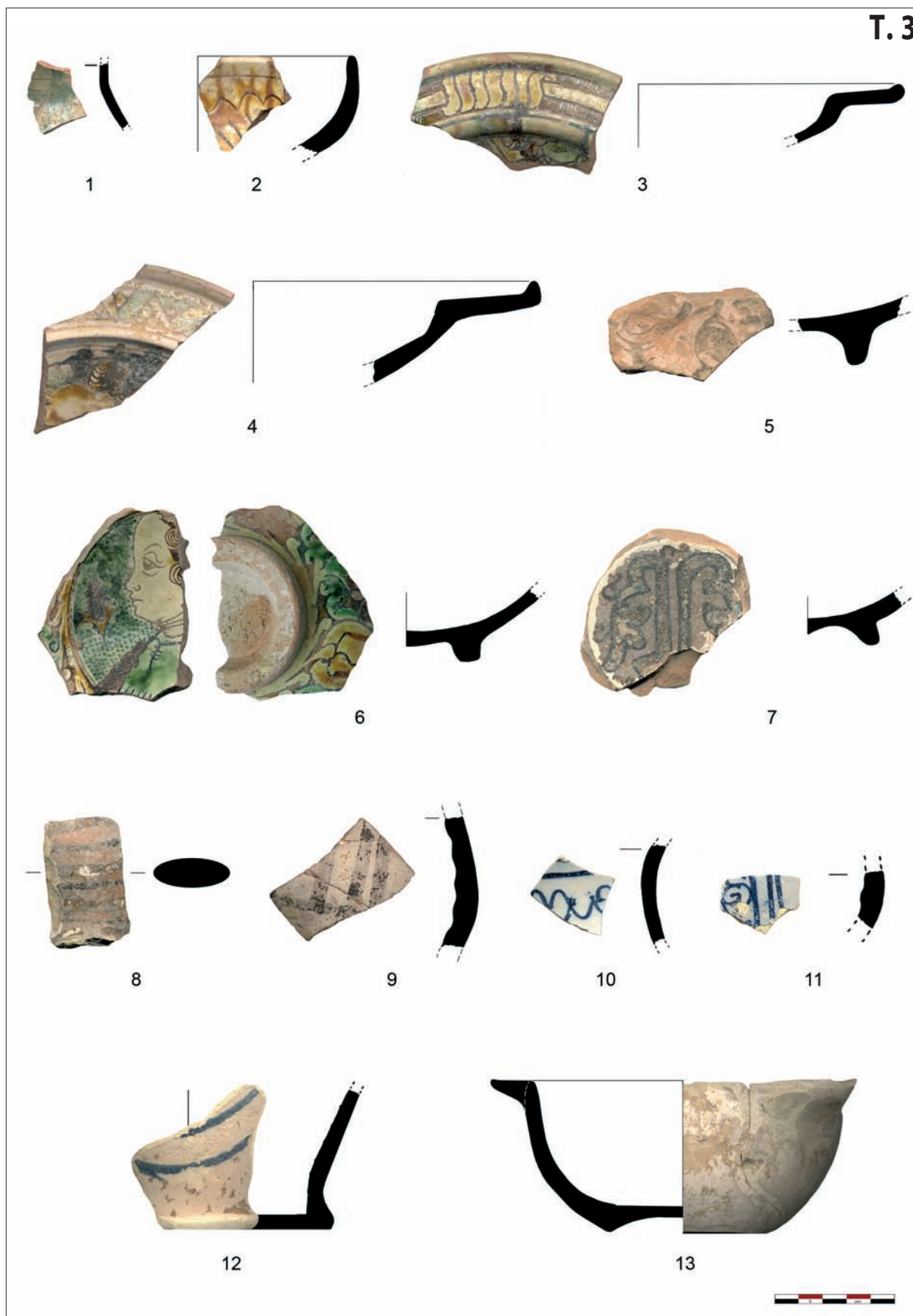
LITERATURA / BIBLIOGRAPHY

- Anđelić, P., 1975, Un aperçu de la typologie du verre medieval en Bosnie et ten Herzegovine, u: *Srednjovjekovno staklo na Balkanu (V-XV vek)*, Balkanološki institut, Posebna izdanja, Knjiga 3, Beograd, 167-175.
- Aralica, T., 2008, *Inventar oružja i vojne opreme u šibenskom kaštelu i kula-ma iz 1441. godine*, Drniš
- Belošević, J., 1992, Ishodi pete završne kampanje istraživanja lokaliteta Crkvina u selu Galovac kod Zadra, *RadFFZd* 31(18), 121-142.
- Bekić, L., 2000, Uvod u problematiku glinenih lula na području Hrvatske, *VAMZ XXXII-XXXIII*, Zagreb, 249-279.
- Beritić, L., 1955, *Utvrđenja grada Dubrovnika*, Zagreb
- Beritić, L., 1960, *Dubrovačka artiljerija*, Beograd
- Bertacchi, L., 1977, *Ceramiche dal XIV al XIX secolo, dagli scavi archeologici di Aquileia*, Aquileia
- Bikić, V., 2003, *Gradska keramika Beograda (16-17. vek)*, Beograd
- Bikić, V., 2006, Venetian influences in the Eastern Adriatic hinterland, u: *The Heritage of the Serenissima*, (eds. M. Guštin, S. Gelichi, K. Spindler), Koper, 201-210.
- Bojani, G. C., 1997, *Per una storia della ceramica di Faenza, Materiali dalle mura del Portello*, vol. 2 – Allegato, Faenza
- Boscolo, G., 2000, *La pipa chioggiota e altre pipe in terracotta*, Sottomarina
- Bradara, T., 2005, Španjolska keramika na području Istre (kataloška obrada), *Histriaarch* 34/2003, Pula, 131-185.
- Bradara, T., 2006, *Kasnosrednjovjekovna i renesansna keramika s područja Istre – stolno Posuđe od 14. do 16. st./Le ceramiche bassomedievali e rinascimentali in territorio Istriano – Il vaselame da mensa dei secoli XIV-XVI*, Pula
- Bradara, T., Saccardo, F., 2007, *Keramički nalazi iz Rovinja – uvala Valdibora i otok Sv. Katarina / Ritrovamenti di ceramiche a Rovigno – Valdibora e isola S. Caterina*, Rovinj
- Brukner, O., 1981, *Rimska keramika u jugoslavenskom delu provincije Donje Panonije*, Beograd
- Brusić, Z., 1987, Dio tereta s lađe iz 17. stoljeća potonule kod otoka Bisaga u Kornatskom arhipelagu, *PrilpuD* 26, Split, 473-490.
- Campanella, G., 2000, La ceramica invetriata RMR e bicromi dallo scavo di una torre di Ostuni, u: *La ceramica invetriata tardomedievale dell'Italia centro – meridionale* (ed. S. Patitucci Uggeri), *Quaderni di Archeologia Medievale III*, Firenze, 147-158.
- Cassani, G., Fassano, M., Termini, A. R., I vetri, 1993, u: *Ceramiche rinascimentali a Udine e altri materiali dello scavo del Palazzo Savorgnan di Piazza Venerio* (eds. M. Buora, V. Tomadin)
- Cospectus, 1990, *Conspectus formarum terrae sigillate Italico modo confectae*, Römischgermanischen Kommission der Deutschen Archäologischen Instituts, Bonn
- Cozza, F., 1988, Ritrovamento di ceramiche e vetri dei secoli XIV-XV nel palazzo gia Dondi dall'Orologio a Padova, *Archeologia Veneta* 11, Padova, 171-239.
- Cunja, R., 2004, Zbirka / Collezione Gajšek, u: *Srednjeveška in novoveška keramika iz Pirana in Svetega Ivana* (ed. M. Guštin), Koper, 67-203.
- Delonga, V., 1996, Staklo, u: *Bribir u srednjem vijeku*, Split, 69-72.
- Dufournier D., Flambard A. M., Noye G., 1986, A propos de céramique "RMR": problèmes de définition et de classement, problèmes de repartition, u: *La ceramica medievale nel Mediterraneo Occidentale, Siena – Faenza 1984*, Firenze, 251-278.
- Čimin, R., 2008a, Keramički nalazi s utvrde Čanjevo, u: *Utvrda Čanjevo. Istraživanja 2003-2007.*, Visoko, 121-189.
- Čimin, R., 2008b, Glazirano stolno posuđe na području sjeverozapadne Hrvatske od 15. do 18. st., u: *Studia Universitatis Hereditati 1: Miscellanea Aetatis Mediae*, Koper, 95-135.
- Fadić, I., 1994, Kasnoantičko staklo u Gatima, u: *Gata. Crkva Justinijanova doba*, Split, 213-226.
- Fadić, I., 2005, Nalazi kasnoantičkog stakla na Srimi, u: *Srima – Prižba. Starokršćanske dvojne crkve*, Šibenik, 221-257.
- Gardelli, G., 1986, *Ceramiche del Medioevo e del Rinascimento*, Ferrara
- Gaspardo, A., 1975, La verrerie Venitienne et ses relations avec le levant Balkanique au moyen age, u: *Srednjovjekovno staklo na Balkanu (V-XV vek)*, Balkanološki institut, Posebna izdanja, Knjiga 3, Beograd, 143-156.
- Gaspardo, A., 1977, Reperti vitrei medievali dalla basilica dei SS. Maria e Donato di Murano, *Bolletino dei Musei Civici Veneziani* XXII, n.1-4, Venezia, 75-100.
- Gaspardo, A., 1979, Matrici e aspetti della vetraria veneziana e veneta medievale, *JGS* 21, New York, 76-96.
- Gelichi, S., 1987, Origini e sviluppo della graffita padana, Atti del convegno "La ceramica graffita medievale e rinascimentale nel Veneto", 6 marzo 1987., *Bolletino del Museo Civico di Padova*, numero speciale, Padova, 29-42.
- Gelichi, S., 1988, Ceramiche venete importate in Emilia-Romagna tra XIII e XIV secolo, *PADUSA, Bolletino del Centro Polesano di Studi Storici Archeologici ed Etnografici*, Anno 24/1988, Rovigo, 5-43.
- Gregory, T. E., 1993, Local and imported medieval pottery from Isthmia, u: *La ceramica nel mondo bizantino tra XI e XV secolo e i suoi rapporti con l'Italia* (ed. S. Gelichi), *Atti del Seminario, Pontignano 11-13 marzo 1991*, Firenze, 283-306.
- Grković, S., Lovrić, A., 2006, New findings of the Venetian Sgraffito Ware at Split, u: *The Heritage of the Serenissima* (eds. M. Guštin, S. Gelichi, K. Spindler), Koper, 149-154.
- Guarnieri, C., 2006, I vetri, u: *S. Antonio in Polesine, Archeologia e storia di un monastero estense* (ed. C. Guarnieri), *Quaderni di Archeologia dell'Emilia Romagna 12*, Firenze, 177-187.
- Guarnieri, C., Bosi, G., Bandini Mazzanti, M., 2006, 3.2 Il vanto Sotterraneo USM 5: alcune considerazioni sulla tipologia dei materiali, u: *S. Antonio in Polesine. Archeologia e storia di un monastero estense* (ed. C. Guarnieri), *Quaderni di Archeologia dell'Emilia Romagna 12*, Firenze, 135-192.
- Gudelj, Lj., 2000, Utvrda Čačvina, *ShP* 27, Split, 153-182.
- Gusar, K., 2006, Italian glazed pottery from the venetian period in Zadar, u: *The Heritage of the Serenissima* (eds. M. Guštin, S. Gelichi, K. Spindler), Koper, 141-147.
- Gusar, K., 2007, Kasnosrednjovjekovna i novovjekovna glazirana keramika s lokaliteta Sv. Križ u Ninu, *AAdr* I, Zadar, 175-198.
- Guštin, M., et al. 2001, Katalog keramičnih najdb, u: *Srednjeveško Celje, Archaeologia Historica Slovenica* 3, Ljubljana, 195-238.
- Han, V., 1969, Problemi oko porekla i stila srednjovjekovnog stakla iz Srbije, Bosne i Hercegovine, *Zbornik Muzeja primjenjenih umetnosti* 13, Beograd, 7-30.
- Han, V., 1976, The Origin and Style of Medieval Glass in the Central Balkans, *JGS* 17, New York, 114-126.
- Han, V., 1981, *Tri veka dubrovačkog staklarstva (XIV-XVI vek)*, Beograd.
- Hayes, J. W., 1972, *Late Roman Pottery*, London
- Kovács, G., 2001, Ceramic finds from the Bajcsa Fort (1578-1600), *ActaArchHung* LII (Fasc.1-3), Budapest, 195-221.
- Lazar, I., 2001, Srednjeveško staklo iz Celja, u: *Srednjeveško Celje, Archaeologia Historica Slovenica* 3, Ljubljana, 69-96.
- Lazar, I., 2004, Srednjeveško staklo iz "Piazza Vecchia" v Piranu, u: *Srednjeveška in novoveška keramika iz Pirana in Svetega Ivana*, Koper
- Leonarduzzi, A., Valent, C., 1993, Maiolica rinascimentale - catalogo, u: *Ceramiche rinascimentali a Udine e altri materiali dello scavo del Palazzo Savorgnan di Piazza Venerio*, Roma, cat. 241-275.
- Librenti, M., Vallini, C., 2006, 4.1 Le ceramiche, u: *S. Antonio in Polesine. Archeologia e Storia di un monastero estense* (ed. C. Guarnieri), *Quaderni di Archeologia dell'Emilia Romagna 12*, Firenze, 193-233.
- Ljubić, Š., 1876, *Commissions et relations Venetae*, I, Zagreb
- Ljubić, Š., 1877, *Commissions et relations Venetae*, II, Zagreb
- Ljubić, Š., 1878, *Listine o odnošajih između Južnog slavenstva i Mletačke republike / Monumenta spectantia historiam slavorum meridionalium*, VI (od godine 1409 do 1412), Zagreb
- Ljubić, Š., 1882, *Listine o odnošajih između Južnog slavenstva i Mletačke republike / Monumenta spectantia historiam slavorum meridionalium*, VII (od godine 1412 do 1420), Zagreb
- Ljubić, Š., 1886, *Listine o odnošajih između Južnog slavenstva i Mletačke republike / Monumenta spectantia historiam slavorum meridionalium*, VIII (od godine 1420 do 1424), Zagreb
- Magnani, R., Munarini, M., 1998, *La ceramica graffita del Rinascimento tra Po, Adige e Oglio*, Ferrara.
- Nepoti, S., 1991, *Ceramiche graffite delle donazioni Donini Baer*, Faenza
- Nepoti, S., 1992, Le ceramiche a Ferrara nel Rinascimento: i reperti da corso della Giovecca, u: *Ferrara primo e doppio il Castello. Testimonianze archeologiche per la storia della città* (ed. S. Gelichi), Ferrara, 289-366.
- Patitucci Uggeri, S., 1997, La protomaiolica: un nuovo bilancio, u: *La protomaiolica. Bilancio e aggiornamenti* (ed. S. Patitucci Uggeri), *Quaderni di Archeologia Medievale* II, Firenze, 9-61.

- Peacock, D. P. S., Williams, D. F., 1986, *Amphorae and the Roman economy: an introductory guide*, London
- Pešić, M., 2006, Venetian Glass from National Museum in Zadar, u: *The Heritage of the Serenissima* (eds. M. Guštin, S. Gelichi, K. Spindler), Koper, 115-121.
- Petricioli, I., 1958, Maketa Zadra u Pomorskom muzeju Venecije, *Zbornik*, knjiga II, Zadar, 101-124.
- Petricioli, I., 1965, Novi rezultati u istraživanju zadarskih srednjovjekovnih fortifikacija, *Diadora* 3, Zadar, 169-204.
- Pivac, D., 2003, Prilog poznavanju ladanjsko-fortifikacijskoga graditeljstva splitsko-trogirskog područja, *Radpu* 27, Zagreb, 85-95.
- Radić, M., Bojčić, Z., 2004, *Srednjovjekovni grad Ružica u Slavoniji*, Osijek.
- Ravanelli Guidotti, C., 1998, *Thesaurus di opere della tradizione di Faenza*, Faenza
- Raukar, T., Petricioli, I., Švelec, F., Peričić, Š., 1987, *Zadar pod mletačkom upravom: 1409-1797*, *Prošlost Zadra III*, Zadar
- Riavez, P., 2000, Atilit – ceramica RMR, u: *La ceramica invetriata tardomedievale dell'Italia centro-meridionale* (ed. S. Patitucci Uggeri), *Quaderni di Archeologia Medievale III*, Firenze, 207-222.
- Robinson, H., 1959, Pottery of the roman period, *Agora*, vol. 5, New Jersey
- Saccardo, F., 1993a, La ceramica graffita a Venezia del tardo XVI al XVIII secolo e un documentato con l'inventario di una bottega di "bochaler", u: *Alla fine della graffita. Ceramiche e centri di produzione nell'Italia settentrionale tra XVI e XVII secolo* (ed. S. Gelichi), Firenze, 139-166.
- Saccardo, F., 1993b, Contesti medievali nella laguna e prime produzioni graffite veneziane, u: *La ceramica nel mondo bizantino tra XI e XV secolo e i suoi rapporti con l'Italia* (ed. S. Gelichi), *Atti del Seminario, Pontignano 11-13 marzo 1991*, Firenze, 201-239.
- Saccardo, F., 1998, Venezia. Le importazioni ceramiche tra XII e XIII secolo, u: *Ceramiche, città e commerci nell'Italia tardo-medievale*, (ed. S. Gelichi), *Documenti di Archeologia* 12, Mantova, 49-73.
- Saccardo, F., Riavez, P., 2006, Da Venezia a Corinto. Le ceramiche rivestite dai conventi di San Lorenzo in Ammiana e San Giovanni a confronto, u: *The Heritage of the Serenissima* (eds. M. Guštin, S. Gelichi, K. Spindler), Koper, 237-251.
- Stiaffini, D., 1991, Contributo ad una prima sistematizzazione tipologica dei materiali vetri medievali, u: *Archeologia e storia della produzione del vetro preindustriale*, Firenze, 177-266.
- Topić, M., 2003, Stolno posuđe i glinene svjetiljke iz Augusteuma Narone, *VAHD* 95, Split, 183-344.
- Vežić, P., 1990, Rezultati istraživanja na prostoru Citadela u Zadru, *Godišnjak ZSKH* 16, Zagreb, 7-43.
- Viličić, M., 1983, Građevna povijest senjskog kaštela i grafička rekonstrukcija pojedinih faza izgradnje, *SenjZbor* 5, Senj, 153-183.
- Viličić, M., 1988, Izgled Senja i senjskih zidina u doba uskoka, *Senjski zbornik* 13, Senj, 77-90.
- Visser Travagli, A. M., 1990, Ceramiche a Ferrara in età estense dalla Collezione Pasetti, *Quaderni dei Musei Ferraresi* 5, Ferrara
- Zglav Martinac, H., 2004, *Ulomaka do ulomka... Prilog proučavanju keramike XIII.-XVIII. stoljeća iz Dioklecijanove palače u Splitu*, Split
- Zagarčanin, M., 2004, *Stari Bar. Keramika venecijanskog doba*, Koper







T. 4

