

# POJASNA KOPČA S UKRASOM OD ALMANDINA I OSTACIMA TKANINE IZ RATNIČKOG GROBA OTKRIVENOG U NOVOM ČEMINCU U BARANJI

## BELT BUCKLE WITH ALMANDINE ORNAMENT AND PIECES OF FABRIC FROM A WARRIOR GRAVE DISCOVERED IN NOVI ČEMINAC, IN BARANJA

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*Tema je članka jedinstveni nalaz kopče pronađene na bročano malom groblju germanske pripadnosti u Novom Čemincu u hrvatskoj Baranji. Željezna, almandinima bogato ukrašena pojasna kopča pronađena je in situ iznad zdjelice pokojnika i djelomično ispod mača, a bila je dio vojnog pojasa. Kopča iz Novog Čemince nema neposredne paralele, a prema tipološkim i stilskim karakteristikama, pripada krugu mediteranskih kopči druge polovine 5. i početka 6. stoljeća. Analiza očuvane tkanine na stražnjoj strani kopče pokazala je da je riječ o dijelu odjeće pokojnika, a vjerojatno je riječ o dijelu gornjeg, širega odjevnog predmeta, skupljenog i opasanoga pojasom. Tkanina je fine, vjerojatno lokalne proizvodnje te relativno tipičnih tehničkih karakteristika za srednju Europu onoga razdoblja.*

**Ključne riječi:**

Novi Čeminac, Baranja, grob, pojasna kopča, almandini, tkanina, druga polovina 5. i početak 6. stoljeća

*The topic of the article is the unique find of a buckle, discovered at a small Germanic cemetery in Novi Čeminac, in Baranja, Croatia. An abundantly decorated iron belt buckle was discovered in situ above the pelvis of the deceased, and partially under the sword, and was a part of a soldier's belt. The buckle from Novi Čeminac does not have related examples at other sites; and, according to typological and stylistic characteristics, it belongs to the circle of Mediterranean buckles of the second half of the 5<sup>th</sup> century and the beginning of the 6<sup>th</sup>. Analysis of the fabric discovered on the back of the belt buckle shows that it was part of the deceased's clothes, and it is possible that it was the upper garment, a wider piece of attire, gathered and girded with a belt. The cloth is of fine manufacture, probably local, and shows technical characteristics relatively typical of the Central Europe of that period.*

**Key words:**

Novi Čeminac, Baranja, grave, belt buckle, almandine, textile, second half of the 5<sup>th</sup> c. and beginning of the 6<sup>th</sup> c. AD



**KARTA 1.** Položaj nalazišta Novi Čeminac-Jauhov salaš u Baranji (izradio P. Dugonjić).

**MAP 1.** Position of the Novi Čeminac-Jauhov Salaš site in Baranja (made by P. Dugonjić).

## Uvod<sup>1</sup>

Baranja predstavlja regiju u Republici Hrvatskoj s iznimno povoljnim zemljopisnim položajem, omeđenu dvjema rijekama koje su ujedno i važni komunikacijski pravci. Drava i Dunav odvajaju specifičan prostor Baranje od okolnog prostora Panonske nizine. Zahvaljujući vodenom bogatstvu, raznolikom životinjskom svijetu, plodnome tlu te prirodnim zakloništima u svom brežuljkastom dijelu oko Banovog Brda, Baranja je kroz prošlost bila primamljiv prostor za naseljavanje i trajniji boravak mnogim arheološkim populacijama, o čemu najbolje svjedoči broj od preko stotinu zabilježenih nalazišta. Iako je u posljednjih šezdesetak godina na ovom prostoru provedena nekolicina projekata sustavnog rekognosciranja, kao i sondažnih zaštitnih te sustavnih istraživanja manjeg dijela nalazišta koji su potvrdili važnost prostora Baranje u proučavanju svih arheoloških razdoblja, prva velika zaštitna arheološka istraživanja na čak 16 nalazišta su ona provedena tijekom 2014. i 2015. godine na trasi buduće autoceste A5, odnosno između Osijeka i Belog Manastira.<sup>2</sup> Arheološki muzej u Zagrebu tada je proveo istraživanja na četiri lokacije, od kojih se posebno ističu ona provedena na nalazištu Novi Čeminac-Jauhov

## Introduction<sup>1</sup>

Baranja is a region in modern-day Croatia with an exceptionally advantageous geographical position, bounded by two rivers, which are also important communication routes. The rivers Drava and Danube separate the specific area of Baranja from the surrounding area of the Pannonian Plain. Thanks to its aquatic resources, diverse animal life, fertile ground and natural habitats in its hilly part around Banovo Brdo, Baranja has always been a very attractive area for living, and served as a permanent place of residence for numerous archaeological populaces. This is witnessed by the number – over a hundred – of archaeological sites discovered in the area. There have been a few projects of systematic survey, as well as sondage, protective and systematic research on a smallish number of sites in the last sixty years, which have established the importance of this area in the study of all archaeological periods. The first large-scale archaeological excavations, on as many as 16 sites, were carried out during 2014 and 2015 on the planned route of the A5 motorway, that is, between Osijek and Beli Manastir.<sup>2</sup> The Archaeological Museum in Zagreb carried out the research over four locations, from which

<sup>1</sup> Autorice ovaj rad posvećuju dragom kolegi i mentoru dr. sc. Željku Demi koji je od trenutka otkrića groblja u Novom Čemincu pomogao u njegovu razumijevanju svojim savjetima i razgovorima, što im je bilo od neizmjerne pomoći.

<sup>2</sup> Sva su spomenuta nalazišta predstavljena na prigodnoj izložbi „Baština Baranje“ koja je tijekom 2016. i 2017. godine bila prikazana u Muzeju Slavonije, Arheološkome muzeju u Zagrebu i Etnološkom centru baranjske baštine u Belom Manastiru.

<sup>1</sup> The authors dedicate this paper to a dear colleague and mentor, Dr Željko Demo, who, from the moment the cemetery at the Novi Čeminac site was discovered, helped them understand it with conversation and advice which was of immense help to them.

<sup>2</sup> All sites mentioned were on display during the exhibition “Baština Baranje”, which was, during 2016 and 2017, on display in the Museum of Slavonia in Osijek, the Archaeological Museum in Zagreb, and the Ethnology Centre of Baranja’s Heritage, in Beli Manastir.

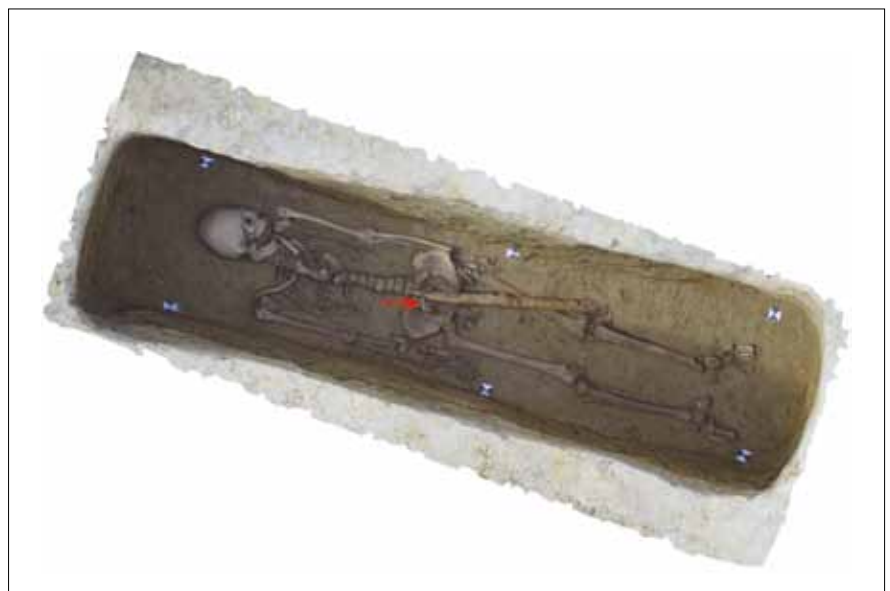
**SLIKA 1.** Plan groblja na nalazištu Novi Čeminac-Jauhov salaš s označenim grobom 5 (izradio M. Maderić).

**FIGURE 1.** Plan of the cemetery at Novi Čeminac-Jauhov Salaš with grave 5 marked (made by M. Maderić).



**SLIKA 2.** Grob 5 s označenim položajem kopče (snimio J. Zorić; obradili M. Maderić i A. Dugonjić).

**FIGURE 2.** Grave 5 with marked position of the buckle (photo by J. Zorić; adapted by M. Maderić and A. Dugonjić).



salaš (Karta 1).<sup>3</sup> Na nalazištu su ustanovljeni tragovi arheoloških razdoblja od pretpovijesti do kasnoga srednjeg vijeka. Dokumentirani ostaci stambenih objekata i grobovi s bogatim prilozima su, nakon provedenih tipološko-komparativnih analiza i datiranja metodom C14, datirani u 5. i prvu polovinu 6. stoljeća. Dvije skupine po 5 grobova koje čine groblje međusobno su udaljene oko 50 m i razlikujemo ih kao sjevernu i južnu skupinu.<sup>4</sup> U grobove je ukopano 10 osoba, od čega četiri muškarca, četiri žene i dvoje djece (sl. 1).

## O načinu izrade i ukrašavanju kopče

Predmet ovog rada jedinstven je nalaz: dvodijelna lijevana pojasna kopča (sl. 3–6) pronađena u grobu muškarca (grob 5, sjeverna skupina) koji je u trenutku smrti bio u dobi između 30 i 40 godina, visine oko 176 cm, te je imao umjetno oblikovanu, odnosno umjetno deformiranu lubanju. Pokopan je u drvenom lijesu, odjeven u raskošnu odjeću s nizom predmeta: kožnim pojasom na kojem je visio mač u koricama,<sup>5</sup> željeznim nožem, kremenom, pincetom te cipelama od kojih su ostale dvije srebrne predice s trnom. Na kostima pokojnika uočeni su tragovi iznimnog fizičkog naprezanja u području ramena, ruku i šaka. Otkrivene su traume na stopalu, palčanoj kosti, a uočena je i antemortalna fraktura čela.<sup>6</sup>

Kopča je prilikom iskopavanja bila neprepoznatljivog oblika, iz groba je izvađena prekrivena slojem zemlje, nečistoće i željeznih korozijskih naslaga i među nalaze je uvedena kao željezni predmet nepoznate funkcije. Zbog svoje kompleksnosti, predmet je podvrgnut rendgenskom snimanju, a radiogram je pokazao bogato ukrašenu kopču unutar amorfnе mase korodiranog materijala (sl. 5).<sup>7</sup>

Dvodijelna je pojasna kopča sastavljena od nekoliko različitih materijala: željeza kao osnovnog materijala, slitine srebra, slitine bakra te dragog kamena – almandina. Na izduženoj ovalnoj željeznoj predici kružnog presjeka trideset i tri su ureza ispunjena bakrenom slitinom, od kojih je u samo dvadeset ureza očuvana ispuna. Masivan gladak trn od slitine srebra (presjeka u obliku slova D) pri vrhu je savijen, a na korijenu proširen u četvrtastu bazu ispunjenu okruglim, ravno rezanim almandinom bez ćelije. Ravni završetak trna prelazi u suženu traku, savijenu oko prečke

the research carried out at the site of Novi Čeminac-Jauhov Salaš must be specially mentioned (Map 1).<sup>3</sup> Traces of archaeological periods from prehistory to the late Middle Ages have been discovered at the site. The documented remains of residential buildings and graves with rich contributions are, after typological comparative analyses and dating using the C14 method, dated to the 5<sup>th</sup> century and the first half of the 6<sup>th</sup>. The two groups of five graves each that form the cemetery are about 50 m apart, and we distinguish them as the northern and southern groups.<sup>4</sup> The graves hold ten individuals: four were men, four were women, and two were children (Fig. 1).

## The method of production and the decoration of the buckle

The subject of this paper is a unique find: a two-part cast belt buckle (Figs 3–6) found in the grave of a man (grave 5, northern group) who was between 30 and 40 years old at the time of death, and about 176 cm tall, and who had an artificially shaped or artificially deformed skull. He was buried in a wooden coffin, and dressed in ornate clothing with a series of items: a leather belt which held a sword in a scabbard,<sup>5</sup> an iron knife, flint, tweezers, and shoes of which only the two silver buckle loops with thorn remained (Fig. 2). Traces of extreme physical exertion in the shoulder area, arms and hands were noticed on the bones of the deceased. Trauma to the foot and thumb was detected, and an ante-mortem fracture of the forehead was observed.<sup>6</sup>

The buckle was unrecognizable during the excavation, during which it was recovered from the grave covered with a layer of soil and iron-corrosion deposits, and introduced among the finds as an iron object of unknown function. Due to its complexity, the object was subjected to X-ray imaging, and the radiogram showed a richly decorated buckle inside an amorphous mass of corroded material (Fig. 5).<sup>7</sup>

The two-part belt buckle is composed of several different materials: iron as the basic material, silver alloy, copper alloy, and precious stone: almandine. On an elongated oval iron buckle loop of circular cross-section, thirty-three incisions were filled with copper alloy, of which only twenty incisions have a preserved fill. A massive smooth thorn of silver alloy (D-shaped cross-section) is bent at the apex, and extended at the root into a square base filled with a round, flat-cut almandine without a cell. The straight end of the thorn turns into a narrowed strip which is

3 Preliminarni su rezultati prikazani na izložbi pod nazivom „JASA, rezultati arheoloških istraživanja lokaliteta Novi Čeminac-Jauhov salaš“, koja je već početkom 2016. godine bila postavljena u Centru za kulturu grada Belog Manastira, uz prigodni prateći deplijan (Balén *et al.* 2016a).

4 Tijekom istraživanja je dokumentiran još jedan vrlo loše očuvan grob, ukopan u plitku raku i izdvojen od dviju navedenih grupa. Način ukopa i prilozi (keramičke posude) u grobu ne upućuju na isto razdoblje (Balén *et al.* 2016b, 19).

5 Željezni mač, srebrni okov mača (ger. *ortband*), srebrna predica i srebrni okov još nepoznate funkcije nalaze se u postupku konzervatorsko-restauratorskog zahvata u laboratoriju AMZ-a.

6 Šlaus *et al.* 2015, 15–16.

7 O detaljnom konzervatorsko-restauratorskom zahvatu, vidi Latinović 2016.

3 Preliminary results were presented at an exhibition called “JASA, the results of archaeological research at the Novi Čeminac-Jauhov Salaš site”, which was set up at the Beli Manastir Cultural Centre in early 2016, with an accompanying leaflet (Balén *et al.* 2016a).

4 Another very poorly preserved grave was documented during the research, buried in a shallow bier, and separated from the two groups mentioned. The manner of burial and the contributions (ceramic vessels) in the tomb do not indicate the same period (Balén *et al.* 2016b, 19).

5 The iron sword, sword's silver fitting (ger. *ortband*), silver buckle loop, and silver fitting of as yet unknown function are undergoing the process of conservation and restoration in the AMZ laboratory.

6 Šlaus *et al.* 2015, 15–16.

7 For the detailed conservation and restoration work, see Latinović 2016.



SLIKA 3. Kopča iz Novog Čeminca: prednja i bočna strana (snimio I. Krajcar).

FIGURE 3. Buckle from Novi Čeminac: front and side (photo by I. Krajcar).

pređice. Pravokutni okov kopče sastoji se od dva dijela: od gornje pločice, spojene nosačem pređice na donju, i donje pločice koja nije vidljiva zbog ostataka mineralizirane tkanine. Između pločica okova nalaze se ostaci kožnog remena. Pločice i kožni remen su u uglovima bili spojeni zakovicama od slitine bakra s okruglim glavama, što je vidljivo na gornjoj pločici. Gornja je strana okova ukrašena nizom od sedam okruglih, ravno rezanih almandina, učvršćenih u ćelije postavljene u dva reda. Za izradu ćelija upotrijebljena je folija od slitine bakra, a na dvije ćelije (ispod almandina) moguće je uočiti ukras utisnutoga mrežastog motiva. Mrežasti je motiv na folijama davao živost i briljantnost predmetu jer se uočavao kroz tanke translucentne almandinske pločice.<sup>8</sup> Na cijeloj se kopči nalazi petnaest almandina: četrnaest na okovu, a jedan na trnu kopče. Između dva reda almandina na okovu nalazi se niz od osam okruglih ćelija (udubina), ispunjenih tankim okruglim listićem od slitine bakra, a isti je takav niz smješten ispod drugog reda almandina uz rub okova, gdje se nalazi šest, a ne osam ćelija (zbog zakovica koje se nalaze u uglovima). Navedenih 14 listića u udubinama imaju funkciju ukrasa.

bent around the crossbar of the buckle loop. The rectangular fitting of the buckle consists of two parts: the upper plate connected by a buckle-loop carrier to the lower plate, and the lower plate, which is not visible due to the remains of mineralized fabric. Remains of a leather belt were found between the plates of the fitting. The plates and the leather strap were connected at the corners with copper-alloy rivets with round heads, which is clearly visible on the upper plate. The upper side of the fitting is decorated with a series of seven round, flat-cut almandines fixed in cells arranged in two rows. Copper-alloy foil was used to form the cells, and cross-hatched foil decoration can be seen on two cells (below the almandine). The cross-hatched motif on the foils gave liveliness and brilliance to the object, as it could be seen through the thin, translucent almandine tiles.<sup>8</sup> There are fifteen almandines on the buckle: fourteen on the fitting, and one on the thorn base of the buckle. Between the two rows of almandines on the fitting there is a row of eight round cells (recesses) filled with a thin round sheet of copper alloy, and the same row is located below the second row of almandines along the edge of the fitting, where there are six, instead of eight cells (due to the rivets located in the corners). These 14 sheets in the recesses have a decorative function.

8 Arrhenius 1965, 34; Avent, Leigh 1977, 1–46.

8 Arrhenius 1965, 34; Avent, Leigh 1977, 1–46.



SLIKA 4. Kopča iz Novog Čeminca: stražnja strana (snimio I. Krajcar).

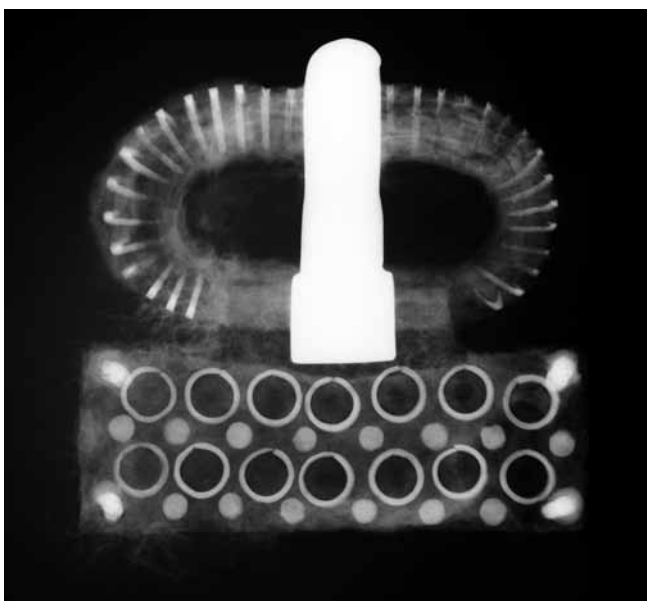
FIGURE 4. Buckle from Novi Čeminac: back (photo by I. Krajcar).

Dimenzije kopče su sljedeće: dužina 45 mm, širina 48 mm, debljina 16 mm. Predica je 23 mm dužine, 38 mm širine, 6 mm debljine, a urezi na predici su 0,5 mm debljine i nalaze se samo u gornjoj polovini predice. Trn je 26 mm dužine, 6 mm širine; širina kvadratičnog korijena iznosi 7 x 7 mm, debljina iznosi 3 mm, a debljina korijena 4 mm. Promjer almandina na korijenu iznosi 5 mm, debljina almandina oko 1 mm. Okov (gornja pločica) je dužine 23 mm, širine 42 mm, debljine 2 mm; promjer glava zakovica iznosi 3 mm, dužine 7 mm. Promjer almandina na okovu iznosi od 3 do 3,5 mm, debljine oko 1 mm, a ćelije od slitine bakra, u kojima se nalaze almandini, debljine oko 0,5 do 0,8 mm, dok je maksimalan promjer ćelija, u kojima se nalaze almandini, 4 do 5 mm. Listići od slitine bakra debljine su oko 0,03 mm, a njihov promjer iznosi 2 do 2,5 mm.

Struktura i korišteni materijal upućuju na *cloisonné* tehniku izrade ukrasa, a u slučaju pojasne kopče iz Novog Čeminca riječ je o specifičnoj tehnici prema kojoj se udubljenja, odnosno ćelije, izrađuju u baznom metalu (u ovom slučaju od željeza), a zatim se

The buckle's dimensions are as follows: length 45 mm, width 48 mm, thickness 16 mm. The buckle loop is 23 mm long, 38 mm wide and 6 mm thick; incisions on the loop are 0.5 mm thick, and are situated only in the upper half of the loop. The thorn is 26 mm long, 6 mm wide and 3 mm thick; its root is 7 mm long, 7 mm wide and 4 mm thick. The diameter of the almandines on the root is 5 mm, and their thickness is approximately 1 mm. The fitting (upper plate) is 23 mm long, 42 mm wide and 2 mm thick; rivet head diameter is 3 mm, and length is 7 mm. The diameter of the almandines is from 3 to 3.5 mm, thickness is approximately 1 mm, the cells made of copper alloy, which hold the almandines, are from 0.5 to 0.8 mm thick, while the maximum diameter of the cells which hold the almandines is 4 to 5 mm. The sheets made of copper alloy are 0.03 mm thick, and their diameter varies from 2 to 1.5 mm.

The structure and the material used indicate the *cloisonné* technique of making ornaments; in the case of the belt buckle from Novi Čeminac, it is a specific technique according to which the

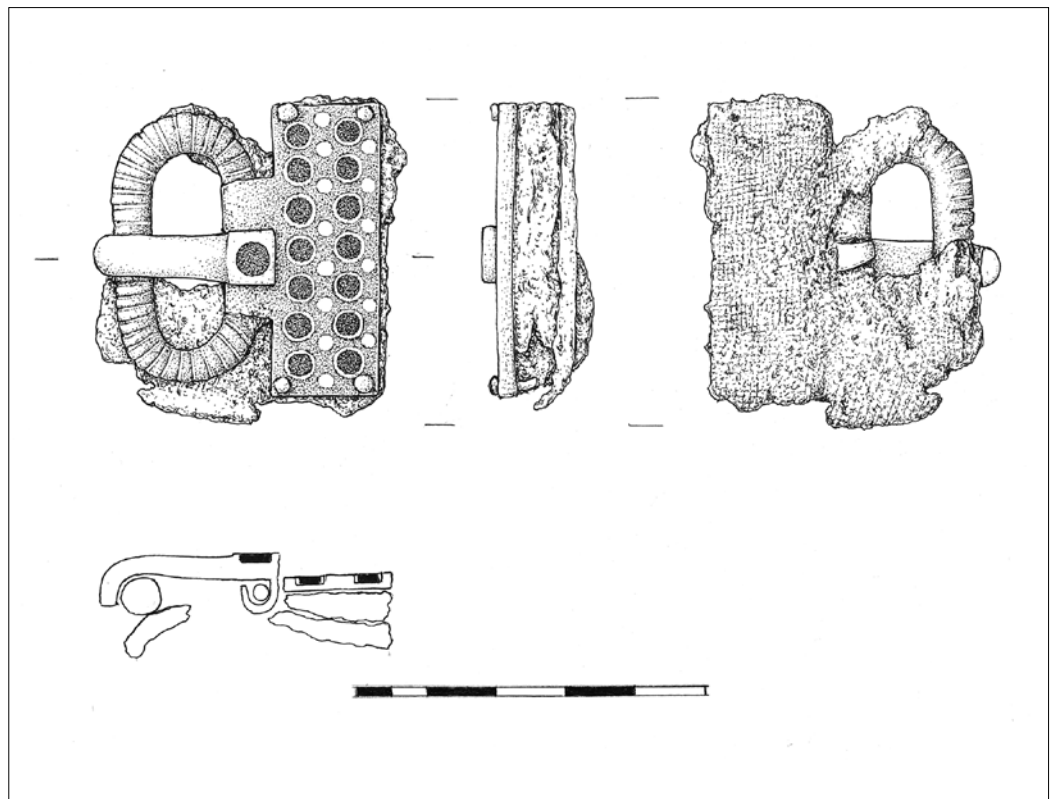


SLIKA 5. Radiogram s vidljivim oblikom predmeta i ukrasima (Latinović 2016, 54, sl. 3).

FIGURE 5. Radiogram showing the visible shape of the item, and its decoration (Latinović 2016, 54, sl. 3).

**SLIKA 6.** Crtež kopče iz Novog Čeminca (izradila M. Galić).

**FIGURE 6.** A drawing of the buckle from Novi Čeminac (made by M. Galić).



ispunjavaju dragim kamenom ili obojenim staklom (za razliku od poznate tehnike slaganja zidova koji se leme jedan za drugog i za podlogu; *cloisonné* franc. pregrada, barijera). Čelije poslagane u gusti niz stvaraju ponavljajući uzorak, stoga ova tehnika daje isti vizualni efekt kao pravo kloazoniranje (*real cloisonné*), iako je ovdje riječ o tehnici *champlevé* (*pseudo cloisonné*).<sup>9</sup> Bez obzira na drugačiju izradu, ovaj način ukrašavanja i dalje nazivamo *cloisonné*. Almandin, dragi kamen koji ukrašava kopču iz Novog Čeminca, jedan je od najčešćih dragih kamenova na Zemlji (prepoznate su 24 vrste ovog minerala), a analize pokazuju da su u klasičnom i ranosrednjovjekovnom razdoblju najčešće korišteni crveni almandini.<sup>10</sup> Mineraloška analiza kemijskih sastojaka na almandinima s predmeta ukrašenih kloazoniranjem iz merovinškog kruga pokazuju da su almandini na predmetima iz 5. i 6. stoljeća porijeklom iz Indije i Šri Lanke.<sup>11</sup> Isti je rezultat dobiven analizama napravljenim na almandinima sa slovenskih<sup>12</sup> i mađarskih lokaliteta.<sup>13</sup> Iz navedenog je moguće pretpostaviti kako su almandini korišteni u ukrašavanju kopče iz Novog Čeminca istog porijekla.

recesses, i.e. cells, are produced in base metal (in this case iron), and consequently filled with precious stone or coloured glass (unlike the known technique of stacking walls that are soldered to each other and to the base; *cloisonné*, French: partition, barrier). Cells arranged in a dense sequence create a repetitive pattern; therefore this technique gives the same visual effect as *real cloisonné*, although this is a *champlevé* (*pseudo-cloisonné*) technique.<sup>9</sup> Regardless of the different manufacturing process, this way of decorating is still called *cloisonné*. Almandine, the gemstone that adorns the buckle from Novi Čeminac, is one of the most common gemstones on Earth (24 species of this mineral have been identified so far). Analyses show that red almandines were most commonly used in the classical and early-medieval periods.<sup>10</sup> Mineralogical analysis of chemical constituents on almandines from objects decorated using the *cloisonné* technique from the Merovingian circle shows that almandines on objects from the 5<sup>th</sup> and 6<sup>th</sup> centuries originated in India and Sri Lanka.<sup>11</sup> The same result was obtained by analyses made on almandines from Slovenian<sup>12</sup> and Hungarian sites.<sup>13</sup> This information makes it possible to assume that the almandines used to decorate the buckle from Novi Čeminac are, in fact, of the same origin.

9 O klasifikaciji *cloisonné* tehnike i o razlici između *real cloisonné* i *pseudo cloisonné*, vidi Horváth 2012a, 207–242; 2013, 275–302.

10 Adams 2011, 10. O distribuciji i ulozi almandina, vidi Arrhenius 2000, 214–225 i Hamerow 2017, 71–84.

11 Quast, Schüssler 2000, 75–96.

12 Pavlovič 2017, 71–76.

13 Horváth 2013, 290–291.

9 For more about the classification of the *cloisonné* technique, and the difference between *real cloisonné* and *pseudo-cloisonné*, see Horváth 2012a, 207–242; 2013, 275–302.

10 Adams 2011, 10. About the distribution and role of the almandines, see Arrhenius 2000, 214–225 and Hamerow 2017, 71–84.

11 Quast, Schüssler 2000, 75–96.

12 Pavlovič 2017, 71–76.

13 Horváth 2013, 290–291.

## Razmatranja o kopči

Prilikom određivanja tipološko-kronoloških karakteristika kopče iz Novog Čeminca korišteno je nekoliko odrednica. Prije svega, to su oblik kopče (ovalna predica, pravokutni okov i četiri zakovice u svakom uglu okova), bazni materijal (željezo), sekundarni materijal (slitina srebra i slitina bakra) i ukras (tauširanje slitinom bakra na predici; okrugli, ravno rezani almandini na trnu i okovu; okrugle ćelije od slitine bakra).

Svojim osnovnim oblikom, tj. predicama izduženog ovalnog ili ovalnog oblika i pravokutnog okova, mogu se povezati s kopčama kasnoantičkih vojnih pojasnih garnitura kakve nalazimo na teritoriju nekadašnjih provincija Germanije I-II i Belgica II, a pojedinačni su primjerci pronađeni i na području sjeverne Italije te „slobodne“ Germanije.<sup>14</sup> Bazni materijal kasnoantičkih kopči u većini je slučajeva bronca, odnosno slitina bakra, ali su zato kasnorimski utjecaji prepoznati u obliku kopče (bez prikaza životinjskih glava na predici), a potencijalno i ukrasu. Na okovima kasnoantičkih kopči često se nalazi obrub s kružnim i točkastim utiscima te obrub od kuglica koje imitiraju bisernu žicu.<sup>15</sup> Ovaj je ukras moguće prepoznati na kopči iz Novog Čeminca u okruglim ćelijama ispunjenim listićima od bakrene slitine (koje se nalaze uz rub i između linija almandina).

Po obliku, ali i baznom materijalu, najbližnja joj je kopča datirana u kasno 5. i rano 6. stoljeće, pronađena na groblju Szolnok-Zagyva-part (ženski grob 16) u Mađarskoj. Riječ je o željeznoj kopči nepravilne predice, pravokutnog okova, ukrašenoj *cloisonné* tehnikom na predici i okovu (umetci nisu sačuvani). Ukrasno je polje napravljeno od lima bakrene slitine, u uglovima okova se nalaze zakovice od bakrene slitine okrugle glave, a na poledini su vidljivi ostaci mineralizirane tkanine.<sup>16</sup> Slična je kopča pronađena na nekropoli Madrona u Španjolskoj (grob 24).<sup>17</sup> Kopča iz Komároma u Mađarskoj slična je oblikom, ali ne i po baznom materijalu – jer je napravljena od zlata.<sup>18</sup> Svakako, treba spomenuti kopču pronađenu na groblju u Globasnitzu (Hemmaberg, Austrija), gdje je u grobu 11, otkrivenom 1999. godine, pokopan muškarac s vojnim pojasom, bez oružja.<sup>19</sup> Masivna željezna kopča ukrašena je tauširanjem srebrom i mesingom na predici i trnu (na bazi trna u obliku križa) te *cloisonné* tehnikom na četvrtastom okovu kopče, na čijem se kraju nalaze dvije nasuprotno postavljene ptičje glave (orlovi). Autor u njemu prepoznaje vojnika, Ostrogota, arijanca.<sup>20</sup> Pravokutni i četvrtasti okovi željezne osnove, ukrašeni tehnikom *cloisonné* sa zakovicama u 4 ugla okova prepoznaju se na kopčama sa sljedećih nalazišta: Köln-Severinstor (Njemačka),<sup>21</sup> Plie-

## Considerations about the buckle

Several determinants were used when looking for hints for typochronological determination of the buckle from Novi Čeminac. First of all, the shape of the buckle (oval buckle loop, rectangular fitting with four rivets in each corner), the base material (iron), the secondary material (silver alloy and copper alloy) and the decoration (inlaying with copper alloy on the buckle loop; round, flat-cut almandines on the thorn base and the fitting; round copper-alloy sheets).

The basic shape, i.e. the elongated oval or oval-shaped buckle loop, and rectangular fitting, connects the buckle with other buckles of late-antique military belt sets the type of which are often discovered in the territory of the former provinces of Germany I-II and Belgium II, and individual examples have been found in northern Italy, and ‘free’ Germania.<sup>14</sup> The base material of buckles from the period of Late Antiquity is, in most cases, bronze, i.e. copper alloy, whereas late-Roman influences can be recognized by looking at the shape of a buckle (without the representation of animal heads on the loop), and potentially in its decoration. The fittings of late-antique buckles often include a border with circular and dotted impressions, as well as a border of beads that imitate pearl wire.<sup>15</sup> This decoration can be identified on the buckle from Novi Čeminac in copper-alloy sheets (located along the edge, and between the sequences of almandines).

In terms of shape and base material, the most similar buckle was found in the Szolnok-Zagyva-part cemetery (female grave 16) in Hungary, dating to the late 5<sup>th</sup> century and early 6<sup>th</sup>. It is an iron buckle of irregular buckle loop and rectangular fitting, and decorated using *cloisonné* technique on the loop and fitting. (Inserts are not preserved.) The decorative field is made of copper-alloy foil, with rivets, made of copper alloy and with a round head, located in the corners of the fitting, and visible remains of mineralized fabric on the back.<sup>16</sup> A similar buckle was found at the Madrona cemetery in Spain (grave 24).<sup>17</sup> The buckle from Komárom in Hungary is similar in shape, but not in base material – because it is made of gold.<sup>18</sup> Also worth mentioning is the buckle from the cemetery in Globasnitz (Hemmaberg, Austria), where a man with a military belt, without a weapon, was buried in grave 11, discovered in 1999.<sup>19</sup> This iron buckle is massive, decorated using inlaying of silver and brass on the loop and thorn (on a thorn with a cross-shaped motif), and a *cloisonné* technique on a square fitting with two opposing bird heads (eagles) at the end.

14 Sommer 1984, 28–29. Radi se o kopčama Vrste 1, Oblika C, Tipa F, Var. 4 (*Sorte 1, Form C, Typ F, Var. 4*). Kopče se datiraju od sredine 4. do sredine 5. stoljeća (Sommer 1984, 28–29; Swift 1999, 102–103, 109).

15 Sommer 1984, 28–29; Swift 1999, 103, Var. 4b i 4c.

16 Cseh 2005, Taf. 37: 3, 94: 2–4; Kovács *et al.* 2015, 29–30. kép.

17 Kazanski 1994, 151, Fig. 9: 9. Bez detaljnih opisa.

18 Hampel 1905, Taf. 40; Horváth 2012b, 4: 5. kép.

19 Pojasna garnitura sastojala se od željezne kopče, kloazoniranih okova i torbice u kojoj su se nalazili kremeni (Glaser 2002; 2003; 2006).

20 Glaser 2006, 96.

21 Werner 1958, Taf. 11: 1; Bierbrauer 1975, Taf. 86: 1.

14 Sommer 1984, 28–29. This is about buckles of Type 1, shape C, variant 4 (*Sorte 1, Form C, Typ F, Var. 4*). The buckles are dated from the middle of the 4<sup>th</sup> century to the middle of the 5<sup>th</sup> (Sommer 1984, 28–29; Swift 1999, 102–103, 109).

15 Sommer 1984, 28–29; Swift 1999, 103, Vars 4b and 4c.

16 Cseh 2005, Taf. 37: 3, 94: 2–4; Kovács *et al.* 2015, 29–30. kép.

17 Kazanski 1994, 151, Fig. 9: 9. No detailed descriptions.

18 Hampel 1905, Taf. 40; Horváth 2012b, 4: 5. kép.

19 The belt set consisted of an iron buckle, *cloisonné* decorated fittings, and a pouch which contained flints (Glaser 2002; 2003; 2006).



ning (Njemačka),<sup>22</sup> Aquasanta (Italija),<sup>23</sup> Tortona (Italija),<sup>24</sup> Szentes Berkhát (Mađarska),<sup>25</sup> Petersfinger (Ujedinjeno Kraljevstvo).<sup>26</sup> Ovi su primjeri predstavnici *real cloisonné* tehnike te, osim baznog materijala i pravokutnog okova, nemaju drugu poveznicu s kopčom iz Novog Čeminca.

Pravokutni kovci pojasnih kopča, ukrašeni kloazoniranjem na području Republike Hrvatske, pronađeni su u Solinu i Žrnovnici. Riječ je o kopčama izrađenim od slitine bakra, a pripisane su germanskim populacijama i vežu se uz prisustvo Istočnih Gota u Dalmaciji.<sup>27</sup> Od navedenih okova samo jedan iz Solina ima zakovice u uglovima i umetak od almandina te bi prema tomu bio najslbližnji okovu iz Novog Čeminca.<sup>28</sup>

Prema tipologiji bizantskih kopča Schulze-Dörrlamm,<sup>29</sup> kopču iz Novog Čeminca moguće je smjestiti u grupu C (kopče s kloazoniranim okovom), podgrupu C11 (kopče s ovalnom predicom, trnom proširene baze i pravokutnim okovom), koje su rasprostranjene na širokom području Sredozemlja.<sup>30</sup> Kopče, koje Schulze-Dörrlamm navodi u svojoj tipologiji, izrađene su od slitine bakra i pozlaćene te vrlo rijetke jer, kako navodi, kopče s trnom na čijem se kvadratičnom korijenu nalazi okrugli almandin vrlo su rijetko izrađivane u Bizantskom Carstvu.<sup>31</sup> Primjerci kopči s ovalnom predicom i pravokutnim okovom, na čijem se kvadratičnom korijenu trna nalazi okrugli almandin ili obojeno staklo, prepoznati su na grobljima Nový Šaldorf (južna Moravska),<sup>32</sup> Vranje Sevnica (grob 27)<sup>33</sup> u Sloveniji, na grobljima Vicq (grob 756),<sup>34</sup> Saint-Martin-de-Fontenay (grob 741)<sup>35</sup> i Cutry (Meurthe-et-Moselle, grob 859)<sup>36</sup> u Francuskoj, zatim na grobljima Duratón (grob 445<sup>37</sup> i 526)<sup>38</sup>, El Carpio de Tajo (grob C<sup>39</sup> i grob 204)<sup>40</sup> i Cacara de las Ranas (grob 7)<sup>41</sup> u Španjolskoj. Na grobljima Francuske i Španjolske ri-

These characteristics pointed the author towards recognizing the soldier as an Ostrogoth, an Arian.<sup>20</sup> Rectangular and square iron-based fittings, decorated with the *cloisonné* technique with rivets in the four corners of the fittings, are recognized on the buckles from the following sites: Cologne-Severinstor (Germany),<sup>21</sup> Pliening (Germany),<sup>22</sup> Aquasanta (Italy),<sup>23</sup> Tortona (Italy),<sup>24</sup> Szentes Berkhát (Hungary)<sup>25</sup> and Petersfinger (United Kingdom).<sup>26</sup> These examples are representatives of the *real cloisonné* technique, and – apart from the base material and rectangular fittings – they do not have other similarities with the buckle from Novi Čeminac.

In Croatia, rectangular belt-buckle fittings decorated using *cloisonné* have been found in Solin and Žrnovnica. These buckles are made of copper alloy, attributed to Germanic populations, and associated with the presence of the Eastern Goths in Dalmatia.<sup>27</sup> Of these fittings, only one from Solin has rivets in the corners and an almandine insert, so it would be the most similar to the fitting from Novi Čeminac.<sup>28</sup>

According to the Schulze-Dörrlamm typology of Byzantine buckles,<sup>29</sup> the buckle from Novi Čeminac can be placed within group C (buckles with *cloisonné* decorated fittings), subgroup C11 (buckles with oval loop, a thorn with an expanded base, and rectangular fittings), which are widespread throughout the broader Mediterranean area.<sup>30</sup> The buckles mentioned by Schulze-Dörrlamm in her typology are made of copper alloy, gilded, and very rare, because buckles with a thorn whose root is square and holds a round almandine were, she states, very rarely made in the Byzantine Empire.<sup>31</sup> Examples of buckles with an oval loop and a rectangular fitting whose thorn's root is

22 Giostra et al. 2008, 581, Fig. 7.

23 Werner 1958, Taf. 11: 2; Bierbrauer 1975, Taf. 3: 5; 1994, 179, Fig. 3: 41. g; Giostra et al. 2008, 581, Fig. 8.

24 Bierbrauer 1975, Taf. 45: 1–1a; Giostra et al. 2008, 577–596.

25 Csallány 1961, 87, Taf. 74: 4.

26 Menghin 1983, 195, Kat. br. 18: 6.

27 Buškariol 1985, 83–94, sl. 1: a–b, d.

28 Buškariol 1985, sl. 1: b.

29 Schulze-Dörrlamm 2009.

30 Schulze-Dörrlamm 2009, 110–113. Tip se bazira na brončanoj kopči s pozlatom iz Sirije, koja se čuva u Römisch-Germanischen Zentralmuseumu u Mainz, na čijem se pravokutnom okovu nalaze ravno rezani almandini, a okov je na kožni remen bio pričvršćen zakovicama koje se nalaze u uglovima okova. (Schulze-Dörrlamm 2009, 111, No. 92, Taf. 2: 6; 2011, 278–279, III. 2. 2.)

31 Schulze-Dörrlamm 2009, 111.

32 Červinka 1937, obr. 29; Werner 1962, Taf. 57: 9; Tejral 1982, T. 24: 12.

33 Petru, Ulbert 1975, 114, sl. 44: a.

34 Ripoll López 1994b, 324–325, cat. no. 4. 14, Fig. 4.41: c; Kazanski, Perin 2009, 153, Fig. 4: 3.

35 Kazanski, Périn 2009, 155, Fig. 6: 3.

36 Kazanski, Périn 2009, 157, Fig. 8: 2. Autori smatraju navedene kopče s francuskih nekropola vizigotskim importom u Galiju.

37 Ripoll López 1994b, 313–314, cat. no. 4. 3., Fig. 4. 19: h.

38 Ripoll López 1994b, 314–315, cat. no. 4. 3., Fig. 4. 20: j.

39 Ripoll 1985, 70, Fig. 10, 214, lám. 2; Ripoll López 1994a, 204, Fig. 5: C. 1.

40 Ripoll 1985, 145, Fig. 53; Ripoll López 1994a, 225, Fig. 19: 204. 1.

41 Eger 2005, 167.

20 Glaser 2006, 96.

21 Werner 1958, Taf. 11: 1; Bierbrauer 1975, Taf. 86: 1.

22 Giostra et al. 2008, 581, Fig. 7.

23 Werner 1958, Taf. 11: 2; Bierbrauer 1975, Taf. 3: 5; 1994, 179, Fig. 3: 41. g; Giostra et al. 2008, 581, Fig. 8.

24 Bierbrauer 1975, Taf. 45: 1–1a; Giostra et al. 2008, 577–596.

25 Csallány 1961, 87, Taf. 74: 4.

26 Menghin 1983, 195, cat. no. 18: 6.

27 Buškariol 1985, 83–94, sl. 1: a–b, d.

28 Buškariol 1985, sl. 1: b.

29 Schulze-Dörrlamm 2009.

30 Schulze-Dörrlamm 2009, 110–113. The type is based on a bronze buckle with gilding from Syria, currently kept in the Römisch-Germanischen Zentralmuseum in Mainz, on which square fittings hold flat-cut almandines, and the fitting was fastened to the leather belt using rivets placed in the corners of the fitting (Schulze-Dörrlamm 2009, 111, no. 92, Taf. 2: 6; 2011, 278–279, III. 2. 2.)

31 Schulze-Dörrlamm 2009, 111.

ječ je o brončanim kopčama s pozlatom, koje pripadaju ženskim grobovima, a čiji trn završava u obliku stilizirane životinjske glave. Osim almandina ili stakla na korijenu trna, kopče iz potonjih groblja ukrašene su tehnikom *cloisonné*, koristeći ravno rezane almandine i/ili staklo na četvrtastim okovima. Okrugli umetak na bazi trna željezne kopče (bez okova) pronađen je u Budimpešti (Budapest-Zugló, grob 9).<sup>42</sup> Okrugli je uložak napravljen od stakla, ali bojom imitira almandin. Osim na bazi trna, okrugli umetci, koji se nalaze u ćelijama od zlatne folije, nalaze se i po predici (četiri umetka). Autorica ovu kopču s umecima od stakla datira u 5. stoljeće.<sup>43</sup> Bez poznatog lokaliteta je predica s trnom na čijoj se bazi nalazi okrugli almandin, ali je izrađena od bronce.<sup>44</sup>

Ukras okruglih almandina u nizu na kopči iz Novog Čeminca prisutan je u obliku posebnog načina ukrašavanja na okovima korica *spatha* iz poznatih ratničkih grobova ovog razdoblja. Na korici *spathe*, pronađene 1901. godine u Gütlingenu u Njemačkoj, na paru okova držača pojasa izrađenih od željeza, nalazi se ukras od pozlaćene bronce i niz od po sedam okruglih, ravno rezanih almandina.<sup>45</sup> Sličan je niz pronađen i na okovu donjeg dijela korica mača kneza iz Blučine u Češkoj; na podlozi od pozlaćenog srebra osam je okruglih, ravno rezanih almandina.<sup>46</sup> Isti je takav način ukrašavanja primijećen i na paru lučnih fibula pronađenih u Rosaryju u Francuskoj.<sup>47</sup>

Tehnika tauširanja na predici poznat je način ukrašavanja prisutan u ovom razdoblju i često korišten u procesu ukrašavanja pojasnih garnitura. Najčešće korišten materijal prilikom tauširanja je slitina srebra, odnosno srebrna žica koja se umeće u željeznu ili brončanu bazu. Tauširanje bakrenom slitinom nije bilo popularno, na što ukazuje manjak takvih primjera u dostupnoj literaturi. Stoga, važno je spomenuti primjere poput kopče iz Globasnitz, na kojoj je masivna željezna predica tauširana srebrom i mesingom, ili kopče iz Tortone kod koje je četvrtasta predica (ali i okov kopče), uz tauširanje bakrenom slitinom, dodatno ukrašena kloazoniranjem.<sup>48</sup> Tauširanje bakrenom slitinom navodi i Werner, opisujući željezne kopče na franačkom području u periodu oko

square and holds a round almandine or coloured glass have been identified in Nový Šaldorf (South Moravia)<sup>32</sup> and Vranje Sevnica (grave 27)<sup>33</sup> in Slovenia, in the cemeteries of Vicq (grave 756),<sup>34</sup> Martin-de-Fontenay (grave 741)<sup>35</sup> and Cutry (Meurthe-et-Moselle, grave 859)<sup>36</sup> in France, then in the cemeteries of Duratón (graves 445<sup>37</sup> and 526),<sup>38</sup> El Carpio de Tajo (grave C<sup>39</sup> and grave 204)<sup>40</sup> and Cacara de las Ranas (grave 7)<sup>41</sup> in Spain. The cemeteries of France and Spain include gilded bronze buckles belonging to women's graves, with the thorn ending in the shape of a stylized animal head. Besides the almandines or glass on the root of the thorn, the buckles from the above-mentioned cemeteries are decorated with *cloisonné* technique, and place flat-cut almandines and/or glass on square fittings. A round insert on the thorn of an iron buckle (without the fittings) was found in Budapest (Budapest-Zugló, grave 9).<sup>42</sup> The round insert is made of glass, but imitates almandine in colour. Besides on the base of the thorn, round inserts, placed within the cells and made of gold foil, are also found on the buckle loop (four inserts). The author dates this buckle with glass inserts to the 5<sup>th</sup> century.<sup>43</sup> An unknown site has produced a bronze buckle loop with a thorn whose base holds a round almandine, although it is made of bronze.<sup>44</sup>

The linear decoration of round almandines on the buckle from Novi Čeminac can be found, as a special manner of decorating, on the *spatha* scabbard fittings from the famous warrior graves of this period. A pair of iron fittings of a *spatha* belt with a gilded bronze ornament and a sequence of seven round, flat-cut almandines was found in 1901 in Gütlingen, Germany.<sup>45</sup> A similar sequence was found on the chape fitting of the sword belonging to a warrior from Blučina in the Czech Republic; eight round, flat-cut almandines were placed on a gilded silver base.<sup>46</sup> The same manner of decorating is observed on a pair of arched fibulae found in Rosary, France.<sup>47</sup>

The inlaying technique on the buckle loop is a well-known way of decorating, characteristic of this period, and often used to decorate belt sets. The most frequently-used material in inlaying is a

42 Nagy 2010, 143, Fig. 5. 3 (left): 9, Fig. 5. 3 (right): 1–1a, 166, Fig. 5. 12: 6.

43 Nagy 2010, 165–170.

44 Quast 1996, Abb. 6.

45 Kokkotidis 2008, 318–319; Menghin 1983, 186–187, Kat. br. 7: 1c.

46 Tejral 1982, T. 12: 4; Menghin 1983, 183–184, Kat. br. 3: 1g; Schmauder 2002, Taf. 38.

47 Vallet 2000, 20–22, Fig. 3. 9. Autorica ih određuje kao franački materijal i datira u prvu polovinu 6. stoljeća. Danas se nalaze u zbirci Metropolitan Museum of Art u New Yorku.

48 Giostra et al. 2008, 577, Fig. 5.

32 Červinka 1937, obr. 29; Werner 1962, Taf. 57: 9; Tejral 1982, T. 24: 12.

33 Petru, Ulbert 1975, 114, sl. 44: a.

34 Ripoll López 1994b, 324–325, cat. no. 4. 14, Fig. 4.41: c; Kazanski, Périn 2009, 153, Fig. 4: 3.

35 Kazanski, Périn 2009, 155, Fig. 6: 3.

36 Kazanski, Périn 2009, 157, Fig. 8: 2. The authors consider the buckles from French cemeteries a Visigothic import into Gallia.

37 Ripoll López 1994b, 313–314, cat. no. 4. 3, Fig. 4.19: h.

38 Ripoll López 1994b, 314–315, cat. no. 4. 3, Fig. 4.20: j.

39 Ripoll 1985, 70, Fig. 10, 214, lám. 2; Ripoll López 1994a, 204, Fig. 5: C. 1.

40 Ripoll 1985, 145, Fig. 53; Ripoll López 1994a, 225, Fig. 19: 204. 1.

41 Eger 2005, 167.

42 Nagy 2010, 143, Fig. 5. 3 (left): 9, Fig. 5. 3 (right): 1–1a, 166, Fig. 5. 12: 6.

43 Nagy 2010, 165–170.

44 Quast 1996, 337, Abb. 6.

45 Kokkotidis 2008, 318–319; Menghin 1983, 186–187, cat. no. 7: 1c.

46 Tejral 1982, T. 12: 4; Menghin 1983, 183–184, cat. no. 3: 1g; Schmauder 2002, Taf. 38.

47 Vallet 2000, 20–22, Fig. 3. 9. The author designates them as Frankish material, and dates them to the first half of the 6<sup>th</sup> century. Today they are kept in the collection of the Metropolitan Museum of Art in New York.

500. godine, za koje navodi da su kloazonirane i često tauširane slitinom bakra po rubovima okova.<sup>49</sup>

Kopča iz Novog Čeminca nema neposredne paralele, a prema tipološkim i stilskim karakteristikama može biti smještena u krug mediteranskih kopči druge polovine 5. i početka 6. stoljeća, među primjercima koji se, osim na Mediteranu, nalaze na području cijele Europe, odnosno u materijalnoj kulturi germanskih populacija u Europi. Prema dosadašnjim saznanjima i stanju istraživanja, kopče mediteranskog tipa ukrašene kloazoniranjem (one pronađene unutar konteksta), vezane su uz grobove ratnika kao dio njihove opreme.<sup>50</sup>

### Ostaci tkanine i kože<sup>51</sup>

Tijekom sveobuhvatnog konzervatorsko-resturatorskog zahvata utvrđeni su mineralizirani ostaci tkanine na stražnjoj strani kopče i ostaci kožnog pojasa unutar okova kopče. Budući da je riječ o nalazu iz ranoga srednjeg vijeka, treba imati na umu da je ovo izniman nalaz budući da se tkanina sve do 20. stoljeća proizvodila od prirodnih vlakana, biljnih i životinjskih, a u iznimnim je slučajevima mineralnog podrijetla.<sup>52</sup> U arheološkom kontekstu, u ovom slučaju kao i u Europi, ostaci su tkanine rijedak nalaz upravo iz razloga što je ona od pretpovijesnih vremena izrađivana od propadljivog materijala. Tekstil u užem smislu riječi označava plošni proizvod izrađen tkanjem, odnosno ispreplitanjem dvaju sustava niti ili pređe pod pravim kutom (sl. 7), no u širem smislu odnosi se na sve strukture izrađene pređenjem, pletenjem, filcanjem, kukičanjem, ali i mreže te košaraštvo.<sup>53</sup> Terminom „arheološki tekstil“ definiran je svaki fragment tekstila pronađen tijekom arheološkog istraživanja,<sup>54</sup> a može biti pronađen u izvornom ili fragmentiranom stanju, u mineraliziranom obliku (pseudomorf), ili kao otisak u materijalu poput gline ili žbuke.<sup>55</sup> Ako je arheološki tekstil iznimno očuvan u posebnim uvjetima (u sušnim uvjetima, potopljen u vodi, zaleđen, karboniziran ili očuvan korozijom metala) te ovisno o stupnju očuvanosti, na njemu

silver alloy, i.e. a silver wire that is inserted into an iron or bronze base. Using a copper alloy for inlaying was not popular, as indicated by the lack of such examples in the available bibliography. Therefore, it is important to mention other examples, such as the buckle from Globasnitz, where the solid iron buckle loop is inlaid with silver and brass, or the buckle from Tortona, where the square buckle loop (and also the buckle fitting) is decorated not only by inlaying with copper alloy, but also using *cloisonné*.<sup>48</sup> Inlaying with a copper alloy is also cited by Werner, who describes iron buckles from the Frankish area around 500. He states that they were decorated using *cloisonné* technique, and often inlaid along the edges of the buckle fitting with a copper alloy.<sup>49</sup>

The buckle from Novi Čeminac has no direct parallels, and can be placed, according to typological and stylistic characteristics, in the circle of Mediterranean buckles of the second half of the 5<sup>th</sup> century and the beginning of the 6<sup>th</sup>, among those specimens which are found, not only in the Mediterranean, but all over Europe: that is, in the material culture of the European Germanic populations. According to current knowledge and the present state of research, buckles of Mediterranean type decorated using *cloisonné* (those found within the context) are connected with warriors' graves as part of their equipment.<sup>50</sup>

### Remains of textile and leather<sup>51</sup>

Mineralized remains of textile from the back of the buckle, and remains of a leather belt inside the buckle fittings, were found during the comprehensive conservation and restoration work. Since the find belongs to the period of the early Middle Ages, it should be borne in mind that it is an exceptional find, since textiles were, until the 20<sup>th</sup> century, produced from natural fibres of plant and animal – and, in exceptional cases, of mineral – origin.<sup>52</sup> In an archaeological context, in this case as well as in Europe, such textile remains are a rare find precisely because they have been made of perishable material. The term ‘textile’, in the narrower sense of the word, refers to a flat product made by weaving, or intertwining of two thread systems at right angles (Fig. 7), but in a broader sense it refers to all structures made by spinning, knitting, felting or crocheting, and also strings, ropes, nets or basketry.<sup>53</sup> The term ‘archaeological textile’ defines any fragment of textile found during archaeological research,<sup>54</sup> and refers to a fragment found in its original or fragmented state, in mineralized form (pseudomorph), or as an imprint in a material such as clay or plaster.<sup>55</sup> If archaeological textile is preserved in exceptional cases by special conditions (such as dry conditions, being submerged in water, frozen, carbonized, or preserved by

49 Werner 1966, 287.

50 Horváth *et al.* 2009.

51 Autorice zahvaljuju dr. sc. Margariti Gleba na pomoći i savjetima u otkriivanju tajni ostataka tekstila na kopči, temi ovoga rada.

52 Grömer 2016, 41.

53 Cybulska, Maik 2007, 185.

54 Cybulska, Maik 2007, 185.

55 Jemo 2020, 81.

48 Giostra *et al.* 2008, 577, Fig. 5.

49 Werner 1966, 287.

50 Horváth *et al.* 2009.

51 The authors thank Margarita Gleba, PhD, for help and advice in revealing the secrets of the textile remnants on the buckle, the topic of this paper.

52 Grömer 2016, 41.

53 Cybulska, Maik 2007, 185.

54 Cybulska, Maik 2007, 185.

55 Jemo 2020, 81.

je moguće provesti niz fizičkih, kemijskih i biokemijskih analiza s ciljem otkrivanja starosti predmeta, porijekla vlakana, ali i tehnike izrade pređe i same tkanine, kao i prisutnost i identifikaciju bojila i slično.<sup>56</sup>

U slučaju nalaza iz Novog Čeminca, riječ je o djelomično mineraliziranoj tkanini čija je morfologija očuvana zahvaljujući koroziji željeza od kojeg je izrađena donja pločica okova kopče uz koji se sama tkanina nalazila prilikom depozicije. Mineralizacija tkanine je proces u kojemu u međusobnoj interakciji sudjeluju proces propadanja organskih vlakana i proces korozije metala. Prilikom mineralizacije ioni korodirajućeg metala postupno zamjenjuju organska vlakna od kojih je izrađena tkanina ili obavijaju njihovu površinu, štiteći ih od djelovanja mikroorganizama,<sup>57</sup> stvarajući pritom negativne otiske ili pozitivne mineralizirane oblike.<sup>58</sup> Negativni otisci (otisak vanjske površine tkanine, niti ili vlakana) stvaraju se u slučaju kad se minerali metala formiraju na površini organskih vlakana i očuvaju njihov površinski oblik kao negativ u koroziji nakon degradacije same organske tvari.<sup>59</sup> S druge strane, kod pozitivnih tvorevina, minerali metala i dalje ulaze u strukturu vlakana i zamjenjuju organske tvari koje istovremeno postupno propadaju, stvarajući djelomično ili potpuno mineraliziranu strukturu.<sup>60</sup> Takvu, potpuno mineraliziranu tkaninu, često nazivamo pseudomorfom, no pravi su pseudomorfi iznimke budući da iznimno rijetko dolazi do potpune mineralizacije.<sup>61</sup> Općenito, kod mineraliziranih ostataka tekstila moguće je u idealnim uvjetima dobiti informacije o vrsti tkanja i ostalim tehničkim podacima o tkanini (sl. 8), kao što su njezina gustoća, promjer te smjer i kut uvoja pređe, ali i o različitim šavovima, greškama u tkanju, različitim bojilima, a čak i o vrsti sirovinskog materijala vlakana.<sup>62</sup> Osim navedenog, ako na određenome metalnom predmetu postoji više slojeva sačuvanoga organskog materijala, važno ih je razabrati i identificirati, ukoliko je to moguće s obzirom na stupanj očuvanosti. Analizom mikrostratigrafske situacije moguće je uvidjeti postoji li više slojeva tkanine, krzna ili kože jedan na drugome, što je pak moguće iskoristiti u interpretaciji i rekonstrukciji funkcije očuvanih organskih predmeta.<sup>63</sup> Tehnička analiza i mjerenja na očuvanoj arheološkoj tkanini s kopče obavljeni su digitalnim mikroskopom DinoLite. Primjenom mikroskopa dokumentirana su dva moguća organska sloja, tj. dva različita sloja tkanine ili sloj tkanine i krzna, a osim toga, dokumentirana je i sama struktura i gustoća tkanja te je izmjeren promjer (finoća) niti i vlakana, kao smjer i kut uvoja pređe. Dodatne analize vlakana u budućim stadijima istraživanja uz pomoć SEM-a mogle bi pokazati vrstu sirovinskog materijala od koje je izrađen ovaj tekstilni predmet.

metal corrosion), then – depending on the degree of preservation – it is possible to perform a series of physical, chemical and biochemical analyses to detect the age of the object, the origin of the fibres, and also the techniques used in producing the yarn and the fabric itself, as well as the presence and identification of dyes and the like.<sup>56</sup>

In the case of the find from Novi Čeminac, it is a partially mineralized textile whose morphology has been preserved thanks to the iron corrosion from the iron material of which the lower plate of the buckle fitting was made, alongside which the fabric itself was located during deposition. Fabric mineralization is a process in which the process of decay of organic fibres and the process of corrosion of metals participate in mutual interaction. During mineralization, corrosive metal ions gradually replace the organic fibres from which the fabric is made, or envelop their surface, protecting them from the activities of micro-organisms,<sup>57</sup> creating negative imprints or positive mineralized forms.<sup>58</sup> Negative impressions (imprint of the outer surface of the fabric, thread or fibre) are created when metal minerals form on the surface of organic fibres, and preserve their surface shape as a negative in the corrosion after the degradation of the organic matter itself.<sup>59</sup> In positive formations, on the other hand, metal minerals continue to enter the fibre structure, and replace organic matter that gradually decays at the same time, creating a partially or completely mineralized structure.<sup>60</sup> Such a fully mineralized textile is often called a pseudomorph, although true pseudomorphs are extremely rare, as complete mineralization is highly uncommon.<sup>61</sup> In general, with mineralized textile residues it is possible to obtain information on the type of weave, and other technical data on the textile (Fig. 8), such as its density, thread diameter and thread twist direction and angle, but also on various seams, weaving errors, various dyes, and even the type of the fibre's raw material.<sup>62</sup> In addition to the above, if there are several layers of preserved organic material on a particular metal object, it is important to understand and identify them, if that is possible given the degree of preservation. By analysing the microstratigraphic situation, it is possible to see whether there are several layers of fabric, fur or skin on top of each other, which can, in turn, be used in the interpretation and reconstruction of the function of preserved organic objects.<sup>63</sup> Technical analysis and measurements on the preserved archaeological fabric from the buckle were performed with a DinoLite digital microscope. Two possible organic layers were documented using the microscope, i.e. two different layers of fabric, or a layer of fabric and fur. In addition, the structure and density of the weave were documented and the diameter (fineness) of threads and fibres was measured, as well as the yarn twist direction and angle. Additional analyses of fibres could, in future stages of research with the help of SEM, show the type of raw material from which this textile item is made.

56 Jones *et al.* 2007.

57 Chen, Jakes, Foreman 1998, 1016.

58 Gillard *et al.* 1994, 133.

59 Kite, Thomson 2006, 257.

60 Chen, Jakes, Foreman 1998, 1016.

61 Gillard *et al.* 1994, 138.

62 Grömer, Rapan Papeša 2015, 56.

63 Grömer, Rapan Papeša 2015; Grömer, Tolar, Kostajnshek 2017.

56 Jones *et al.* 2007.

57 Chen, Jakes, Foreman 1998, 1016.

58 Gillard *et al.* 1994, 133.

59 Kite, Thomson 2006, 257.

60 Chen, Jakes, Foreman 1998, 1016.

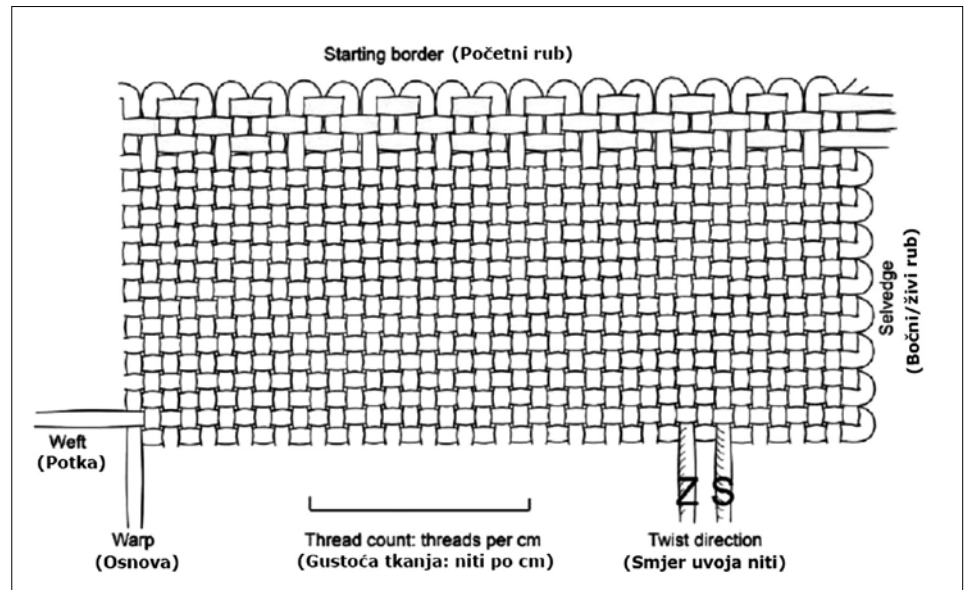
61 Gillard *et al.* 1994, 138.

62 Grömer, Rapan Papeša 2015, 56.

63 Grömer, Rapan Papeša 2015; Grömer, Tolar, Kostajnshek 2017.

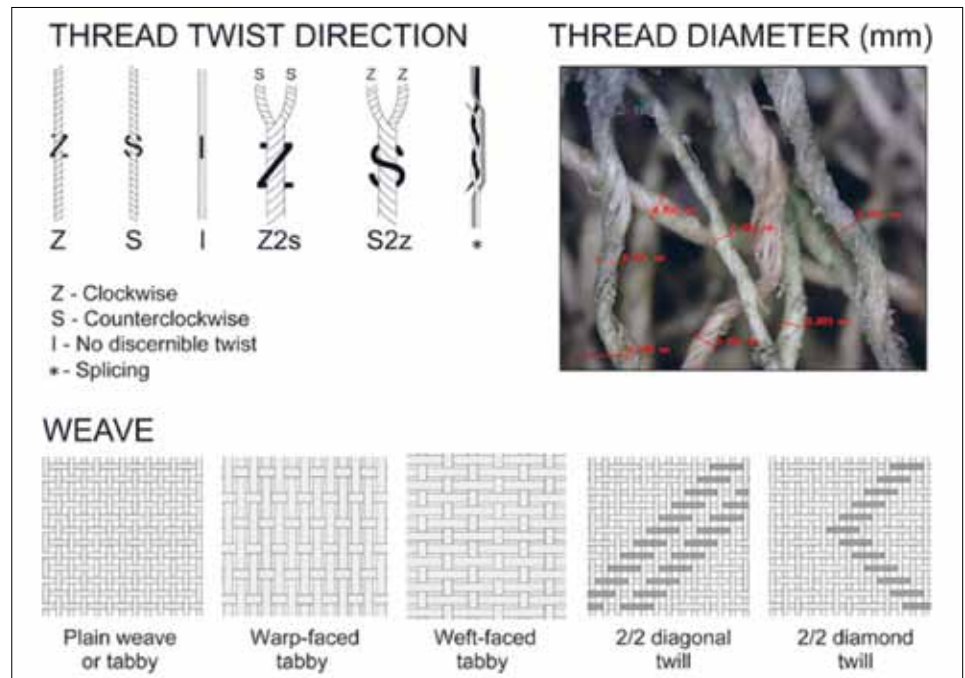
**SLIKA 7.** Shematski prikaz osnovnih dijelova tkanine s tehničkom terminologijom (Grömer, Bender Jørgensen 2012, 55, Fig. 8).

**FIGURE 7.** Schematic display of fundamental parts of the fabric with technical terminology (Grömer, Bender Jørgensen 2012, 55, Fig. 8).



**SLIKA 8.** Prikaz tehničkih karakteristika tkanine: uvoj niti, debljina niti te različite vrste vezova (Gleba 2017, 1208, Fig. 1).

**FIGURE 8.** Display of technical characteristics of the fabric: thread twist, thread thickness, and various types of weave (Gleba 2017, 1208, Fig. 1).



## Rezultati

Prilikom konzervacije kopče uočeni su mineralizirani ostaci tkanine (sl. 9) u različitim stupnjevima očuvanosti, i to na vanjskoj strani uz stražnju željeznu pločicu okova koja trenutno nije vidljiva jer je prekrivena spomenutim ostacima tkanine. Uz to, uočeni su i ostaci mineralizirane kože praškaste strukture koja se nalazi između pločica okova kopče.<sup>64</sup> S obzirom na mjesto pronalaska, moguće je pretpostaviti da očuvana tkanina na stražnjoj strani kopče predstavlja dio odjeće pokojnika pričvršćene pojansom. Gotovo sa sigurnošću je moguće ustvrditi kako nije riječ o

## Results

During the conservation of the buckle, mineralized remnants of fabric in various degrees of preservation (Fig. 9) were observed on the back surface of the object, by the rear iron plate of the fitting, which is not currently visible because it is covered by the remnants of the mineralized textile. Also, the remains of mineralized leather of a powdery structure were observed, located between the plates of the buckle's fitting.<sup>64</sup> Since the buckle was found *in situ* above the pelvis of the deceased, and partly below the sword that probably hung on that same belt, it is possible



**SLIKA 9.** Detalj prepleta niti mineralizirane tkanine na kopči iz groba 5, uvećanje 50× (snimila J. Fileš Kramberger).

**FIGURE 9.** A detail of intertwined threads within the mineralized fabric on the buckle from grave 5, magnification 50× (photo by J. Fileš Kramberger).

mrtvačkom pokrovu<sup>65</sup> jer na prednjoj strani kopče nisu pronađeni očuvani ostatci tkanine. Golim je okom preplet niti vrlo teško uočljiv iako se na određenim i najbolje očuvanim dijelovima vidi određena pravilnost strukture tipične za tkaninu.<sup>66</sup> Digitalnim je mikroskopom bilo moguće razabrati tkaninu kepernog tkanja s kosim linijama koje stvaraju vezne točke dvaju sustava niti. Upravo ova vrsta veza vidljiva je, nažalost, samo na donjem dijelu očuvanog fragmenta i na maloj površini u gornjem desnom predjelu fragmenta, očuvanom uz desni stražnji dio predice kopče. Nije očuvana dovoljno velika površina tkanine potrebna za sigurno utvrđivanje varijante korištenog kepera. Ipak, na dijelovima tkanine na kojima su vidljive niti obaju sustava one ukazuju na 2/1 keper u kojemu niti jednog sustava prelaze preko dvije, a zatim ispod jedne niti drugog sustava u ponavljajućem obrascu, stvarajući fini rebrasti izgled.<sup>67</sup> Keper ili keperno tkanje je, uz platneno i atlasno, jedna od 3 temeljne vrste tkanja.<sup>68</sup> Kod kepera (sl. 10: 2–4) vezni bodovi na tkanini stvaraju kose redove zato što su niti osnove (okomite niti) isprepletene potkinom niti (vodoravna nit) u određenom obrascu gdje se potkina nit provlači ispod i iznad po dvije ili više niti osnove, s pomakom u svakom sljedećem redu.<sup>69</sup> Nasuprot keperu, platneni je vez nešto jednostavniji. U njemu se potkina nit provlači ispod i iznad svake druge osnovne niti s jednakom izmjenom u svakom sljedećem redu, stvarajući tako gusti, jednolični, mrežasti izgled tkanine (sl. 10: 1).<sup>70</sup> Oba su navedena veza prisutna u Europi od pretpovijesnih

to assume that the preserved fabric on the back of the buckle is part of the deceased's garment, fastened with a belt. It is almost certain that the preserved fabric is not a shroud,<sup>65</sup> because no fabric remains have been found on the front side of the buckle. The interweaving of threads is very difficult to see with the naked eye, although certain regularities of the structure typical of textile can be seen on certain parts, those best preserved.<sup>66</sup> Examination of the fabric using a digital microscope showed a twill fabric with diagonal lines created by connecting points of the two systems of threads. This precise type of weave is, unfortunately, visible only on the lower part of the preserved fragment, and on a small area in the upper-right part of the fragment, preserved along the right rear part of the frame. It was impossible to safely determine the variant of twill used on such a small sample of fabric recovered. However, on the parts of the fabric where the threads of both systems are visible, they indicate a 2/1 twill in which the threads of one system cross over two and below one thread of the second system in a repetitive pattern, creating a fine ribbed appearance.<sup>67</sup> Twill or twill weave is, along with tabby and satin, one of the three basic types of weave.<sup>68</sup> In twill (Fig. 10: 2–4) the binding points in the fabric create diagonal rows, because the warp threads (vertical threads) are intertwined with the weft threads (horizontal threads) in a certain pattern where the weft thread is pulled below and above two or more warp threads, with a shift in each subsequent row.<sup>69</sup> In

65 Grömer, Rapan Papeša 2015, 68.

66 Dimenzije fragmenta tkanine iznose sveukupno oko 47 x 43 mm, dok širina najbolje očuvanog dijela, koji se nalazi na pločici okova, iznosi oko 47 mm, a visina oko 18 mm.

67 Priest-Dorman 2000; Haas-Gebhard, Stolz 2012, 136.

68 Andersson 2008, 76.

69 Gleba 2017, 1210.

70 Gleba 2017, 1208.

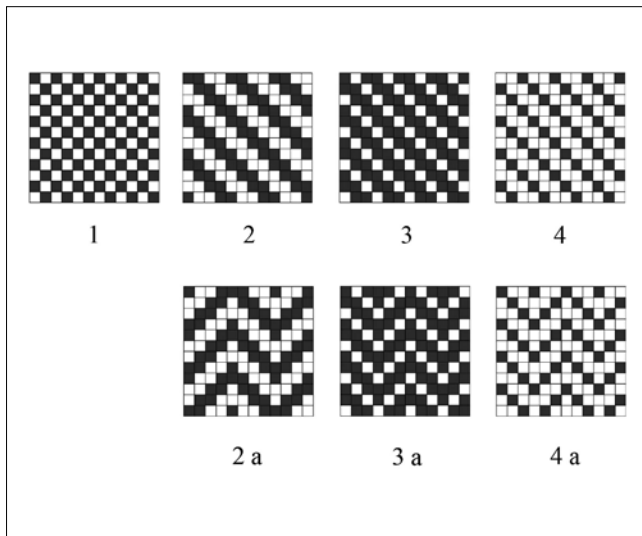
65 Grömer, Rapan Papeša 2015, 68.

66 The dimensions of the piece of fabric are 47 x 43 mm, while the best-preserved part on the plate fitting is 47 mm wide and 18 mm high.

67 Priest-Dorman 2000; Haas-Gebhard, Stolz 2012, 136.

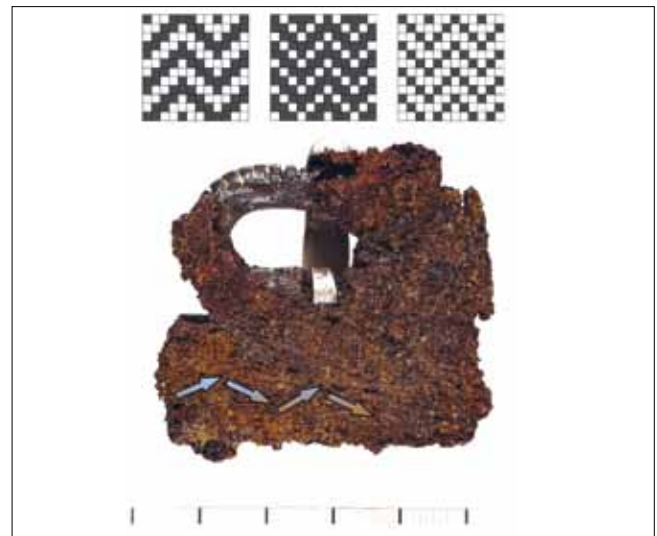
68 Andersson 2008, 76.

69 Gleba 2017, 1210.



**SLIKA 10.** Shematski prikazi vrsta tkanja: 1. platneno tkanje; 2. 2/2 keperno tkanje; 2. a. 2/2 ševronski ili cik-cak keper; 3. 2/1 keperno tkanje; 3. a. 2/1 ševronski ili cik-cak keper; 4. 1/2 keperno tkanje; 4. a. 1/2 ševronski ili cik-cak keper (izradi-la J. Fileš Kramberger, prema Brandenburgh 2010, Fig. 7).

**FIGURE 10.** Schematic display of weave types: 1. tabby weave; 2. 2/2 twill weave; 2. a. 2/2 chevron twill weave; 3. 2/1 twill weave; 3. a. 2/1 chevron twill weave; 4. 1/2 twill weave; 4. a. 1/2 chevron twill weave (made by J. Fileš Kramberger, after Brandenburgh 2010, Fig. 7).



**SLIKA 11.** Prikaz tkanine kepernog veza s mogućim cik-cak uzorkom. Slabo vidljive promjene smjera rebara cik-cak kepernog tkanja označene su strelicama na fotografiji (snimio I. Krajcar; obradila J. Fileš Kramberger).

**FIGURE 11.** Display of the twill-weave cloth with a possible zig-zag pattern. Faintly visible changes of rib direction of the zig-zag twill weave are marked with arrows (photo by I. Krajcar; adapted by J. Fileš Kramberger).

razdoblja,<sup>71</sup> dok se atlasni pojavljuje tek u svilenim tkanjima 13. stoljeća.<sup>72</sup>

Gledajući tkaninu izdaleka, vidljiva je i promjena smjera rebara (sl. 11), što ukazuje na mogući cik-cak ili ševron uzorak kepera (sl. 10: 2a, 3a, 4a),<sup>73</sup> no zbog slabe očuvanosti i odsjaja rasvjete mikroskopa, teško je na većem povećanju uočiti točnu izvedbu tkanja. Osim toga, češće i bolje su vidljive niti jednog sustava, dok se niti drugog sustava vrlo rijetko proziraju. Ovo može upućivati na vrstu kepera s osnovnim ili potkinim licem,<sup>74</sup> u kojemu, zbog gušće poredanih niti jednog sustava, nisu (ili vrlo rijetko) vidljive niti drugog sustava. Shematski prikazi sličnih primjera, ali platnenog tkanja s osnovnim ili potkinim licem (*warp-* ili *weft-faced tabby*) vidljivi su na slici 8. Na mineraliziranom fragmentu tkanine nigdje nisu vidljivi početni ili završni rubovi tkanine, kao ni bočni rub, što onemogućuje pouzdano razlikovanje osnove od potke na ovom fragmentu. Stoga, u tekstu se ova dva sustava nazivaju sustav 1 i sustav 2. Promjer prede sustava 1 kretao se u rasponu od 0,3 do 0,55 mm, rijetko dosežući promjer i do 0,2 mm. Prede sustava 2 bile su teže uočljive, ali na pojedinim je mjestima bilo moguće izmjeriti njihov promjer koji je iznosio između 0,4 i 0,6 mm. Upravo razlika u finoći (debljini) niti ovih dvaju sustava omogućuje njihovu moguću identifikaciju, odnosno razlikovanje,

contrast to twill, the tabby weave is somewhat simpler. In it, the weft thread is pulled under and above every other warp thread with an equal change in each subsequent row, thus creating a dense, uniform, reticulate appearance of the fabric (Fig. 10: 1).<sup>70</sup> Both weaves mentioned have been present in Europe since prehistoric periods,<sup>71</sup> while the satin weave appears in 13<sup>th</sup>-century silk weaving.<sup>72</sup>

When the fabric is observed from a distance, a change in the direction of the ribbing is also visible (Fig. 11), which indicates a possible zig-zag or chevron twill pattern (Fig. 10: 2a, 3a, 4a),<sup>73</sup> but, due to poor preservation and the glare from the microscope's lighting, it is difficult to notice, at higher magnification, exactly how the weave was made. In addition, the threads of one system are more often and better visible, while the threads of the other system are very rarely visible. This may indicate a type of warp- or weft-faced<sup>74</sup> twill, in which the threads of the second system are not visible (or rarely visible) due to densely-stacked threads of the first system. Schematic representations of similar examples, and also of warp- or weft-faced tabby, are visible in Figure 8. The mineralized fragment of fabric did not show the starting or ending borders of the fabric, nor the selvages, which prevents reliable distinguishing of the warp from the weft on

71 Gleba 2008; Belanová-Štolcova, Grömer 2010, 15–16; 2016; Gleba 2017.

72 Březinová, Bravermanová, Bureš Víchová 2019, 19.

73 Grömer 2016, 459.

74 Grömer 2016, 127.

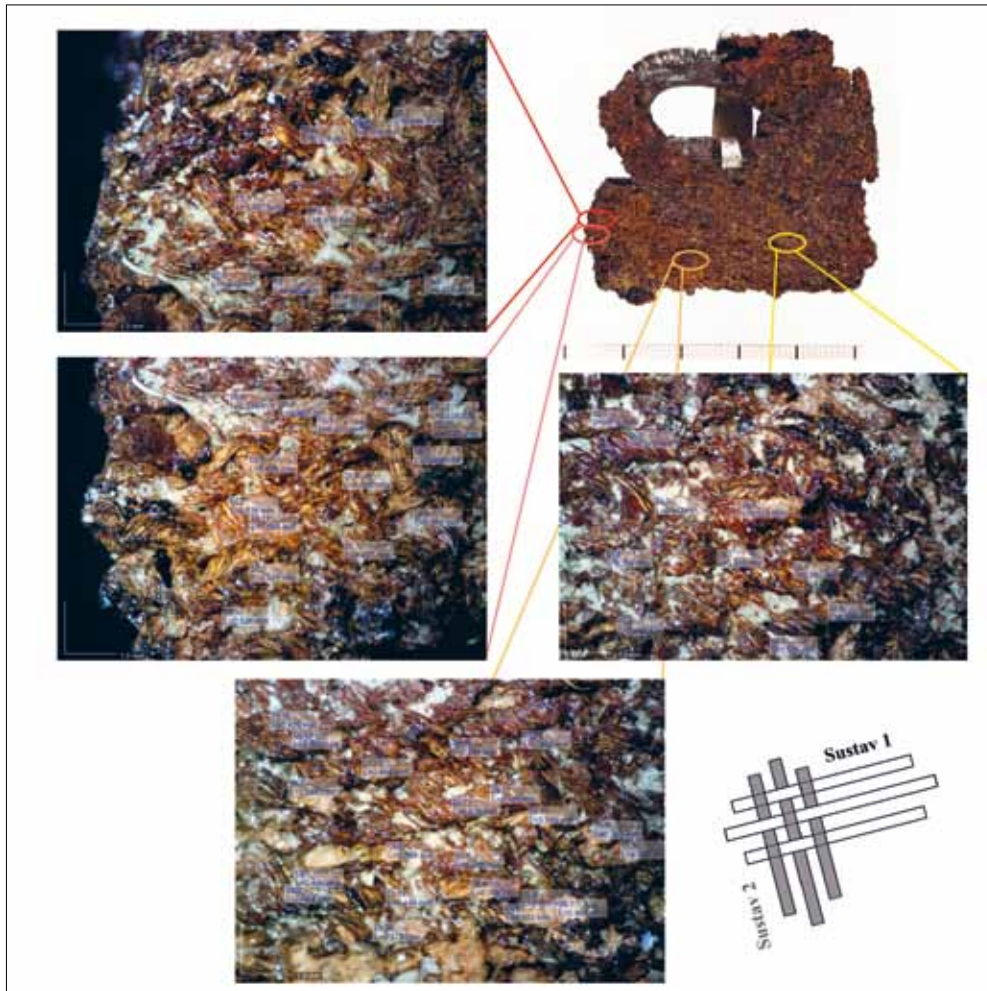
70 Gleba 2017, 1208.

71 Gleba 2008; Belanová-Štolcova, Grömer 2010, 15–16; 2016; Gleba 2017.

72 Březinová, Bravermanová, Bureš Víchová 2019, 19.

73 Grömer 2016, 459.

74 Grömer 2016, 127.



**SLIKA 12.** Prikaz pojedinih mjesta na tkanini s izmjerenim promjerom niti. Uvećanje 50× (snimio I. Krajcar; snimila i obradila J. Fileš Kramberger).

**FIGURE 12.** Certain areas on the fabric with measured thread diameter. Magnification 50× (photo by I. Krajcar; photo and adapted by J. Fileš Kramberger).

budući da su za osnovu češće korištene deblje niti od onih korištenih za potku (sl. 12). Ipak, budući da je riječ o malom ulomku tekstila, teško je govoriti o pravilnostima temeljenim na malom broju mjerenja. Pređa korištena u sustavu 1 predena je ili u smjeru kazaljke na satu (označeno slovom Z) ili u suprotnom smjeru (označeno slovom S), od kojih je potonji mnogo rjeđi. Izmjena pređe različitog smjera uvoja u određenim intervalima možda je korištena radi postizanja posebnog efekta (engl. *spin pattern*) koji je temeljen upravo na različitom odrazu svjetlosti kod pređa predenih u suprotnim smjerovima.<sup>75</sup> Kut uvoja u većini niti sustava 1 iznosio je između 33 i 45 stupnjeva. Ovaj podatak govori o čvrstoći pređenja, a odnosi se na kut koji zatvaraju uvijena vlakna i smjer same pređe.<sup>76</sup> Niti sustava 2 slabije su vidljive pa je i određivanje kuta uvoja bilo mnogo teže, no unatoč tomu smjer na većini određen je kao smjer S, odnosno suprotan od smjera kazaljke na satu. Ove podatke treba uzeti s oprezom jer su moguć odraz slabe očuvanosti fragmenta (sl. 13).

Gustoća i finoća tkanine izražava se u broju niti po kvadratnom centimetru, odnosno broju niti osnove ili potke po centimetru.<sup>77</sup> Gustoća sustava 1 (moguće potka) iznosi oko 18 – 20 niti po cen-

this fragment. Therefore, in the article, these two thread systems are called system 1 and system 2. The yarn diameter of system 1 ranged from 0.3 to 0.55 mm, rarely reaching a fine diameter of up to 0.2 mm. The threads of system 2 were more difficult to notice, but in some places it was possible to measure their diameter, which was between 0.4 and 0.6 mm. It is the difference in the fineness (thickness) of the threads of these two systems that enables their possible identification, i.e. differentiation, since thicker threads are more often used for the warp than for the weft (Fig. 12). However, since it is a small piece of textile, it is difficult to talk about regularities on the basis of such a small number of measurements. The yarn used in system 1 is spun either clockwise (denoted by the letter Z) or anticlockwise (denoted by the letter S), the latter being much rarer. Combining yarns with different twist directions at certain intervals may have been used to achieve a special effect (*spin pattern*) based upon the different reflection of light within yarns spun in opposite directions.<sup>75</sup> The twist angle of the majority of threads belonging to system 1 was between 33 and 45 degrees. This data speaks of the firmness of spinning, and refers to the angle enclosed by the twisted fibres and the direction of the yarn itself.<sup>76</sup> The threads of system

75 Grömer 2016, 171.

76 Kania 2017.

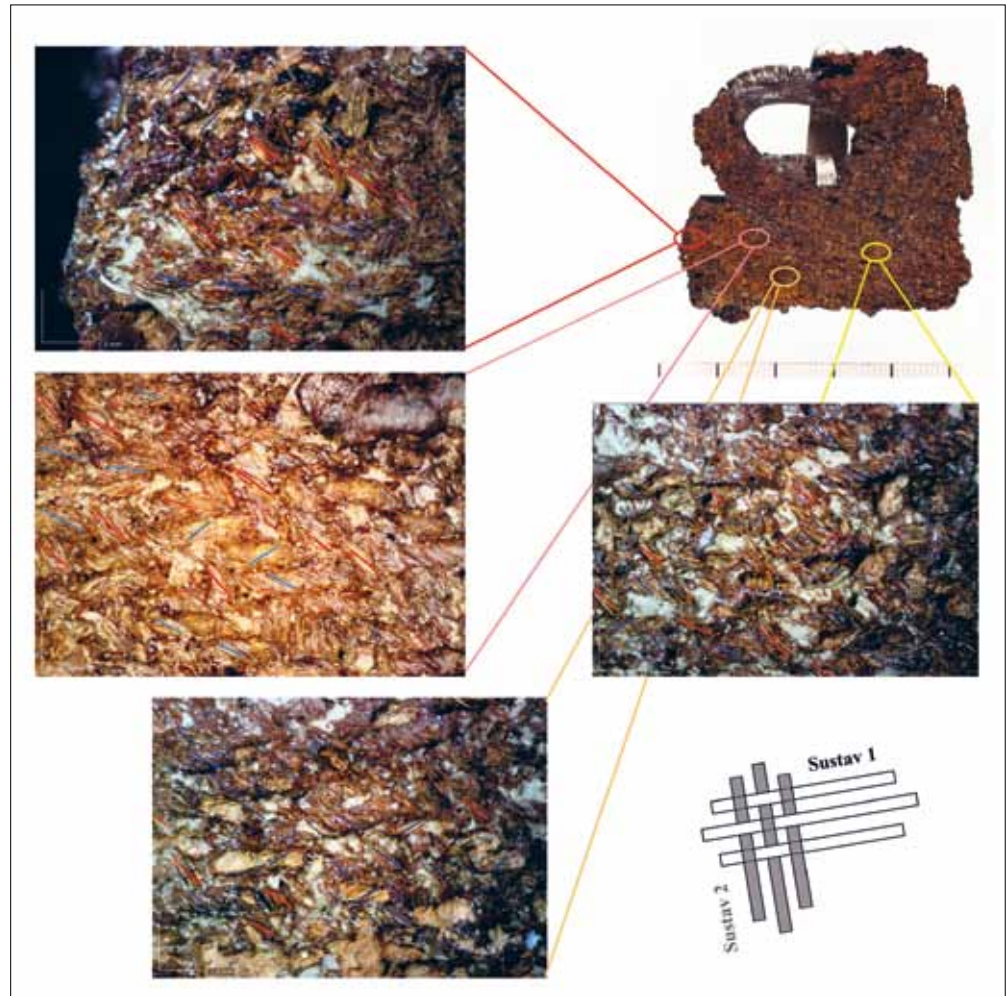
75 Grömer 2016, 171.

76 Kania 2017.



**SLIKA 13.** Prikaz pojedinih mjesta na tkanini s označenim smjerom ovoja niti. Plavom su bojom označeni smjerovi ovoja sustava 1, a crvenom smjerovi ovoja sustava 2. Primjećuje se da se u sustavu 1 pojavljuju prede ispređene u oba smjera (Z i S), dok u sustavu 2 prevladava smjer suprotan od kazaljke na satu (S). Uvećanje 50× (snimio I. Krajcar; snimila i obradila J. Fileš Kramberger).

**FIGURE 13.** Display of certain areas on the fabric with denoted direction of thread twist. Directions of twist belonging to system 1 are noted in blue, and directions of twist belonging to system 2 in red. It can be noticed that system 1 includes yarn woven in both directions (Z and S), while the predominant direction of system 2 is the anticlockwise direction (S). Magnification 50× (photo by I. Krajcar; photo and adapted by J. Fileš Kramberger).



timetru, dok je gustoću sustava 2 bilo iznimno teško razabrati, osim na samom donjem rubu fragmenta, gdje je izmjerena oko 10 – 11 niti po centimetru. Prema navedenim podacima, moguće je zaključiti da je riječ o relativno finoj tkanini jer se tkanina gustoće 5 niti / cm smatra otvorenom, grubljom tkaninom, ona gustoće 10 niti / cm srednje finom tkaninom, ona gustoće do 15 niti / cm finom, a ona gustoće veće od 15 niti / cm vrlo finom, odnosno vrlo gustom tkaninom.<sup>78</sup> Konačno, uz donji se dio tkanine pričvršćen uz pločicu okova na lijevoj strani, od ruba prema sredini fragmenta, dijagonalno prema desno, spušta deblja sivo-smeđa linija (sl. 15: b, 4). Zbog slabe očuvanosti fragmenta te ostataka korozije i konsolidanata, teško je reći je li riječ o organskoj tvari (vjerojatno ostatak šava ili nabora u tkanju) ili jednostavno o nepravilnosti u koroziji. Cijeli se fragment mineraliziranoga organskog materijala uz jedan bočni rub kopče savija, a na dijelovima ima naglašenije linije i lagani pomak u usmjerenju dvaju sustava niti tkanja, što bi moglo upućivati na gužvanje, odnosno činjenicu da je doista riječ o odjeći koja je bila nabrana i učvršćena pojaskom.<sup>79</sup> Iznad sloja keperne tkanine (sl. 15: b, 1) na pojedinim je dijelovima vidljiv tamniji smeđi sloj, nepravilno razbacanih kratkih vlakana (sl. 15: b, 3), vjerojatno životinjskog porijekla, što

2 are poorly visible; therefore it was much more difficult to determine the angle of the twist, but nevertheless the direction on most was determined as the direction S, i.e. anticlockwise. The data should be considered with caution, as it may be a reflection of the poor state of preservation of the fragment (Fig. 13).

The density and fineness of the fabric is expressed in the number of threads per square centimetre, or the number of warp or weft threads per centimetre.<sup>77</sup> The density of system 1 (possibly weft) is about 18 – 20 threads per centimetre, while the density of system 2 was extremely difficult to discern, except at the lower edge of the fragment, where it was measured to about 10 – 11 threads per centimetre. From this data, it is possible to conclude that this is a relatively fine fabric, because a fabric with a density of 5 threads / cm is considered an open, coarser fabric, a density of 10 threads / cm a medium-fine fabric, a density of up to 15 threads / cm fine, and a density greater than 15 threads / cm a very fine or very thick fabric.<sup>78</sup> Finally, a thickish grey-brown line descends diagonally to the right from the left edge to the middle of the fragment, along the lower part of the fabric attached to the fitting plate (Fig. 15: b, 4). Due to the poor state

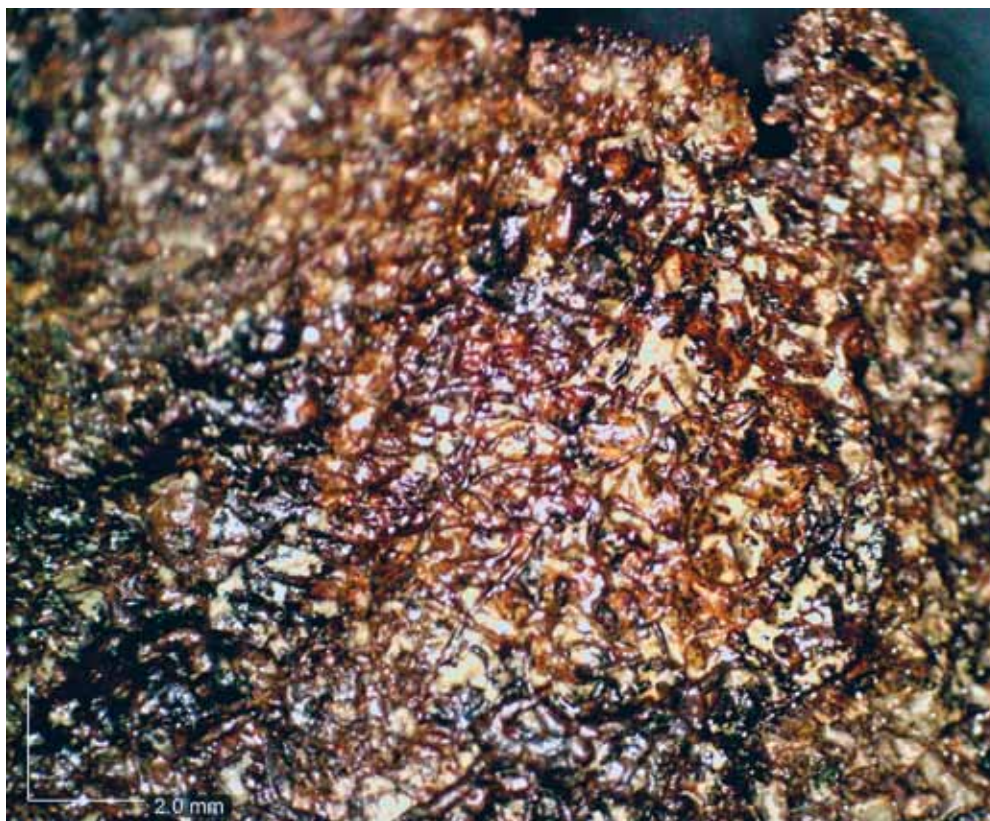
77 Schlabow 1974; Grömer 2016.

78 Schlabow 1974, 186; Grömer 2016, 115.

79 Grömer, Rapan Papeša 2015, 69.

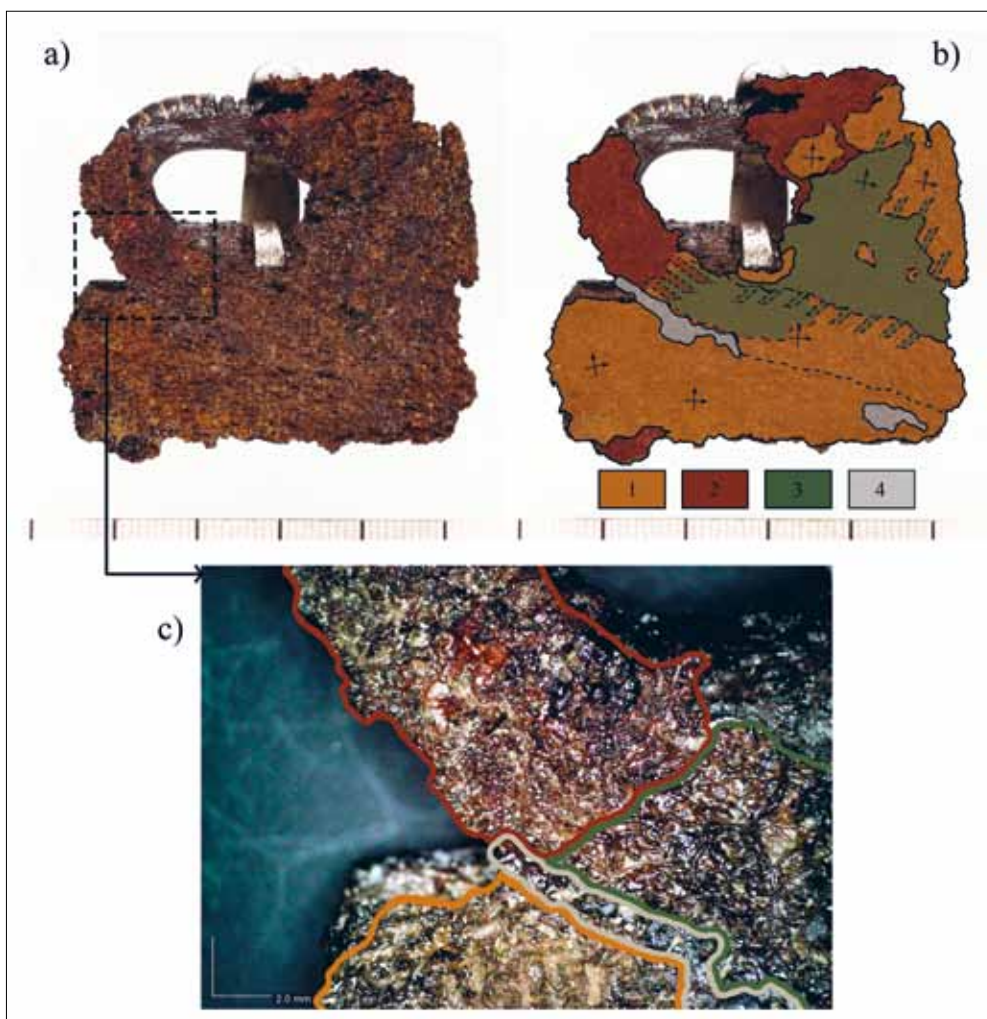
77 Schlabow 1974; Grömer 2016.

78 Schlabow 1974, 186; Grömer 2016, 115.



**SLIKA 14.** Prikaz mogućega drugog sloja tkanine s drugačijom završnom obradom ili krzno s vidljivo razbacanim vlaknima (detalj). Uvećanje 50× (snimila J. Fileš Kramberger).

**FIGURE 14.** Display of possible second layer of fabric with a different finishing treatment, or fur with visibly scattered fibres (detail). Magnification 50× (photo by J. Fileš Kramberger).



**SLIKA 15.** a) Fotografija kopče s mineraliziranom tkaninom; b) prikaz različito očuvanih dijelova (ili moguće različitih slojeva) organskih ostataka: 1. tkanina, 2. slabo očuvani ostaci mineralizirane tkanine, 3. razbacana vlakna, moguće krzno ili tkanina s drugačijom završnom obradom, 4. moguć ostatak šava, pregiba ili vjerojatnije željezne korozije; c) uvećan prikaz (snimio I. Krajcar; snimila i obradila J. Fileš Kramberger).

**FIGURE 15.** a) Photograph of the buckle with mineralized fabric; b) display of variously preserved parts (or, possibly, different layers) of organic remains: 1. cloth; 2. poorly preserved remains of mineralized fabric; 3. scattered fibres, possibly fur or a fabric with a different finishing treatment; 4. possible stitch residue, fold, or most probably iron corrosion; c) magnified display (photo by I. Krajcar; photo and adapted by J. Fileš Kramberger).

upućuje na moguću upotrebu krzna,<sup>80</sup> ili pak drugačiju završnu obradu ovog dijela tkanine, poput čupavljenja (sl. 14).<sup>81</sup> Promjer ovih vlakana u prosjeku iznosi oko 0,12 mm, a kroz njih se na dijelovima prozire donja, ranije opisana tkanina. Ako je doista riječ o odvojenom sloju, može se zaključiti da je kopča prilikom depozicije bila prislonjena uz vanjski sloj tkanine, ispod kojega se nalazio sloj druge, drugačije obrađene tkanine ili, vjerojatno, krzna. Cjelokupan je mineralizirani fragment organskog materijala na rubovima vrlo slabo očuvan (sl. 15: b, 2), a na tim je dijelovima nemoguće odrediti o kojem je od slojeva riječ i jesu li prisutna oba ili samo jedan.

## Razmatranja o tekstilu

Na području Hrvatske teško je izdvojiti ostatke tekstila iz razdoblja ranoga srednjeg vijeka. Oni su rijetko očuvani, ali i rijetko prepoznatljiviji, što dovodi do toga da su rijetko objavljeni, kao npr. iz Nuštra.<sup>82</sup> Paralele je potrebno potražiti izvan granica današnje Hrvatske. U Austriji, primjerice, na bavarskim grobljima Rudelsdorf i Schwanenstadt prisutni su različiti oblici kepera, poput spomenutoga rebrastog (2/1 keper) i križnog kepera, kao i ubacivanje flotirajućih niti te uzorkovanja različitim uvojem niti, što su karakteristike koje se relativno rijetko pojavljuju u rimsko doba, tj. prije 5. stoljeća.<sup>83</sup> Slično se može reći i za lokalitet Gobelsburg u Donjoj Austriji, datiran u 5. stoljeće, gdje se ne primjećuju utjecaji kasnoantičke proizvodnje tekstila, već novije srednjovjekovne upotrebe kompleksnijih vezova, tkanja na daščice i slično.<sup>84</sup> Na području srednje Europe već se od 6. stoljeća primjećuje veća raznolikost i kompleksnost u proizvodnji tkanine u odnosu na prijašnje, ali i naredno razdoblje. Ovo je posebno vidljivo kod Avara, u čijim grobovima u Austriji i Mađarskoj prevladavaju jednostavna platnena tkanja te iznimno rips i panama vez.<sup>85</sup> Tkanina pronađena na kopči iz Novog Čeminca očito je kompleksnije tkanje, vjerojatno keperno, lako proizvedeno na okomitim tkalačkim stanovima s utezima, koji su uostalom i pronađeni u zapunama kuća pripadajućeg naselja.<sup>86</sup> Razne vrste kepera, poput 2/1 kepera te dijamantnog ili ševron kepera, bile su općenito vrlo popularne među germanskim plemenima.<sup>87</sup> Stoga,

of preservation of the fragment, and the remains of corrosion and consolidants, it is difficult to say whether it is an organic substance (possibly a stitch residue, or a fold in the weave), or simply an irregularity in the corrosion. The whole fragment of mineralized organic material bends along one side edge of the buckle, and there are more pronounced lines and a slight shift in the direction of the two systems of weaving threads on certain parts, which could indicate creasing, i.e. the fact that it is indeed a part of the clothing, which has been gathered and tightened with a belt.<sup>79</sup> A darker brown layer of irregularly scattered short fibres (Fig. 15: b, 3) is visible above the layer of twill fabric (Fig. 15: b, 1). It is probably of animal origin, which indicates the possible use of fur,<sup>80</sup> or a different finishing of this part of the fabric, such as fulling (Fig. 14).<sup>81</sup> The diameter of these fibres averages about 0.12 mm, and the lower fabric, described above, is visible through them in some areas. If it is indeed a separate layer, then it is possible to conclude that the buckle was, during deposition, pressed against the outer layer of fabric, under which there was a layer of another fabric, differently processed, or possibly fur. The entire mineralized fragment of organic material is very poorly preserved at the edges (Fig. 15: b, 2), and in these parts it is impossible to determine which of the layers is in question, and whether only one is present, or both.

## Considerations concerning the textile

In Croatia, it is difficult to single out textile remains from the early Middle Ages. They are rarely preserved, and also rarely recognizable, leading them towards being rarely published, e.g. Nuštar in Croatia.<sup>82</sup> Parallels need to be sought outside the borders of today's Croatia. In Austria, for example, in the Bavarian cemeteries of Rudelsdorf and Schwanenstadt, there are different forms of twill, such as the ribbed (2/1 twill) and cross twill mentioned above, as well as the insertion of floating threads, and patterns achieved with various thread twists, which are characteristics relatively rare in Roman times, i.e. before the 5<sup>th</sup> century.<sup>83</sup> The same can be said for the Gobelsburg site in Lower Austria, dating to the 5<sup>th</sup> century, where there is no evidence of the influence of late antique textile production, but rather the use of more complex weaves, tablet weaving and the like.<sup>84</sup> In the area of Central Europe, a greater diversity and complexity in the textile production has been noted since the 6<sup>th</sup> century in relation to the previous period. On the other hand, in Avar graves in Austria and Hungary simple tabby weaves prevail, and there are even instances of repp and basket weave.<sup>85</sup> The fabric from the buckle found at Novi Čeminac is obviously a more complex weave, probably a 2/1 twill, easily produced on warp-weighted looms, of which there is evidence in the loom-weights which were, after all, found in the fills of the houses of the associated settlement.<sup>86</sup> Various types of twill, such as 2/1 twill, zig-zag twill and

80 Grömer, Tolar, Kostajnišek 2017, 211.

81 Gleba 2008, 41; Grömer 2016, 210.

82 Grömer, Rapan Papeša 2015.

83 Grömer 2010, 18.

84 Ruß Popa, Grömer 2014.

85 Grömer, Müller 2008, 21; Grömer 2010, 19; Grömer, Rapan Papeša 2015, 66.

86 Balen *et al.* 2016b, 17.

87 Giostra *et al.* 2008, 592.

79 Grömer, Rapan Papeša 2015, 69.

80 Grömer, Tolar, Kostajnišek 2017, 211.

81 Gleba 2008, 41; Grömer 2016, 210.

82 Grömer, Rapan Papeša 2015.

83 Grömer 2010, 18.

84 Ruß Popa, Grömer 2014.

85 Grömer, Müller 2008, 21; Grömer 2010, 19; Grömer, Rapan Papeša 2015, 66.

86 Balen *et al.* 2016b, 17.

ovakvi nalazi nisu neobični u ranosrednjovjekovnoj središnjoj Europi, a osim spomenutih austrijskih nalaza slični su pronađeni u Slovačkoj, Češkoj i Mađarskoj, ali i mnogo južnije, u Italiji. Na primjer, u bogatom grobu na lokalitetu Poprad-Matejovce u sjevernoj Slovačkoj, datiranog u kasno 4. i 5. stoljeće, pronađeni su mnogi primjeri organskog materijala, među kojima i nalazi tkanine.<sup>88</sup> Različiti su fragmenti tkanine identificirani kao tkanja izrađena od vune, ali i lana te s dodacima zlatnih niti, a tehnike su bile vrlo raznolike: platneno i keperno tkanje, jalba, tekstil istkan na daščice, tapiserijsko tkanje itd.<sup>89</sup> Mnogo je mineraliziranih tekstilnih nalaza iz vremena ranoga srednjeg vijeka pronađeno u grobnom kontekstu na nekoliko čeških nalazišta: Praha-Podbaba, Praha-Radotín, Radonice nad Ohří, Světec u Bíliny i Záluží u Čelákovic.<sup>90</sup> Ove su tkanine pronađene u grobovima datiranim u razdoblje tzv. Velike seobe naroda,<sup>91</sup> neke od njih točnije smještene u 6. stoljeće.<sup>92</sup> Očuvane su u mineraliziranom stanju uz različite metalne predmete, a definirane su kao platnena ili keperna tkanja različitih gustoća, od srednje finih do finijih, s jednako ili kombinirano uvijenim nitima u oba sustava.<sup>93</sup> U jugoistočnoj Mađarskoj, na gepidskom groblju na lokalitetu Szőreg-Téglagyár je u 14 grobova pronađeno mnogo relativno finih (oko 20 niti / cm) tekstilnih ostataka u različitim tekstilnim vezovima, među kojima platneno te razne varijante kepernog (2/2, 2/1 ili rebrasti i dijamantni).<sup>94</sup> Vrlo zanimljiv primjer iz Italije nalazi se u ostacima tekstila pronađenim na ostrogotskoj pojaskoj kopči u Tortoni.<sup>95</sup> Riječ je o slučaju vrlo sličnom ovome iz Novog Čeminca. Naime, organski su ostaci tkanine i kože u dodiru s kopčom ostali očuvani željeznom korozijom, a vrsta tkanja je, čini se, rebrasti (2/1) keper. Ovakav tip kepera nije rijedak u srednjoj Europi, a pojavljuje se na mnogo lokaliteta 6. i 7. stoljeća.<sup>96</sup> Najčešće je ograničen na područje južne Njemačke i Švicarske do središnjeg toka Rajne, ali to je vjerojatno rezultat stanja istraživosti jer pojedinačni nalazi iz drugih područja, poput Italije ili Danske, ukazuju na puno šire rasprostiranje ovog tipa tkanja.<sup>97</sup> Nalazi 2/1 kepera često su izrađeni od lanenih vlakana, a češći su u muškim grobovima iako se katkad nalaze i u ženskim, kao što je primjer ženskoga groba u Hjemstedu u Danskoj iz 5. – 6. stoljeća.<sup>98</sup> Primjerak tekstila iz Tortone u Italiji mnogo je finiji (60 niti / cm) od primjerka iz Novog Čeminca, a i sama pređa znatno je manjeg promjera (oko 0,12 – 0,17 mm). Potrebno je naglasiti da su autori, prema rezultatima SEM analize otisaka vlakana, zaključili da nije riječ o vuni iako i to treba uzeti s oprezom zbog vrlo slabo vidljivih otisaka površine vlakana, na što i sami autori upozoravaju.<sup>99</sup> Upravo će ovi podaci biti važni prilikom usporedbe s tekstilom iz Novog Čeminca, a nakon SEM analiza vlakana. Prema nalazima u muškim grobovima sred-

diamond or chevron twill, were generally very popular among Germanic tribes.<sup>87</sup> Therefore, such finds are not uncommon in Early Medieval Central Europe; and, in addition to the Austrian finds mentioned, similar ones were found in Slovakia, the Czech Republic and Hungary, but also much farther to the south, in Italy. For example, many examples of organic material, including textile finds, were found in a rich tomb at the Poprad-Matejovce site in northern Slovakia, dating to the late 4<sup>th</sup> century and the 5<sup>th</sup>.<sup>88</sup> Different fragments of fabric were identified as weaves made of wool, and also linen, and with the addition of gold threads, while the techniques were very diverse: tabby and twill weaves, sprang, tablet-woven textiles, tapestry weaving, etc.<sup>89</sup> There are many mineralized textile finds of the early Middle Ages found in a grave context at several Czech sites: Praha-Podbaba, Praha-Radotín, Radonice nad Ohří, Světec in Bíliny, and Záluží in Čelákovic.<sup>90</sup> These fabrics were found in graves belonging to the Great Migration Period,<sup>91</sup> and some of them more accurately date to the 6<sup>th</sup> century.<sup>92</sup> They were preserved in a mineralized state alongside various metal objects, and were defined as tabby or twill weaves of varying densities, from medium fine to finer, with threads twisted in the same or varying directions in both thread systems.<sup>93</sup> In southeastern Hungary, at the Gepid cemetery at the Szőreg-Téglagyár site, many relatively fine (about 20 threads / cm) textile remains in various textile weaves were found in 14 graves, including tabby and various variants of twill (2/2, 2/1 or ribbed and diamond).<sup>94</sup> There is a very interesting example from Italy: the remains of textiles found on an Ostrogothic belt buckle in Tortona.<sup>95</sup> This is an example very similar to that of Novi Čeminac. More precisely, the organic remains of the fabric and leather in contact with the buckle were preserved by iron corrosion, and the weave type appears to be ribbed twill (2/1). This type of twill is not uncommon in Central Europe, and occurs on numerous sites from the 6<sup>th</sup> and 7<sup>th</sup> centuries.<sup>96</sup> It is usually confined to the area of southern Germany and Switzerland, down to the central Rhine watercourse, but this is probably a reflection of the state of research, because individual finds from other areas, such as Italy or Denmark, indicate a much wider distribution of this weave type.<sup>97</sup> Examples of 2/1 twill weaves are often made of flax fibres, and are more common in male graves, although they are sometimes found in female graves as well, such as the example of a female grave in Hemsted, Denmark, of the 5<sup>th</sup> – 6<sup>th</sup> centuries.<sup>98</sup> The sample of textile from Tortona in Italy is much finer (60 threads / cm) than the sample from Novi Čeminac, and the yarn diameter itself is much smaller (about 0.12 – 0.17 mm). It should be emphasized that the authors, according to the results

88 Štolcová, Zink, Pieta 2009.

89 Štolcová, Schaarschmidt, Mitschke 2014, 53–54.

90 Urbanová 2008.

91 Urbanová 2008, 531; 2010.

92 Urbanová 2008, 536; Urbanová, Kostka, Korený 2010, 385.

93 Urbanová 2008; Belanová-Štolcová 2012, 326.

94 Nagy 2002.

95 Giostra *et al.* 2008.

96 Priest-Dorman 2000, 4; Giostra *et al.* 2008, 595, bilj. 65.

97 Haas-Gebhard, Stolz 2012, 137.

98 Haas-Gebhard, Stolz 2012, 136–137.

99 Giostra *et al.* 2008, 590.

87 Giostra *et al.* 2008, 592.

88 Štolcová, Zink, Pieta 2009.

89 Štolcová, Schaarschmidt, Mitschke 2014, 53–54.

90 Urbanová 2008.

91 Urbanová 2008, 531; 2010.

92 Urbanová 2008, 536; Urbanová, Kostka, Korený 2010, 385.

93 Urbanová 2008; Belanová-Štolcová 2012, 326.

94 Nagy 2002.

95 Giostra *et al.* 2008.

96 Priest-Dorman 2000, 4; Giostra *et al.* 2008, 595, n. 65.

97 Haas-Gebhard, Stolz 2012, 137.

98 Haas-Gebhard, Stolz 2012, 136–137.

nje Europe, smatra se da bi nalazi 2/1 kepornog tekstila očuvanih na pojasnim kopčama mogli biti dijelovi tunika, ali moguće je da je ovakav tekstil bio korišten i za izradu torbica, ili čak dijelova odjeće donjeg dijela tijela, sudeći prema ostacima na metalnim predmetima pronađenima uz noge pokojnika.<sup>100</sup>

Prema navedenome, za tekstil očuvan na kopči iz groba 5 u Novom Čemincu svakako je moguće zaključiti kako je riječ o finijoj tkanini, vjerojatno lokalne proizvodnje i relativno tipičnih tehničkih karakteristika za razdoblje 5. stoljeća srednje Europe (keper, vjerojatno 2/1, te uzorkovanje različitim uvojem niti). U ovom je slučaju teže odrediti o kakvoj je odjeći točno riječ, ali sudeći prema samom *in situ* nalazu kopče na zdjelici pokojnika i navedenim podacima s drugih europskih lokaliteta, vjerojatno je riječ o finijoj odjeći u kojoj je pokojnik ukopan, a moguće je i da je riječ o dijelu gornjeg, širega odjevnog predmeta, nabranog i skupljenog pojansom.

## Zaključak

Željezna kopča ukrašena okruglim, ravno rezanim almandinima, tehnikom *champlevé* (*pseudo cloisonné*) na okovu i bazi trna, okruglim pločicama od slitine bakra na okovu, tauširanjem slitinom bakra na predici, s ostacima mineralizirane tkanine i kože pojasa, pronađena je u grobu ratnika u Novom Čemincu na položaju Jauhov salaš u hrvatskoj Baranji. Kopča pripada mediteranskom tipu koja se, prema tipologiji Schulze-Dörrlamm smješta u grupu C, podgrupu C11, prisutnu na širokom području Sredozemlja i datira u drugu polovinu 5. i početak 6. stoljeća. Upravo se u tom razdoblju bogati muški grobovi Podunavlja prepoznaju kroz mač, *langsax*, kopču s okovom koja često predstavlja mediteranske tipove i njihove derivate.<sup>101</sup> To je vrijeme Teodorikove vladavine prije odlaska Gota u Italiju ili vrijeme njegova vladanja u Italiji kad je Ostrogotsko kraljevstvo imalo vrlo jaku političku ulogu i značaj u germanskom svijetu. S trenutnim stanjem analiziranosti groblja na području Europe, vrlo je teško definirati kojoj su germanskoj ili barbarskoj skupini pripadali groblje i naselje otkriveno u Novom Čemincu. Prema Wernerovim karakteristikama „gotških naroda“, za Gote je karakterističan nedostatak oružja u muškim grobovima.<sup>102</sup> Danas je očito da je tu teoriju potrebno preispitati jer se u Podunavlju pronalaze bogati muški grobovi s oružjem i bez njega, datirani u ovo vrijeme (groblja Mözs, Novi Čeminac), koji bi se prema ostalome dostupnom materijalu mogli povezati s kulturom Ostrogota. Brojčano mala groblja (Kilimán, Patý, Tác, Kővágószőlős, Keszthely-Fenekpuszta) druge polovine 5. stoljeća u Panoniji pripadaju Germanima, barbarima i na njima nema tragova romanskog stanovništva.<sup>103</sup> Vida konstatira kako

of SEM analysis carried out on the fibre casts, conclude that it is not wool, although this should be taken with caution due to very faint impressions of the fibre surface, of which the authors themselves warn.<sup>99</sup> This data will be of importance when comparing with textiles from Novi Čeminac, and after SEM analysis of fibres. According to finds in men's graves in Central Europe, it is believed that examples of 2/1 twill textiles preserved on belt buckles could be parts of tunics, but it is possible that such textiles were also used to make pouches, or even parts of lower-body clothing, according to remains on metal objects found at the feet of the deceased.<sup>100</sup>

According to the above, it is certainly possible to conclude that the textile preserved on the buckle from grave 5 in Novi Čeminac is a finer fabric, probably of local production and with technical characteristics relatively typical of 5<sup>th</sup>-century Central Europe (twill, probably 2/1, and spin patterning). In this case, it is more difficult to determine the type of clothing, but judging by the *in situ* finding of the buckle on the deceased's pelvis, and the data from other European sites, it is probably a fairly fine garment in which the deceased was buried, and it is possible that it is part of an upper, wider piece of garment (possibly a tunic), gathered by a belt.

## Conclusion

An iron buckle decorated on the fitting and base of the thorn with round flat-cut almandines using the *champlevé* technique (*pseudo-cloisonné*), with round copper-alloy sheets on the fitting, inlaying with copper alloy on the buckle loop, with remnants of mineralized fabric and leather belt, was found in a warrior's grave in Novi Čeminac, at the Jauhov Salaš site in Croatian Baranja. The buckle belongs to the Mediterranean type, which, according to the Schulze-Dörrlamm typology, is located in group C, subgroup C11, present in the wider Mediterranean area, and dated to the second half of the 5<sup>th</sup> century and the beginning of the 6<sup>th</sup>. It was during this period that the rich male graves of the Danube region were identified by the sword, *langsax*, a buckle with a fitting that often represents Mediterranean types, and their derivatives.<sup>101</sup> This is the time of Theodoric's reign, before the Goths departed towards Italy, or the time of his reign in Italy, when the Ostrogothic kingdom had a very strong political role and significance in the Germanic world. Taking into consideration the current state of analysis of cemeteries throughout Europe, it is very difficult to define which Germanic or barbaric group the cemetery and settlement discovered in Novi Čeminac belongs to. According to Werner's characteristics of 'Gothic peoples', a lack of weapons in men's graves is a characteristic of Goths.<sup>102</sup> It is obvious that this theory needs to be re-examined, because there are rich male graves, with and without weapons, found in the Danube region, dated to this period (Mözs cemetery, Novi Čeminac), which could, alongside other available material, be associated with Ostrogoth culture. Quantitatively small

100 Haas-Gebhard, Stolz 2012, 138.

101 Pinar, Ripoll 2007, 85.

102 Werner 1956; Pinar, Ripoll 2007, 88.

103 Vida 2011, 641.

99 Giostra *et al.* 2008, 590.

100 Haas-Gebhard, Stolz 2012, 138.

101 Pinar, Ripoll 2007, 85.

102 Werner 1956; Pinar, Ripoll 2007, 88.

su se bogate germanske obitelji pokapale u pojedinačnim grobovima ili malim grobljima od nekoliko grobova.<sup>104</sup> Stoga, trenutno je moguće konstatirati samo kako grob ratnika i ostali grobovi iz Novog Čeminca svakako imaju germanske elemente.

Običaj prilaganja predmeta u grobove na germanskim grobljima na redove nije karakterističan za mediteranski svijet (koji je takav običaj smatrao kulturno inferiornim). Stanovništvo Mediterana ne poznaje taj običaj, što dovodi do jednostrane selekcije materijala i teškoća, ali od velike su pomoći nalazi s periferije poput Sirije, gdje su pokojnici u 5. i 6. stoljeću također pokapani s priložima.<sup>105</sup> Mediteranski je tip kopči rasprostranjen na širokom području pa ima veliku tipološku raznolikost. Iako u stilu postoje sličnosti, uočene su velike razlike u sirovini i zlatarskim tehnikama premda je razlike moguće povezati s modom, a ne izradom.<sup>106</sup> Zlatari (zanatlije) bili su povezani s određenom višom klasom germanskih populacija koje su bile međusobno povezane na širokom području, a iznenađujuće sličnosti predmeta do sitnih detalja govore tomu u prilog. Uvijek obnovljivi prijedlozi i impulsi s Mediterana mogu biti brzo apsorbirani na udaljenim područjima u okviru žive razmjene unutar germanskog svijeta, bilo da su stigli kao rezultat ratnog pohoda, aktivnosti plaćenika-federata, kupnje, dara, diplomatskih veza ili braka.<sup>107</sup> U prilog aktivnostima plaćenika-federata svakako ide činjenica da su takve kopče obično pričvršćivale vojne pojaseve, odnosno pojaseve na kojima se nalazilo oružje (*spatha*). Pojas je važan dio onodobne nošnje koji, osim praktične svrhe držanja oružja i popratnih predmeta, posjeduje i statusnu ulogu (upravo nam materijal, ukras i sama veličina elemenata pojasne garniture ukazuju na status osobe koja nosi pojas). Kopča iz Novog Čeminca bila je dio vojnog pojasa na kojemu je bila pričvršćena *spatha*. Budući da je kopča tijekom iskopavanja pronađena iznad zdjelice pokojnika te djelomično ispod mača, moguće je, također, pretpostaviti da očuvana tkanina na stražnjoj strani kopče (keper) predstavlja dio odjeće pokojnika kao tkanina fine, vjerojatno lokalne proizvodnje i tehničkih karakteristika relativno tipičnih za srednju Europu u drugoj polovini 5. i na početku 6. stoljeća.

burial grounds (Kilimán, Patý, Tác, Kővágószőlős, Keszthely-Fenekpuszta) of the second half of the 5<sup>th</sup> century in Pannonia belong to the Germans, the barbarians, without traces of Roman population.<sup>103</sup> Vida notes that wealthy Germanic families were buried in individual graves, or small burial grounds comprising several graves.<sup>104</sup> At the moment, it is only possible to state that the warrior's grave and other graves at Novi Čeminac certainly have Germanic elements.

The custom of placing objects in graves in Germanic cemeteries in rows is not a characteristic of the Mediterranean world (which considered such a custom culturally inferior). The Mediterranean population does not know this custom, which leads to a one-sided selection of materials, and difficulties. Still, archaeological material from the peripheral areas, such as Syria, where the dead in the 5<sup>th</sup> and 6<sup>th</sup> centuries were also buried with grave goods, are of great help.<sup>105</sup> The Mediterranean type of buckle is widespread over a wide area, and therefore has great typological diversity. Although there are similarities in style, great differences in raw materials and goldsmithing techniques have been observed, although these differences can be related to fashion, rather than workmanship.<sup>106</sup> Goldsmiths (artisans) were associated with a certain higher class of Germanic populations that were interconnected over a wide area, and the surprising similarities of the objects, down to the smallest detail, speak in favour of this hypothesis. Proposals and impulses from the Mediterranean, always renewable, could be quickly absorbed in remote areas as part of a lively exchange within the German world, whether they had arrived as a result of a war campaign, mercenary/*foederati* activities, purchases, gifts, diplomatic ties or marriage.<sup>107</sup> The activity of mercenaries/*foederati* is certainly supported by the fact that such buckles were usually used to fasten military belts, i.e. belts which held weapons (*spatha*). The belt is an important part of the attire of that time, which, in addition to the practical purpose of holding weapons and other accompanying items, is also a symbol of status (the material, decoration and the size of the elements of the belt set indicating the status of the person wearing the belt). The buckle from Novi Čeminac was part of a military belt to which a *spatha* was attached. Since, during the excavation, the buckle was found above the pelvis of the deceased, and partly under the sword, it is also possible to assume that the preserved fabric on the back of the buckle (twill) is actually part of the deceased's clothing, typical of Central Europe in the second half of the 5<sup>th</sup> century and the early 6<sup>th</sup>.

104 Vida 2000, 324.

105 Werner 1966, 288.

106 Horváth 2012b, 320.

107 Werner 1966, 289–290; Horváth 2012b, 320.

103 Vida 2011, 641.

104 Vida 2000, 324.

105 Werner 1966, 288.

106 Horváth 2012b, 320.

107 Werner 1966, 289–290; Horváth 2012b, 320.

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