

## ELEMENTI ANTIČKIH I KASNOANTIČKIH KOLA IZ ISTRE

## ANTIQUE AND LATE ANTIQUE CART ELEMENTS FROM ISTRIA

Od dvadeset tri metalna elementa kola iz Antičke zbirke Arheološkog muzeja Istre u Puli, četiri su brončana i figuralno ukrašena mitološkim i drugim figurama apotropejskog, zaštitničkog značenja. Mogu se datirati okvirno u rimsko ranocarsko razdoblje 1. – 3. st. i pripadaju luksuznim putničkim kolima. Mjesto izrade brončanih elemenata za kola s najviše vjerojatnosti treba tražiti u samoj koloniji Poli ili na širem području obližnje sjeveroistočne Italije. Devetnaest željeznih, funkcionalnih i neukrašenih spona i okova može se pripisati kolima zbog karakterističnog oblika ili zbog smislene zatvorene cjeline nalaza. Više od polovine svih predmeta odnosi se na željezne konstruktivne elemente izrađene u 7. st. u kovačnici kasnoantičke vile Dragonera Jug na području Pole. Iako malobrojni, brončani i željezni elementi zaprežnih kola pronađeni u Istri pokrivaju dugo razdoblje od prvih sedam stoljeća poslije Krista.

**Ključne riječi:** dionizijski kult, jaram, kola, Meduza, prijevoz, Pula, zaprega

Out of the twenty-three metal cart elements from the Antique Collection of the Archaeological Museum of Istria in Pula, four elements are made from bronze and decorated with mythological figures and figures of apotropaic and protective significance. The elements can be dated approximately to the early Roman Imperial period of 1<sup>st</sup>–3<sup>rd</sup> century and they are parts of luxury passenger carts. The manufacturing location of the bronze cart elements should most likely be sought in the Pola colony or in the neighbouring wider area of north-east Italy. Nineteen iron, functional and undecorated clasps and fittings can be attributed to the cart due to their characteristic shape or because of the sensible closed unit of the findings. More than half of all items refer to the iron construction elements created in 7<sup>th</sup> century in the smithy of the Late Antique villa Dragonera South in the area of Pola. Although they are not numerous, bronze and iron elements of carts found in Istria cover a long period from the first seven centuries AD.

**Key words:** Dionysian cult, yoke, cart, Medusa, transport, Pula, animal-drawn vehicle

## UVOD

Prijevoz ljudi u gradu i na kraćim izvangradskim udaljenostima obavljao se u rimsko doba laganim putničkim kolima na dva kotača, dok su se za duga putovanja s mnogo prtljage koristila zatvorena putnička kola s četiri kotača (*carruca, rheda*). Lagana kola na dva kotača koje je vozio putnik osobno nazivala su se *cisium* ili *covinnus*, a veći i teži dvopreg s povišenim sjedištem za kočijaša *essedum, birotus* ili *carpentum*.<sup>1</sup> Kola su bila izrađena od drva, sa željeznim i brončanim spojnim i funkcionalnim elementima. Cjeloviti nalazi rimskih kola sa svim sačuvanim metalnim elementima prilično su rijetki, te ne iznenađuje da ih nema na području Istre. Dio brončanog nastavka na kraju jarma, kat. br. 1 (Sl. 1), jedini je element rimskih kola iz Istre čija je namjena prepoznata i koji je bio predmetom znanstvene studije, a dotaknuo ga se Tomislav Šeparović prilikom obrade istovrsnih nalaza iz Dalmacije u radu objavljenom 2001. godine.<sup>2</sup> Antička zbirka Arheološkog muzeja Istre sadrži još nekoliko pojedinačnih nalaza brončanih, figuralno ukrašenih elemenata koji se mogu povezati s rimskim kolima (kat. br. 1–4, Sl. 1–4). Među predmetima koji su u muzejsku zbirku ušli prije 1949. godine, nalaze se željezni spojni elementi rimskih kola (kat. br. 5–10, Sl. 5–10). Željezni elementi kola (kat. br. 11–23, Sl. 11–23) pronađeni su u kasnoantičkom gospodarsko-rezidencijalnom kompleksu Dragonera Jug, u kovačnici, kao izrađevine tamošnjeg kovača spremne za upotrebu na istom imanju. Kovačnica je iznenadno napuštena zbog požara koji je u 7. st. zahvatio čitav kompleks, tako da su željezni elementi zatečeni odloženi na mjestu izrade prije nego što su uopće bili montirani na kola.

## BRONČANI ELEMENTI ZAPREŽNIH KOLA

Drvena putnička kola obično su se ukrašavala brončanim okovima s figuralnim prikazima. Četiri figuralno ukrašena brončana elementa iz Antičke zbirke AMI mogu se identificirati kao elementi opreme zaprežnih kola.

Medaljon s glavom starog satira Silena, kat. br. 1 (Sl. 1), pripadao je jarmu laganih zaprežnih kola. Predstavlja odlomljeni dio pokretnog ukrasnog brončanog nastavka na drvenom jarmu kola koji je služio za učvršćivanje kožnatog remenja omče oko glave zaprežnih životinja (Sl. 24–25). Cjelovito sačuvani primjerci takvih okova s figuralnim ukrasima pronađeni su na susjednim područjima Dalmacije, Pannonije, sjeverne Italije i znatno šire, od Portugala do Crnog mora, u sjevernoj Africi, a uvijek se javljaju u paru.<sup>3</sup> Položaj i uloga okova u opremi kola dokumentirani su arheološkim

## INTRODUCTION

The transport of people in the city and on short outer-city distances in Roman times was done by light passenger carts on two wheels, while the closed passenger carts with four wheels were used during long journeys with a lot of luggage (*carruca, rheda*). The light two-wheeled cart driven by the passenger was called *cisium* or *covinnus*, and the larger and heavier two-wheeler with a raised seat for the coachman was called *essedum, birotus* or *carpentum*<sup>1</sup>. The carts were made of wood, with iron and bronze connective and functional elements. The complete findings of Roman carts with all preserved metal elements are quite rare, and it is not surprising that they do not appear in Istria. A part of a bronze extension at the end of the yoke, cat. no. 1 (Fig. 1) is the only element of Roman carts from Istria whose purpose was recognised and which was the subject of a scientific study. It was also mentioned by Tomislav Šeparović during the analysis of similar findings from Dalmatia in a paper published in 2001.<sup>2</sup> The antique collection of the Archaeological Museum of Istria contains several other individual findings of bronze elements decorated with figures that can be associated with Roman carts (cat. no. 1–4, Figs. 1–4). Iron connective elements of Roman carts (cat. no. 5–10, Figs. 5–10) are among the items that entered the museum collection before 1949. The iron elements (cat. no. 11–23, Figs. 11–23) which were found in the smithy of an economic-residential complex of Dragonera South from the period of Late Antiquity, were the creations of a local blacksmith intended for the use on the same property. The smithy was suddenly abandoned due to a fire that broke out in 7<sup>th</sup> century which affected the whole complex, so the iron elements were found deposited at the place of their manufacture before they were even mounted on the cart.

## THE BRONZE ELEMENTS OF ANIMAL-DRAWN VEHICLES

The wooden passenger carts were usually decorated with bronze fittings depicting figures. Four bronze elements decorated with figures from the AMI Antique Collection can be identified as elements of the cart equipment.

The medallion with the head of the old satyr Silen, cat. no. 1 (Fig. 1) was a part of the light-cart yoke. It represents the broken part of a mobile decorative bronze extension on the wooden yoke of the cart, which served to fasten the leather belt of the noose around the head of the animals (Figs. 24–25). The completely preserved examples of such fittings with figure ornaments have been found in the neighbouring areas of Dalmatia, Pannonia, northern Italy, and even wider, from Portugal to the Black Sea and

1 Oxford Latin Dictionary 1968; G. Pisani Sartorio 1988.

2 T. Šeparović 2001, 68.

3 I. Venedikov 1960, 20, 75; A. Radnóti 1961, 23, sl. 3: 12; 33–36, br. 6–9, 14, grupa C; S. Boube-Piccot 1980, 86–87, kat. br. 66; P. Miniero 1987, 200, sl. 29; T. Šeparović 2001, 68.

1 Oxford Latin Dictionary 1968; G. Pisani Sartorio 1988.

2 T. Šeparović 2001, 68.

nalazima u naseobinama u Kampaniji, zatrpanima erupcijom Vezuva te u znatno većem broju i duljem rasponu u grobovima u Trakiji.<sup>4</sup> Medaljon je pripadao brončanom nosaču u obliku potkove koji na svakom kraku ima po jednu figuricu životinje u punoj plastici. Figurice životinja obično su ispunjene olovom da bi bile teže i obično predstavljaju lava ili panteru. Svaka životinja jednu prednju šapu drži na vrhu postrance okrenutog medaljona s glavom u dubokom reljefu. Dva nasuprotno postavljena medaljona spojena su na unutrašnjoj strani osovinom. Na tu osovinu učvršćeni su krajevi potkove koja nosi figurice životinja oblikujući okvir. Okovi su bili učvršćeni na krajevima drvenog jarma tako da je ravna šipka učvršćena na gornjoj strani jarma. Potkovasta šipka okrenuta je bočno tako da su figurice bile okrenute prema van, a dva reljefno ukrašena diska, okrenuta jedan naprijed i drugi nazad, stiskala su kožnati remen ovratnika uz jaram.<sup>5</sup> Iz provincije Dalmacije, s područja Dalmatinske zagore, potječu dva figuralno ukrašena okova jarma kola istog tipa. Brončani okov iz Šušelja kod Drniša ukrašen je parom pantera i ženskim maskama s prilično urednom kosom koje se mogu interpretirati kao Menade. Datiran je s najviše vjerojatnosti do treće četvrtine 1. st., u razdoblje dok su rimske legije bile stacionirane u obližnjem vojnom logoru *Tilurium*.<sup>6</sup> Isto se odnosi na jedan drugi primjerak okova jarma iz Muzeja hrvatskih arheoloških spomenika – Split, s figuricom lava i glavom dječaka na medaljonu.<sup>7</sup> Lik dječaka predstavlja erota s karakterističnom dvostrukom pletenicom duž tjemena. Medaljon iz Siska s glavom Meduze, koji se nalazio na kraju odlomljene šipke, vjerojatno je pripadao istom tipu okova na jarmu.<sup>8</sup> Okovi s parom životinja i glavama na medaljonima prisutni su inače znatno duže nakon 1. st., sve do 4. st. sudeći prema nalazima novca u istom arheološkom kontekstu.<sup>9</sup> Iz vojnog logora *Carnuntum* u Panoniji potječe niz istovrsnih nalaza koji su pripadali jarmu zaprežnih kola.<sup>10</sup> Pojedinačni nalazi figuralno ukrašenih potkovastih okova s lavovima ili panterama zabilježeni su u zapadnom susjedstvu Istre, u sjevernoj Italiji, gdje uz lavove i pantere prevladavaju motivi Kibe i Atisa.<sup>11</sup> Medaljon sa Silenovom glavom može se prema cjelovito sačuvanim primjercima rekonstruirati kao ulomak okova s parom figurica lava ili pantere na potkovastom nosaču i parom medaljona s glavom satira. Glave na medaljonima nisu morale nužno biti jednake, te ostaje otvorena mogućnost da je drugi medaljon prikazivao glavu nekog drugog lika iz



**Slika 1. Brončani medaljon s glavom Silena, AMI inv. br. A 5086**  
Figure 1. Bronze medallion with the head of Silenus, AMI inv. no. A 5086

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in North Africa, and they always come in pairs.<sup>3</sup> The position and the role of the fittings in the cart equipment is documented by the archaeological findings of the settlements in Campania which were buried by the eruption of Mount Vesuvius, and by significantly larger number of findings in the tombs in Thrace which cover a longer period.<sup>4</sup> The medallion belonged to a bronze support frame in the shape of a horseshoe, which depicts a sculptured animal figurine on each arm of the support frame. The animal figurines are usually filled with lead for increased weight and they usually represent a lion or a panther. Each animal holds one front paw on the top of a sideways turned medallion and its head is carved into the deep relief. The two oppositely placed medallions are internally connected by an axle. The ends of a horseshoe that carries animal

4 G. Seure 1925; A. Radnóti 1961, 27; P. Miniero 1987, 200, sl. 4, 29; M. Bolla 2010, 107.

5 A. Radnóti 1961, 31, sl. 13; S. Boube-Piccot 1980, 88–89, sl. 14–15; P. Miniero 1987, 200, sl. 29.

6 T. Šeparović 2001, 72–73, sl. 1: a, b, c; D. Maršić 2010, 74–75; M. Sanader, D. Tončinić 2010, 46–47; D. Tončinić 2011, 14.

7 T. Šeparović 2001, 68, sl. 2.

8 R. Košćević 1995, 16, T. 15, kat. br. 99.

9 I. Venedikov 1960, 248; M. Bolla 2010, 107.

10 F. Humer, G. Kremer (ur.) 2011, 386, kat. br. 792–797.

11 M. Bolla 2010, 141.

3 I. Venedikov 1960, 20, 75; A. Radnóti 1961, 23, fig. 3: 12; 33–36, no. 6–9, 14, group C; S. Boube-Piccot 1980, 86–87, cat. no. 66; P. Miniero 1987, 200, fig. 29; T. Šeparović 2001, 68.

4 G. Seure 1925; A. Radnóti 1961, 27; P. Miniero 1987, 200, figs. 4, 29; M. Bolla 2010, 107.



**Slika 2. Brončani medaljon s glavom Meduze, AMI inv. br. A 46063**

Figure 2. Bronze medallion with the head of Medusa, AMI inv. no. A 46063

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dionizijskog ciklusa. Okov je pronađen na području bogate privatne kuće (*domus*) na gornjem istočnom dijelu brežuljka unutar bedema Pole. Okolnosti nalaza upućuju da su se kola s figuralnim brončanim ukrasima na jarmu nalazila u privatnom posjedu vlasnika kuće te da su služila prvenstveno prijevozu ljudi i njihovih osobnih stvari.

Lijevani brončani medaljon, kat. br. 2 (Sl. 2), ima u sredini žensku glavu koja predstavlja Meduzu (*gorgoneion*). Meduza simbolizira apotropejsku zaštitu od zla i čest je ukras na brončanim aplikama raznih namjena. Oči tauširane srebrom stvarale su kontrast s brončanom pozadinom i pojačavale dojam moćnog Meduzina pogleda. Medaljon s Meduzom identificiran je s najviše vjerojatnosti također kao dio nastavka na jarmu kola, ali treba napomenuti da postoje i druge mogućnosti interpretacije. Gornji je rub oštećen te nije poznato je li se na njemu nalazila životinjska noga, no s obzirom na uskoću ruba vjerojatno se radilo o medaljonu bez aplicirane životinjske figure. Medaljoni istih

figurines are fixed to this axle, forming a frame. The fittings were fixed at the ends of the wooden yoke so that a flat rod was fixed to the upper side of the yoke. The horseshoe rod was fixed to the upper side of the yoke. The horseshoe rod was turned sideways so that the figurines were facing outwards, and two relief decorated discs, one facing forward and the other backward, pressed the leather collar strap against the yoke<sup>5</sup>. Two figure-decorated fittings of the cart yoke of the same type come from the province of Dalmatia, specifically from the area of the Dalmatian hinterland. The bronze fitting from Šušelj near Drniš is decorated with a pair of panthers and female masks with fairly tidy hair which can be interpreted as Maenads. It is most likely dated to the third quarter of the 1<sup>st</sup> century, during a period when Roman legions were stationed at the nearby military camp *Tilurium*.<sup>6</sup> The same applies to another specimen of a yoke fitting from the Museum of Croatian Archaeological Monuments – Split, which includes a lion figurine and a boy's head on a medallion.<sup>7</sup> The boy represents Eros with a characteristic double braid along the scalp. The medallion from Sisak with the head of Medusa, which was located at the end of a broken rod, probably belonged to the same type of yoke fittings.<sup>8</sup> The fittings with a pair of animals and heads on medallions were present much longer after the 1<sup>st</sup> century, until the 4<sup>th</sup> century judging by the money findings in the same archaeological context.<sup>9</sup> A series of similar findings, which were a part of a cart yoke, originates from the military camp *Carnuntum* in Pannonia.<sup>10</sup> The individual findings of horseshoe fittings decorated with figures of lions or panthers have been recorded in the western vicinity of Istria, in the northern Italy, with predominant motifs of Cybele and Attis in addition to lions and panthers.<sup>11</sup> According to the completely preserved specimens, the medallion with the head of Silen can be reconstructed as a fragment of a fitting, with a pair of lion or panther figurines on a horseshoe support frame and a pair of medallions with a satyr head. The heads on the medallions did not necessarily have to be the same, so the possibility remains that the second medallion depicted the head of another figure from the Dionysian cult. The fitting was found in the area of a rich private house (*domus*) on the upper eastern part of the hill within the Pola rampart. The circumstances of the findings indicate that the cart with the bronze figure ornaments on the yoke was in the private possession of the owner of the house and that it was used primarily to transport people and their personal belongings.

5 A. Radnóti 1961, 31, fig. 13; S. Boube-Piccot 1980, 88–89, figs. 14–15; P. Miniero 1987, 200, fig. 29.

6 T. Šeparović 2001, 72–73, fig. 1: a, b, c; D. Maršić 2010, 74–75; M. Sanader, D. Tončinić 2010, 46–47; D. Tončinić 2011, 14.

7 T. Šeparović 2001, 68, fig. 2.

8 R. Košćević 1995, 16, pl. 15, cat. no. 99.

9 I. Venedikov 1960, 248; M. Bolla 2010, 107.

10 F. Humer, G. Kremer (ur.) 2011, 386, cat. no. 792–797.

11 M. Bolla 2010, 141.

dimenzija sa središnjim reljefnim prikazom glave često se nazivaju falera i povezuju se s vojnom opremom.<sup>12</sup> Falera (*phalera*) kakva se nosila na počasnom koplju kao vojno odličje (*dona militaria*) bila je dvostruko većih dimenzija od medaljona iz Pule, dok su manji primjerci krasili prsni oklop i kožnate pterige na oklopu vojnih zapovjednika, kacigu, nazuvke te konjsku ormu. Primjerci falera i okova s gorgonejonom, od kojih su neki slične izrade poput pulske Meduze, potječu iz vojnog logora *Carnuntum*, veličina im se kreće od 4,6 do 8 cm u promjeru.<sup>13</sup> Osim u vojničkom znakovlju i opremi, medaljon s Meduzom raširen je i u civilnom kontekstu. Širom Rimskog Carstva dokumentirani su nalazi sličnih brončanih medaljona s glavom Meduze usred rubnog pojasa, kojima namjena nije pouzdano utvrđena, ali može se povezati s dekoracijom kućnog inventara ili zaprežnih kola.<sup>14</sup> Brončani medaljoni s muškim i ženskim poprsjima bogova, osobito Amora i likova iz dionizijskog ciklusa, krasili su ubičajeno velike reprezentativne drvene škrinje za blago, izložene u atriju kuće 1. – 3. st.<sup>15</sup> Medaljoni s poprsjima razlikuju se od medaljona s osno simetričnom, frontalno okrenutom glavom Meduze po tome što poprsja s glavom u punoj plastici izlaze daleko izvan ruba i izvijena su negirajući osnu simetriju tako da je lice okrenuto u stranu. Medaljoni s centralnom simetričnom glavom Meduze za ukras škrinja iz Augsta pokazuju različite varijante, varijantu bez obrubnog polja<sup>16</sup> i varijantu s obrubnim poljem analogno Meduzi iz Pule.<sup>17</sup> Osim Meduze, u Augstu su dokumentirani medaljoni s glavama Silena i poprsjem Amora unutar obrubljenog polja.<sup>18</sup> Medaljoni za škrinje sa širokim obrubnim poljem oko središnje glave nisu zabilježeni u Pompejima, uglavnom su datirani u 2. – 3. st. (u Augstu) i čini se da predstavljaju mlađu skupinu u odnosu na medaljone kod kojih poprsje u punoj plastici izrasta izvan okvira. Tu sliku dopunjuju brončani medaljoni s Meduzom unutar rubnog polja, promjera oko 5 cm i neutvrđene namjene, iz logora *Carnuntum*.<sup>19</sup> Medaljon, kat. br. 2 pripada

The bronze cast medallion, cat. no. 2 (Fig. 2), has a female head representing a Medusa (*gorgoneion*) in the middle. The Medusa symbolizes an apotropaic protection from evil and it is a common decoration on bronze appliques of various purposes. The eyes damascened with silver created a contrast with the bronze background and enhanced the impression of Medusa's powerful look. The Medusa medallion was identified most likely as a part of the extension of the cart yoke, but it should be noted that there are other possibilities for interpretation. The upper edge was damaged and it is unknown whether there was an animal leg on it, but given the narrowness of the edge, it was probably a medallion without an animal figure. The medallions of the same dimensions with a central relief depicting a head are often called phaleras and are associated with military equipment.<sup>12</sup> The phalera (*phalera*), worn on the honorary spear as a military medal (*dona militaria*), was twice the size of the medallion from Pula, while smaller specimens adorned the breastplates and leather pteruges on the armour of military commanders, helmets, overshoes and horse harnesses. The specimens of phaleras and fittings with a gorgoneion, some of which are similar in manufacture to the Medusa of Pula, originate from the *Carnuntum* military camp and range in size from 4.6 to 8 cm in diameter.<sup>13</sup> In addition to military insignia and equipment, the medallion with Medusa is also widespread in the civilian context. Across the Roman Empire, the findings of similar bronze medallions with the head of Medusa in the middle of the edge belt have been documented. Its purpose has not been reliably determined, but it may be related to the decoration of household inventory or animal-drawn carts.<sup>14</sup> The bronze medallions with male and female busts of gods, especially of Cupid and Dionysian cult figures, adorned the usually large representative wooden treasure chests, exhibited in the atrium of the house in 1<sup>st</sup>–3<sup>rd</sup> century.<sup>15</sup> The medallions with busts differ from the medallions with the head of Medusa which is axially symmetrical and frontally positioned. The busts with the sculptured head are curved and protrude far beyond the edge, denying the axial symmetry while showing the face to the side. The medallions with the central symmetrical head of the Medusa from

12 V. A. Maxfield 1972, 17–19; 1981, 54–59, 90–94; G. Seitz 1994, 395.

13 M. Feugère 1993, 63–65; A. Stuppner 2002, 25, sl. 4, 14; M. Buora, W. Jobst (ur.) 2002, 232, kat. br. IV a 20, kasno 2. st.; F. Humer, G. Kremer (ur.) 2011, 404–405, kat. br. 838–850; okovi kat. br. 849–850 promjera 6–7 cm pokazuju osobitu sličnost s pulskim primjerkom u bucmaštom licu, shematski prikazanoj kosi i profiliranom glatkom obrubu.

14 S. Boube-Piccot 1975, T. 36; T. 161–164, Volubilis; T. 254–255, Banasa; G. Seitz 1994, 393–396, sl. 1–2, Sontheim/Brenz na Dunavu, *Germania Superior*, kraj 2. st. – početak 3. st.; R. Košćević 1995, 16, T. 15, kat. br. 99, Sisak; M. Bolla 2008, 35, sl. 3, Este, Cimitero Comunale, pozlaćeni brončani medaljon s Meduzom, straga opremljen probušenim elementom.

15 E. Pernice 1932, 71–94, Pompeii, 1. st.; E. Riha 2001, 17, sl. 7, rekonstrukcija škrinje s apliciranim brončanim medaljonima na prednjoj stijenci; 18–20, kat. br. 12–32, T. 3–4, Augst, 1. – 3. st.; M. Castoldi 2005, 199–200, kat. br. 1–4, sl. 1–4, Cremona, 1. – 2. st.

16 E. Riha 2001, 19, kat. br. 22, T. 3: 22, g. 25–250; 20, kat. br. 23, T. 3: 23, 1. – 3. st.; 20, kat. br. 32, T. 4: 32, prva polovina 2. st.

17 E. Riha 2001, 20, kat. br. 26, T. 4: 26, g. 90–250.

18 E. Riha 2001, 20, kat. br. 27, T. 4: 27, Amor, g. 90–250; 20, kat. br. 28, T. 4: 28, Silen, kraj 1. st. – 3. st.; 20, kat. br. 29, T. 4: 29, Silen, druga polovina 2. st. – prva polovina 3. st.

19 F. Humer, G. Kremer (ur.) 2011, 404–405, kat. br. 842, 844, glatko rubno polje; 405, kat. br. 848, vijenac na rubnom polju.

12 V. A. Maxfield 1972, 17–19; 1981, 54–59, 90–94; G. Seitz 1994, 395.

13 M. Feugère 1993, 63–65; A. Stuppner 2002, 25, figs. 4, 14; M. Buora, W. Jobst (ur.) 2002, 232, cat. no. IV a 20, late 2nd century; F. Humer, G. Kremer (ur.) 2011, 404–405, cat. no. 838–850; fittings cat. no. 849–850 6–7 cm in diameter show a special resemblance to the Pula specimen in a chubby face, schematically shown hair and a profiled smooth edge.

14 S. Boube-Piccot 1975, pl. 36; pl. 161–164, Volubilis; pl. 254–255, Banasa; G. Seitz 1994, 393–396, figs. 1–2, Sontheim/Brenz on Danube, *Germania Superior*, end of 2nd century – beginning of 3rd century; R. Košćević 1995, 16, pl. 15, cat. no. 99, Sisak; M. Bolla 2008, 35, fig. 3, Este, Cimitero Comunale, gilded bronze medallion with Medusa, equipped with a pierced element at the back.

15 E. Pernice 1932, 71–94, Pompeii, 1st century; E. Riha 2001, 17, fig. 7, reconstruction of the chest with applique bronze medallions on the front wall; 18–20, cat. no. 12–32, pl. 3–4, Augst, 1st–3rd century; M. Castoldi 2005, 199–200, cat. no. 1–4, figs. 1–4, Cremona, 1st–2nd century.



Slika 3. Brončana figurica hrvača, AMI inv. br. A 4617

Figure 3. Bronze wrestler figurine, AMI inv. no. A 4617

foto / photo: A. Starac; izradila / made by: A. Starac

grupi medaljona sa širokim rubnim poljem iz 2. – 3. st. Odlomljeni element promjera 1 cm na stražnjoj strani ukazuje na to da bi se prije moglo raditi o masivnoj šipki solidnog brončanog elementa konstruktivne namjene nego o trnu za učvršćenje medaljona dekorativno-apotropejskog karaktera na kožnatu ili drvenu podlogu. Medaljon s glavom Meduze mogao se na kolima nalaziti na različitim mjestima, na osovini, čvorištima kotača ili na tijelu kola.<sup>20</sup> Odgovarajuće dimenzije i odlomljena šipka na stražnjoj strani glavni su argumenti za identifikaciju medaljona s Meduzom kao elementa na završetku jarma zaprežnih kola (Sl. 24–25). Diskoidni elementi na krajevima brončanog nastavka na jarmu nisu nužno morali biti povezani sa životinjskim figurama.<sup>21</sup> S obzirom na kontekst nalaza unutar domusa, u odvodnom kanalu u hodniku pored ulaznih vrata, medaljon kat. br. 2 može se pripisati inventaru vlasnika domusa, odnosno njegovim zaprežnim kolima.

20 G. Seitz 1994, 396.

21 A. Radnóti 1961, 19, sl. 1: 4; 21, sl. 2: 5, tipovi brončanog nastavka za jaram s diskovima na kraju, bez figurálnih prikaza i bez apliciranih životinja.

Augst used in chest decoration show different variants; a variant without the border field<sup>16</sup> and a variant with the border field analogous to the Medusa from Pula.<sup>17</sup> In addition to Medusa, the medallions with the heads of Silen and a bust of Cupid inside of the border field are documented in Augst.<sup>18</sup> The chest medallions with a wide border field around the central head are not recorded in Pompeii, and they are mostly dated to 2<sup>nd</sup>–3<sup>rd</sup> century (in Augst) and appear to represent a younger group compared to the medallions in which the sculptured bust extends out of the frame. This image is complemented by the bronze medallions with a Medusa inside of the border field, about 5 cm in diameter and of undetermined purpose, from the *Caruntum* camp.<sup>19</sup> The medallion, cat. no. 2, belongs to the group of medallions with a wide border field from 2<sup>nd</sup>–3<sup>rd</sup> century. A broken element with a diameter of 1 cm on the back indicates that this could be a massive rod of a solid bronze element with a constructive purpose rather than a pin used for fixing the medallions of decorative-apotropaic character on a leather or wooden base. The medallion with the head of the Medusa could be located in different places, on the axle, wheel hubs or on the body of the cart.<sup>20</sup> The appropriate dimensions and a broken rod on the back are the main arguments for identifying the medallion with the Medusa as an element at the end of the cart yoke (Figs. 24–25). The disc-like elements at the ends of the bronze extension on the yoke did not necessarily have to be associated with animal figures.<sup>21</sup> Given the context of the finds inside the domus, in the drainage channel in the corridor next to the front door, a medallion cat. no. 2 can be attributed to the inventory of the owner of the domus, i.e. to his animal-drawn cart.

The athlete figurine, cat. no. 3 (Fig. 3), was described by Gnirs as a runner at full speed.<sup>22</sup> Other opinions have been expressed according to which the figurine represents a fighting athlete<sup>23</sup> or a gladiator.<sup>24</sup> Despite its small size, the figurine with the anatomical details of the face leaves the impression of a fighter marked with scars, cut eyebrows and crumpled ear lobes. A fighting semi-kneeling stance with round, outstretched arms that seem to embrace the opponent, suggests a depiction of a wrestler and not a

16 E. Riha 2001, 19, cat. no. 22, pl. 3: 22, year 25–250; 20, cat. no. 23, pl. 3: 23, 1st–3rd century, 20, cat. no. 32, pl. 4: 32, first half of 2nd century.

17 E. Riha 2001, 20, cat. no. 26, pl. 4: 26, year 90–250.

18 E. Riha 2001, 20, cat. no. 27, pl. 4: 27, Cupid, year 90–250; 20, cat. no. 28, pl. 4: 28, Silen, end of 1st century–3rd century; 20, cat. no. 29, pl. 4: 29, Silen, second half of 2nd century–first half of 3rd century.

19 F. Humer, G. Kremer (ur.) 2011, 404–405, cat. no. 842, 844, smooth edge field; 405, cat. no. 848, wreath on the fringe field.

20 G. Seitz 1994, 396.

21 A. Radnóti 1961, 19, fig. 1: 4; 21, fig. 2: 5, types of bronze yoke extension with discs at the end, without figure representations and without applique animals.

22 A. Gnirs 1904, 19.

23 B. Marušić, Š. Mlakar 1969, 10, cat. no. 12, a description of the figurine as a fighter athlete.

24 R. Matijašić, K. Buršić-Matijašić 1996, 143, proposal of dating in the 1st century.

Figuricu atleta, kat. br. 3 (Sl. 3), Gnirs je pri objavi opisao kao trkača u punom trku.<sup>22</sup> Iznosena su i druga mišljenja prema kojima figurica predstavlja atleta borca<sup>23</sup> ili gladijatora.<sup>24</sup> Unatoč malim dimenzijama, figurica anatomskim detaljima lica ostavlja dojam borca obilježenog ožiljcima, rasječenih obrva i zgužvanih ušnih školjki. Borbeni poluklečeci stav s kružno raširenim rukama koje kao da obuhvaćaju protivnika sugerira prikaz hrvača, a ne trkača. Nagost borca i izostanak bilo kakvih elemenata zaštitne opreme kao što su kaciga i štitnici za ruke i potkoljenice pokazuju da figurica ne predstavlja gladijatora. Figurice boraca i atletskih natjecatelja mogu se povezati s ritualnim značenjem borbi i natjecanja koja su se održavala u predrimskom etruskom i italjskom svijetu kao dio religioznog i pogrebnog rituala, a mogle su biti smještene na poklopcu ciste.<sup>25</sup> Brončane figurice hrvača i boksača prisutne su u etruskim grobnicama već od arhajskog razdoblja, 7. – 6. st. pr. Kr.<sup>26</sup> U kasnijem carskom razdoblju figurice boraca stekle su iznova znatniju popularnost naročito u istočnim provincijama, evocirajući borbu Herkula s Antejem i simbolizirajući carevu ratničku moć.<sup>27</sup> Jedna rimska brončana figurica atleta stisnutih šaka, boksača, hrvača ili trkača, potječe iz Siska.<sup>28</sup> Osim boraca i trkača izrađivale su se figurice akrobata u zahtjevnim položajima. Figurice atleta i akrobata mogle su biti ukomponirane kao element ručke, spone ili okova u raznim funkcionalnim predmetima. Brončana figurica gimnastičara koji radi stoj na rukama predstavlja sastavni element jednog stalka iz Volubilis, koji je mogao služiti za držanje uljanice, zdjele s voćem i slično.<sup>29</sup> Nasuprot tome, figurica gimnastičara u posve jednakom položaju staja na rukama iz okolice Smedereva čini se izlivena kao zaseban predmet koji nije pripadao stalku.<sup>30</sup> Brončane figurice dvaju parova hrvača javljaju se izuzetno kao plastični ukras na jednom okovu jarma zaprežnih kola iz muzeja u Berlinu.<sup>31</sup> Brončani okovi s figuralnim ukrasom koji su povezivali drveni jaram i kožnati ovratnik zaprežne životinje korišteni su tijekom razdoblja Rimskog Carstva. Obično su na krakovima potkovaste šipke nosili par lavova ili pantera, a ostali su figuralni prikazi na tom položaju rijetki. Jedinstveni primjerak okova s dva para hrvača iz berlinskog muzeja pokazuje da je figurica hrvača iz pulskog muzeja mogla također biti dijelom okova na jarmu kola koji je pridržavao remenje kožnatog ovratnika. Okov iz berlinskog muzeja ima na krajevima ravne šipke dva nasuprotno okrenuta medaljona s reljefnim stojećim nagim muškim figurama atleta, od kojih jedan drži pobjednički list palme. Na krakovima potkovaste šipke spojene s ravnom šipkom smještene su dva para nagih bradatih boraca u hrvačkom

runner. The nakedness of the fighter and the absence of any elements of protective equipment such as helmet, arm and shin guards indicate that the figurine does not represent a gladiator. The figurines of fighters and athletic competitors can be associated with the ritual significance of fights and competitions held in the pre-Roman Etruscan and Italic worlds as parts of a religious and funeral ritual, and they could be placed on the cover of a cist.<sup>25</sup> The bronze figurines of wrestlers and boxers have been present in Etruscan tombs since the archaic period, in 7<sup>th</sup>–6<sup>th</sup> century BC.<sup>26</sup> In the later Imperial period, the figurines of fighters gained considerable popularity again, especially in the eastern provinces, evoking the struggle of Hercules with Antaeus and symbolizing the warrior power of the emperor.<sup>27</sup> One Roman bronze figurine of an athlete with clenched fists, depicting a boxer, wrestler or runner, comes from Siskak.<sup>28</sup> In addition to fighters and runners, the figurines of acrobats in challenging positions were also made. The athlete and acrobat figurines could be incorporated in various functional objects as elements of a handle, clasp or a fitting. The bronze figurine of a gymnast performing a handstand is an integral element of a rack from Volubilis, which could be used to hold an oil lamp, a bowl of fruit, etc.<sup>29</sup> In contrast, the figure of a gymnast in exactly the same position of a handstand from the vicinity of Smederevo seems to have been cast as a separate object that did not belong to the rack.<sup>30</sup> The bronze figurines of two pairs of wrestlers appear only as sculptural ornaments on a fitting of a cart yoke from a museum in Berlin.<sup>31</sup> The bronze fittings with figure ornaments connecting a wooden yoke and a leather collar of an animal were used during the Roman Empire period. They usually had a pair of lions or panthers on the arms of a horseshoe rod, while other representations of figures in that position are rare. A unique specimen of a fitting with two pairs of wrestlers from the Museum of Berlin indicates that the figurine of a wrestler from the Museum of Pula could also have been a part of a fitting on the cart yoke, fixing the leather belt collars. At the ends of the flat bar on the fitting from the Museum of Berlin, there are two oppositely placed medallions showing a relief of upright naked male figures of athletes, one of whom is holding a victorious palm leaf. On the arms of a horseshoe rod connected to a flat rod, there are two pairs of naked bearded fighters in a wrestling match. Both groups show one fighter down, lying on a rod, and the other in a dominant, upper, semi-kneeling position. The full-volume figurines did not obstruct the horse-drawn

22 A. Gnirs 1904, 19.

23 B. Marušić, Š. Mlakar 1969, 10, kat. br. 12, opis figurice kao atleta borca.

24 R. Matijašić, K. Burišić-Matijašić 1996, 143, prijedlog datacije u 1. st.

25 G. M. A. Richter 1915, 78–79, kat. br. 124, 3. st. pr. Kr.

26 J.-P. Thuillier 1985, 70–77, sl. 9–10, Murlo.

27 M. Bolla 2002, 84.

28 D. Dimitrijević 1979, 284, kat. br. 597; R. Košćević 1995, 84, kat. br. 90, T. 15: 90.

29 S. Boube-Piccot 1975, T. 178–179, Volubilis.

30 M. Veličković 1979, 284, kat. br. 595, Seona kod Smedereva, 2. – 3. st.

31 E. Gerhard 1828, 372–373, T. 119: 1–3; T. Šeparović 2001, 68.

25 G. M. A. Richter 1915, 78–79, cat. no. 124, 3rd century BC.

26 J.-P. Thuillier 1985, 70–77, figs. 9–10, Murlo.

27 M. Bolla 2002, 84.

28 D. Dimitrijević 1979, 284, cat. no. 597; R. Košćević 1995, 84, cat. no. 90, pl. 15: 90.

29 S. Boube-Piccot 1975, pl. 178–179, Volubilis.

30 M. Veličković 1979, 284, cat. no. 595, Seona near Smederevo, 2nd–3rd century.

31 E. Gerhard 1828, 372–373, pl. 119: 1–3; T. Šeparović 2001, 68.



Slika 4. Brončana figurica pantere na okovu, AMI inv. br. A 5209

Figure 4. Bronze figurine of a panther on a fitting, AMI inv. no. A 5209

foto / photo: A. Starac; izradila / made by: A. Starac

zahvatu. Obje grupe prikazuju jednog borca dolje, ležećeg na šipki, i drugog u dominantnom gornjem poluklečćem položaju. Figurice u punom volumenu nisu smetale konjskoj zaprezi jer su se nalazile okrenute prema van na kraju drvenog jarma.<sup>32</sup> Poput životinjskih figurica, parovi boraca morali su biti postavljeni simetrično u odnosu na dužu os potkovaste šipke (Sl. 26). Figurica borca (kat. br. 3) mogla se držati za potkovastu šipku okova odlomljenim lijevim stopalom. U tom slučaju predstavljala je dominantnog borca u gornjem položaju, na kraku potkove okrenutom straga prema kolima. Snažan pokret i anatomski realizam svrstavaju figuricu u rimsko carsko doba, ponajprije u 2. st. kada oživljava interes za simboliku borca.<sup>33</sup>

cart because they were at the end of the wooden yoke, facing outwards.<sup>32</sup> Like animal figurines, the pairs of fighters had to be placed symmetrically relative to the longer axis of the horseshoe rod (Fig. 26). The figure of a fighter (cat. no. 3) was likely attached to the horseshoe rod fitting by a broken piece of its left foot. In that case, it represented the dominant fighter in the upper position, located on the arm of the horseshoe facing the back of the cart. The strong movement and anatomical realism place the figurine in the Roman Imperial era, primarily in 2<sup>nd</sup> century, when the interest in fighter symbolism was rising.<sup>33</sup>

The cart equipment includes a bronze rectangular fitting with a panther, cat. no. 4 (Fig. 4), which originates from an unknown site in Pula or its vicinity. The rectangular fittings decorated with figures are divided according to their position in relation to the figure; the fittings located behind the figure and the fittings located below the figure. The rectangular fittings with a figurine on the top were located mainly on the front and rear part of the cart-box (Fig. 27).<sup>34</sup> A similar fitting with a panther holding its front paw on the crater comes from the Reggio Emilia region.<sup>35</sup> Unlike the Pula specimen with the L-shaped fitting plate, the fitting from the Reggio Emilia forms a square with a hole in its interior. Due to the absence of stratigraphic data on the circumstances of the finding, the fitting with a panther (cat. no. 4) can be roughly dated to the period of the Principate in 1<sup>st</sup>–3<sup>rd</sup> century.

The bronze cart fittings were probably made in the foundry workshops which produced a variety of metal objects. The density of findings (metal cart elements decorated with figures) concentrated in Aquileia (*Aquileia*) indicates that the probably dominant production centre for this type of objects was located in the north Adriatic.<sup>36</sup> The archaeological findings of bronze cast remains which confirm the locations of the workshops have been documented in all major cities in north Italy.<sup>37</sup> The foundry and tereutic activity in Pula (*Polia*) is evidenced by the relief motifs of a wide range of iron and bronze products located on the tombstone of Lucius Maesius Terentinus, a craftsman specialised in the production of finely shaped metal objects (*L. Maesius Terentinus, faber pectinari*).<sup>38</sup>

The figure decorated bronze elements of cart equipment have the characteristics of a luxury and status symbol, in contrast to the identical bronze elements without figure decorations, which seem appropriate for the transportation of goods. The repertoire of figure

32 S. Boube-Piccot 1980, 88–89, figs. 14–15; P. Miniero 1987, 200, fig. 29.

33 V. Damevski 1979, 284, cat. no. 596.

34 G. Seure 1904, 221, fig. 20, fitting with a panther; S. Boube-Piccot 1980, fig. 10.

35 M. Bolla 2010, 137, fig. 17; 2007–2011, 64–65, cat. no. 41.

36 M. Bolla 2010, 112, fig. 1.

37 M. Bolla 2010, 113, *Industria*, Torino, Milano, Brescia, Verona.

38 Ilt X/1 174; R. Matijašić et al. 1994, 284–285, no. 6a.

32 S. Boube-Piccot 1980, 88–89, sl. 14–15; P. Miniero 1987, 200, sl. 29.

33 V. Damevski 1979, 284, kat. br. 596.



Opremi kola pripada brončani pravokutni okov s panterom, kat. br. 4 (Sl. 4), koji potječe s nepoznatog nalazišta u Puli ili okolici. Figuralno ukrašeni okovi pravokutnog oblika dijele se prema položaju u odnosu na figuru na okove smještene iza figure i okove smještene ispod figure. Pravokutni okovi s figuricom na vrhu nalazili su se uglavnom na prednjem i na stražnjem dijelu sanduka kola (Sl. 27).<sup>34</sup> S područja Reggio Emilia potječe sličan okov s panterom koja prednju šapu drži na krateru.<sup>35</sup> Za razliku od pulskog primjerka s pločicom okova savijenom u obliku slova L, okov iz Reggio Emilia zatvara kvadrat sa šupljinom u unutrašnjosti. Zbog izostanka stratigrafskih podataka o okolnostima nalaza, okov s panterom (kat. br. 4) moguće je okvirno datirati u razdoblje principata 1. – 3. st.

Brončani okovi za kola vjerojatno su se izrađivali u ljevačkim radionicama koje su proizvodile raznovrsne metalne predmete. Gustoća nalaza figuralno ukrašenih metalnih elemenata kola koncentrirana u Akvileji (*Aquileia*) ukazuje na vjerojatno dominantno proizvodno središte te vrste predmeta na sjevernom Jadranu.<sup>36</sup> Arheološki nalazi ostataka lijevanja bronce koji potvrđuju lokacije radionica dokumentirani su u svim značajnijim gradovima sjeverne Italije.<sup>37</sup> O ljevačkoj i toreutičkoj aktivnosti u Puli (*Polja*) svjedoče reljefni prikazi široke palete proizvoda od željeza i bronce na nadgrobnoj ari Lucija Mesija Terentina, obrtnika specijaliziranog u izradi precizno oblikovanih metalnih predmeta (*L. Maesius Terentinus, faber pectinarius*).<sup>38</sup>

Figuralno ukrašeni brončani elementi opreme kola za zapregom imaju odlike luksuznog i statusnog simbola, za razliku od istovrsnih brončanih elemenata bez figuralnog ukrasa koji djeluju primjereno kolima za prijevoz tereta. Repertoar figuralnih ukrasa na okovima kola općenito sadrži pretežno mitološke i životinjske likove vezane za dionizijski ciklus, Kibelu i Atisa, prikaze raznih drugih bogova s atributima, apotropejske likove poput gorgone Meduze, Ahelolja, psa i vepra, brodske pramce<sup>39</sup> te likove boraca.<sup>40</sup> Pantere i lavovi prevladavaju među životinjskim figurama na ranocarskim okovima jarma kola za prijevoz ljudi. Te su divlje životinje u mitološkoj ikonografiji upregnute u Dionizova kola prilikom njegova trijumfnog povratka iz Indije. Počevši s proslavom osvajanja Aleksandra Makedonskog i njegova prodora do Indije, Dionizov trijumf ušao je u službenu ikonografiju Aleksandrovih nasljednika i ostalih vladara helenističkog razdoblja. U helenističkoj tradiciji Dionizov trijumf postao je modelom rimskog trijumfa te početkom Carstva simbolom careve apoteoze i vječnog

ornaments on carts generally includes mostly mythological and animal characters related to the Dionysian cult, Cybele and Attis, the depictions of various gods with attributes, other apotropaic characters such as the Gorgon Medusa, Achelous, dog and boar, ship bows<sup>39</sup> and the characters of fighters.<sup>40</sup> Panthers and lions are predominant among the animal figures on the Early Imperial yoke fittings on the carts used for the transport of people. In the mythological iconography, these wild animals were harnessed to the chariot of Dionysus during his triumphant return from India. Beginning with the celebration of Alexander the Great's conquest and his invasion of India, the Triumph of Dionysus has entered the official iconography of Alexander's successors and other rulers of the Hellenistic period. In the Hellenistic tradition, the Triumph of Dionysus became a model of Roman triumph and, at the beginning of the Empire, a symbol of the emperor's apotheosis and eternal life.<sup>41</sup> The iconographic program of the imperial cult, shaped during the reign of Augustus, provided a model and a strong stimulation for the promotion of the Triumph of Dionysus in figural symbols on carts. In the everyday life, the religious purpose of figure ornaments on carts was to provide protection and luck to the traveller and his property during the trip.<sup>42</sup> These ornaments provided the wealthy Roman citizens with a reflection of the imperial majesty and as sign of their own faith in a happy, eternal life.

### THE IRON ELEMENTS OF ANIMAL-DRAWN CARTS

A range of iron objects can be recognized as purely functional, undecorated cart elements. The iron bit hook with a decorative shield, cat. no. 5 (Fig. 5), has no corresponding analogies among the bronze and iron decorative and functional elements of Roman cart from Istria and the immediate vicinity. Its role can be determined by the intact finding of a Roman cart with a hook of this type. A similar hook with a long pin and a bead on top, but without a shield plate, belonged to a Roman cart from Poljanec near Ludbreg. Its functional location is determined in the middle of a doubletree, a transverse beam which carried the two harnesses. The hook was connecting the doubletree beam to the pole by a ring (Fig. 28: C).<sup>43</sup> A hook with a long pin, a spherical head and a shield plate was found in Oberwinterthur (*Vitudurum*) in Switzerland, and a similar

34 G. Seure 1904, 221, sl. 20, okov s panterom; S. Boube-Piccot 1980, sl. 10.

35 M. Bolla 2010, 137, sl. 17; 2007–2011, 64–65, kat. br. 41.

36 M. Bolla 2010, 112, sl. 1.

37 M. Bolla 2010, 113, *Industria*, Torino, Milano, Brescia, Verona.

38 Ilt X/1 174; R. Matijašić *et al.* 1994, 284–285, br. 6a.

39 E. Walde Psenner 1983, 141, kat. br. 127, Trento, pantera; M. Bolla 2010, 114.

40 E. Gerhard 1828, 372–373, T. 119: 1–3.

39 E. Walde Psenner 1983, 141, cat. no. 127, Trento, panther; M. Bolla 2010, 114.

40 E. Gerhard 1828, 372–373, pl. 119: 1–3.

41 Diod. book 4.5; Plin. *NH*, book 7.57; C. Gasparri 1986, III (1), 558; III (2), 449–454; C. Gasparri, A. Veneri 1986, III (1), 418; C. Augé, P. Linant de Bellefonds 1986, III (1), 526–528; III (2), 417: 127–128; 418: 129–136. A review of sources and literature on the role of the Triumph of Dionysus in the iconography of the imperial cult: M. Scapini 2015, 196–202.

42 M. Bolla 2010, 114.

43 M. Šeper 1962, 398, pl. VIII: fig. 19 A, B; 397, drawing 8: E.

života.<sup>41</sup> Ikonografski program carskog kuta oblikovan za Augustove vladavine pružio je uzor i snažan podstrek promoviranju figuralnih simbola Dionizova trijumfa na kolima. U svakodnevnom životu, religijski smisao figuralnih ukrasa na kolima bio je da pruže zaštitu i sreću putniku i njegovoj imovini na putovanju.<sup>42</sup> Ti su ukrasi imućnim rimskim građanima pružali odraz carske veličanstvenosti i znak vlastite vjere u sretan vječni život.

### ŽELJEZNI ELEMENTI ZAPREŽNIH KOLA

Niz željeznih predmeta može se prepoznati kao čisto funkcionalni, neukrašeni element kola. Željezna kuka s trnom za usad i ukrasnim štitom, kat. br. 5 (Sl. 5), nema odgovarajućih analogija među brončanim i željeznim ukrasnim i funkcionalnim elementima rimskih kola iz Istre i neposredne okolice. Njezina uloga može se odrediti pomoću cjelovitog nalaza rimskih kola s kukom toga tipa. Jedna slična kuka s dugim trnom i kuglicom na vrhu, ali bez štitne pločice pripadala je rimskim kolima iz Poljanca kod Ludbrega. Njezin funkcionalni smještaj određen je u sredini vagira, poprečne grede koja je nosila dvije zaprežnice. Kuka je služila za spoj pomoću alke s gredom nosača vagira na rudu (Sl. 28: C).<sup>43</sup> Kuka s dugim trnom, kuglastom glavicom i štitnom pločicom pronađena je u mjestu Oberwinterthur (*Vitudurum*) u Švicarskoj, a slična kuka, samo bez štitne pločice, potječe s nepoznatog nalazišta u Italiji.<sup>44</sup> Oba primjerka kuke pronađena su izvan konteksta arheološke cjeline te su u nedostatku podataka pripisana vagi. Prema primjeru kola iz Poljanca, obje varijante masivne kuke s dugim trnom za usad, sa štitnom pločicom i bez nje, pripadale su konstrukciji zaprežnih kola. Može se nadalje pronaći manje prikladna usporedba s jednom vrstom ukrasnih metalnih kuka čija praktična namjena nije u potpunosti definirana, a između ostalih mogućnosti dovodi se u vezu s kolima. Radi se o brončanim kukama u obliku ljudskog prsta. Brončane kuke u obliku prsta dokumentirane su na području sjeverne Italije u tri različite varijante: kuke s trnom kvadratnog presjeka, suženim prema kraju, kuke s trnom okruglog presjeka i kuke s trnom proširenim na kraju koji je odvojen štitom od prsta. Željezna kuka iz Nezakcija predstavlja svojim funkcionalnim značajkama kombinaciju prvog i trećeg tipa kuke u obliku prsta. Kuke u obliku prsta interpretirane su različitim hipotezama, kao elementi slavina, ključeva, sklopivog namještaja, stijenki, vrata te elementi vozniha kola.<sup>45</sup> Na kolima

hook without a shield plate originates from an unknown site in Italy.<sup>44</sup> Both specimens of the hook were found outside of the context of the archaeological site and were attributed to scale parts in the absence of data. According to the example of the cart from Poljanec, both variants of the massive bit hook with a long pin, with and without a shield plate, belonged to the structure of a cart. A less suitable comparison can be drawn with a type of decorative metal hooks whose practical purpose is not fully defined, but it is, among other possibilities, related to animal-drawn carts. These are bronze hooks in the shape of a human finger. Finger-shaped bronze hooks have been documented in the area of north Italy in three different variants: hooks with a square pin narrowed towards the end, hooks with a round pin and hooks with a pin extended at the end and separated from the finger by a shield. The iron hook from Nesactium with its functional features represents a combination of the first and the third type of finger-shaped hook. Finger-shaped hooks have been interpreted, by various hypotheses, as elements of faucets, keys, foldable furniture, walls, doors and elements of carts.<sup>45</sup> They could be used to fasten a cloth or a leather cover on the cart. In this case, the pin was driven in from the outside at the top of the wooden cart-box.

The iron wedge, cat. no. 6 (Fig. 6) is another constructive element used in the manufacture of wooden animal-drawn carts (Fig. 28: M). It differs from the ordinary construction T-wedges because it has a curved, hooked-like bar and a thinner cross section. In comparison to the reconstruction of the fully preserved Roman carts from Poljanec near Ludbreg, a pair of long iron T-wedges with a bronze bead fixed the horse's collar to the upper bar of the yoke, which was wedged in the middle to the pole (Fig. 28).<sup>46</sup> The horse's collar and the yoke bar were made of wood, and the collar had to be covered with leather.

A group of four iron spikes with a cylindrical widening at the opposite end and a movable square plate, cat. no. 7–10 (Figs. 7–10), can be attributed to a wooden cart construction. Although the dimensions and the shape of the spikes resemble the military javelin (*pilum*) of the Roman legionaries, they differ from the javelin by a full cylindrical element at the end and by a movable square plate.<sup>47</sup> Another, lost iron object is also worth mentioning, from the Late Republican hoard from Grad pri Šmihelu from the first half of the 2<sup>nd</sup> century BC. At a first glance, the object looks similar to other Roman javelins from the hoard of the Late Republican

41 Diod. knjiga 4.5; Plin. *NH*, knjiga 7.57; C. Gasparri 1986, III (1), 558; III (2), 449–454; C. Gasparri, A. Veneri 1986, III (1), 418; C. Augé, P. Linant de Bellefonds 1986, III (1), 526–528; III (2), 417: 127–128; 418: 129–136. Pregled izvora i literature o ulozi Dionizova trijumfa u ikonografiji carskog kulta vidi u M. Scapini 2015, 196–202.

42 M. Bolla 2010, 114.

43 M. Šeper 1962, 398, T. VIII: sl. 19 A, B; 397, crtež 8: E.

44 E. Deschler-Erb 1996, 54–55, sl. 52, Römisch-Germanisches Zentralmuseum Mainz, kuka s nepoznatog nalazišta u Italiji, možda Rim; 282, kat. br. 150, T. 12: 150, Oberwinterthur.

45 M. Bolla 2010, 151–152, sl. 32–34.

44 E. Deschler-Erb 1996, 54–55, fig. 52, Muse Römisch-Germanisches Zentralmuseum Mainz, a hook from an unknown site in Italy, perhaps Rome; 282, cat. no. 150, pl. 12: 150, Oberwinterthur.

45 M. Bolla 2010, 151–152, figs. 32–34.

46 M. Šeper 1962, 398, pl. XXVIII: fig. 91; 399, drawing 9: C.

47 M. C. Bishop, J. C. N. Coulston 2006, 51, fig. 23, javelins of the Republican period; 74, fig. 36; 75, fig. 37; 130, fig. 74; 151, fig. 92, javelins of the Imperial period.

su mogle služiti za učvršćenje platnenog ili kožnatog pokriva. U tom slučaju trn se zabijao s vanjske strane pri vrhu drvenog sanduka kola.

Željezni klin, kat. br. 6 (Sl. 6), još je jedan konstruktivni element kakav se koristio u izradi opreme drvenih zaprežnih kola (Sl. 28: M). Razlikuje se od običnih građevinskih T-klinova zakrivljenom, kukastom prečkom i tanjim presjekom. Prema usporedbi s rekonstrukcijom cjelovito sačuvanih rimskih kola iz Poljanca kod Ludbrega, par dugih željeznih T-klinova s brončanom glavicom učvršćivao je konjski ovratnik (kamut) za gornju prečku jarma, koja je u sredini bila klinom spojena s rudom (Sl. 28).<sup>46</sup> Kamut i prečka jarma izrađivali su se od drva, s time što je kamut morao biti obložen kožom.

Skupina četiriju željeznih šiljaka s cilindričnim zadebljanjem na suprotnom kraju i pomičnom kvadratnom pločicom, kat. br. 7–10 (Sl. 7–10), može se pripisati konstrukciji drvenih kola. Iako dimenzijama i oblikom šiljaka nalikuju na vojnu sulicu (*pilum*) rimskih legionara, razlikuju se od sulice po punom cilindričnom elementu na kraju i po pomičnoj kvadratnoj pločici.<sup>47</sup> Na ovom mjestu treba spomenuti jedan danas izgubljen željezni predmet iz kasnorepublikanske ostave Grad pri Šmihelu iz prve polovine 2. st. pr. Kr. Predmet na prvi pogled izgleda poput ostalih rimskih sulica kasnorepublikanskog razdoblja iz ostave, ima nasuprot četverobridnom šiljku raskovanu pločicu s rupama za zakovice, ali na šipki se nalazi kvadratni element provučen kroz središnju rupu.<sup>48</sup> Dužinom od 78 cm predmet također odudara od ostalih sulica iz ostave, čija se dužina kreće od 22 do 57 cm. Odgovarajuće analogije ti šiljati predmeti ipak nemaju u oružju, nego u željeznim elementima kola koji se javljaju u paru, a nalazili su se na spoju prednje police kola s rudom (Sl. 28: F).<sup>49</sup> Gotovo jednak par željeznih štapičastih elemenata s pomičnom okruglom pločicom imala su jednostavna teretna kola s četiri kotača i pravokutnim sandukom iz ukopa u tumulu u Inoti, datirana u razdoblje druge polovine 1. st. i prve polovine 2. st.<sup>50</sup> Šipke (kat. br. 7–8) okruglog su presjeka i predstavljaju jedan par. Drugim kolima pripadao je par slabije sačuvanih šipki (kat. br. 9–10) kvadratnog presjeka. Oblik presjeka i pločice nije imao nikakvog utjecaja na funkcionalnost šipki. Prema crtežu rekonstrukcije kola iz Inote, par željeznih šipki s pomičnom pločicom imao je ulogu u pojačanju spoja police ispod sanduka kola s



Slika 5. Željezna kuka s trnom, AMI inv. br. A 2713

Figure 5. Iron hook with a pin, AMI inv. no. A 2713

foto / photo: A. Starac; izradila / made by: A. Starac

period; a re-forged plate with rivet holes is placed opposite from the four-edged spike, but there is a square element the rod, which is driven through the central hole.<sup>48</sup> With a length of 78 cm, the object also differs from other javelins from the hoard, whose length ranges from 22 to 57 cm. However, these pointed objects are not analogous with weapons, but with iron cart elements which appear in pairs, and which were located at the junction of the pole to the front shelf of the cart (Fig. 28: F).<sup>49</sup> A simple four-wheeled load cart with a rectangular cart-box had an almost identical pair of iron stick-like elements with a movable round plate. The cart was found in the tumulus burial in Inota and it is dated to the period between the second half of the 1<sup>st</sup> century and the first half of the 2<sup>nd</sup> century.<sup>50</sup> The bars (cat. no. 7–8) are round and they represent a pair. A pair of poorly preserved square bars (cat. no. 9–10) belonged to another cart. The square shape and the plate had no effect on the functionality of the bars. According to a drawing which shows the reconstruction of a cart from Inota, a pair of iron bars with a movable plate played a role in reinforcing the connection of the shelf under the cart-box with the pole used for harnessing the animals.<sup>51</sup> The reconstruction of the cart from Poljanec near Ludbreg shows in detail the position of a pair of bars which are different in shape from the specimens from the Museum

46 M. Šeper 1962, 398, T. XXVIII: sl. 91; 399, crtež 9: C.

47 M. C. Bishop, J. C. N. Coulston 2006, 51, sl. 23, sulice republikanskog razdoblja; 74, sl. 36; 75, sl. 37; 130, sl. 74; 151, sl. 92, sulice carskog razdoblja.

48 J. Horvat 2002, 127, 129, sl. 6: 2; ostava Grad pri Šmihelu iz prve polovine 2. st. pr. Kr.

49 Š. Ljubić 1891, 4, T. I, kola iz Petrovine kod Jaska, jedna šipka nedostaje; M. Šeper 1962, 367, sl. 8: B, kola iz Petrovine; 397, crtež 8, T. VIII: sl. 22, kola iz Poljanca kod Ludbrega, drugi tip šipki koje su savijene na oba kraja; S. K. Palágy 1981, 40, kat. br. 2.2.10.26, T. XV: 11–12; Z. Mráv 2005, 37, sl. 15b.

50 S. K. Palágy 1981, 26.

48 J. Horvat 2002, 127, 129, fig. 6: 2; hoard Grad pri Šmihelu from the first half of the 2<sup>nd</sup> century BC.

49 Š. Ljubić 1891, 4, pl. I, cart from Petrovina near Jaska, one bar missing; M. Šeper 1962, 367, fig. 8: B, cart from Petrovina; 397, drawing 8, pl. VIII: fig. 22, cart from Poljanec near Ludbreg, another type of bars bent at both ends; S. K. Palágy 1981, 40, cat. no. 2.2.10.26, pl. XV: 11–12; Z. Mráv 2005, 37, fig. 15b.

50 S. K. Palágy 1981, 26.

51 S. K. Palágy 1981, pl. XXVI: 1–2.



Slika 6. Željezni klin, AML inv. br.

A 3116

Figure 6. Iron wedge, AML inv. no.

A 3116

foto / photo: A. Starac; izradila / made by: A. Starac

tinuirano aktivna u razdoblju 6. – 7. st.<sup>53</sup> Skupina željeznih spojnih elemenata iz kovačnice sastoji se od kuka, okova, šipke i čavla većih dimenzija koji su sami po sebi mogli pripadati bilo kojoj većoj drvenoj konstrukciji odnosno građevini. Svi spomenuti predmeti nalaze se među neizostavnim željeznim sastavnim elementima rimskih kola. Predmet najizrazitije karakterističan za kola predstavlja kružni okov od željeznog lima (kat. br. 11, Sl. 11). Željezna okovna traka oblikom i dimenzijama odgovara vanjskim okovima na kraju osovine kotača na kolima (Sl. 28: I).<sup>54</sup> Prema tom karakterističnom okovu kola, cijela skupina željeznih sastavnica iz kovačnice može se pripisati opremi kola koja se izrađivala u toj radionici za potrebe gospodarstva. U istom kontekstu kovačnice u vili Dragonera Jug pronađen je zajedno s prethodnim elementom još jedan neobjavljeni željezni element (kat. br. 12, Sl. 12) koji oblikuje kružnu omču s asimetrično

rudom za uprezanje vučnih životinja.<sup>51</sup> Na rekonstrukciji kola iz Poljanca kod Ludbrega detaljno je prikazan položaj para šipki koje su oblikom drukčije od primjeraka iz pulskog muzeja, ali mogu poslužiti kao oslonac za interpretaciju njihove uloge. Par razmaknutih šipki povezivao je prednju policu kola s nosačem vagira na rudu, na koji se kukom i alkom kačio vagir sa zaprežnicama.<sup>52</sup> Šipke su sprečavale pomicanje vagira sa zaprežnicama.

Osobito je interesantna skupina željeznih spojnih elemenata (kat. br. 11–23) pronađenih u sloju napuštanja kovačnice u sklopu gospodarske vile Dragonera Jug. Kovačnica je bila kontinuirano aktivna u razdoblju 6. – 7. st.<sup>53</sup> Skupina željeznih spojnih elemenata iz kovačnice sastoji se od kuka, okova, šipke i čavla većih dimenzija koji su sami po sebi mogli pripadati bilo kojoj većoj drvenoj konstrukciji odnosno građevini. Svi spomenuti predmeti nalaze se među neizostavnim željeznim sastavnim elementima rimskih kola. Predmet najizrazitije karakterističan za kola predstavlja kružni okov od željeznog lima (kat. br. 11, Sl. 11). Željezna okovna traka oblikom i dimenzijama odgovara vanjskim okovima na kraju osovine kotača na kolima (Sl. 28: I).<sup>54</sup> Prema tom karakterističnom okovu kola, cijela skupina željeznih sastavnica iz kovačnice može se pripisati opremi kola koja se izrađivala u toj radionici za potrebe gospodarstva. U istom kontekstu kovačnice u vili Dragonera Jug pronađen je zajedno s prethodnim elementom još jedan neobjavljeni željezni element (kat. br. 12, Sl. 12) koji oblikuje kružnu omču s asimetrično

of Pula, but which can serve as a basis for the interpretation of their role. A pair of spaced bars connected the front shelf of the cart with the doubletree beam on the pole which was attached by a hook and a ring to the doubletree with harnesses.<sup>52</sup> The bars prevented the moving of the doubletree with harnesses.

Of particular interest is the group of iron fastening elements (cat. no. 11–23) found in the layer from a period when the smithy of the Dragonera South villa was abandoned. The smithy was continuously active in the period of 6<sup>th</sup>–7<sup>th</sup> century.<sup>53</sup> The group of iron fasteners from the smithy consists of hooks, fittings, a rod and a nail of larger dimensions that could have belonged to any larger wooden structure or building. All of the mentioned objects are among the essential iron components of Roman carts. The most distinctive object characteristic for carts is a circular fitting made from iron-sheet (cat. no. 11, Fig. 11). The iron fitting strap corresponds in shape and dimensions to the outer fittings at the end of the cart wheel axle (Fig. 28: I).<sup>54</sup> Due to this distinctive cart fitting, the whole group of iron components from the smithy can be attributed to cart equipment made in that workshop for the purposes of the estate. In the same context of the smithy of the Dragonera South villa, another unpublished iron element (cat. no. 12, Fig. 12) was found along the previous element. It forms a circular loop with an asymmetrically extended pin and it can be attributed to a cart. An iron element, similar in shape and dimensions and with a loop and an asymmetrically extended pin, is documented in the unit of wooden cart found in Poljanec near Ludbreg.<sup>55</sup> A slightly curved rectangular iron bar (cat. no. 13) more than 18 cm long (Fig. 13) was found in the same layer of the smithy.<sup>56</sup> Among other applications, it could represent a fitting on the cart-box<sup>57</sup> or a clamp connecting the front shelf of a cart with the doubletree beam on the pole (Fig. 28: F).<sup>58</sup> The elongated iron fitting plates with a rivet hole, cat. no. 14–16 (Figs. 14–16), could fix either the cart-box, or the joints of the wheel axles with the shelf on which the box rested (Fig. 28: H).<sup>59</sup> A group of iron hooks from the smithy in villa Dragonera South (cat. no. 17–22) has a loop and two equally long arms (Figs. 17–22). The hooks

51 S. K. Palágy 1981, T. XXVI: 1–2.

52 M. Šeper 1962, 395, 398, crtež 8: šipke B.

53 A. Starac 2010, 27, sl. 20, plan vile 5. – 7. st.; 81–82, izgradnja kovačnice na sjevernom kraju zapadnog krila oko g. 500; 144, sloj S.J. 3/P59 s nalazima.

54 Š. Ljubić 1891, 4, T. I, kola iz Petrovine kod Jaske; M. Šeper 1962, 387, T. V: sl. 7, kola iz Poljanca kod Ludbrega; S. K. Palágy 1981, 39, kat. br. 2.2.10.2, T. XII: 1–6; P. Miniero 1987, 178, sl. 4–6; Z. Mráv 2005, sl. 21; 2007, 41, 45, rekonstrukcije laganih putničkih kola.

52 M. Šeper 1962, 395, 398, drawing 8: bars B.

53 A. Starac 2010, 27, fig. 20, villa floor-plan 5th–7th century; 81–82, the construction of a smithy at the northern end of the west wing about 500; 144, layer S.U. 3/P59 with findings.

54 Š. Ljubić 1891, 4, pl. I, a cart from Petrovina near Jaska; M. Šeper 1962, 387, pl. V: fig. 7, cart from Poljanec near Ludbreg; S. K. Palágy 1981, 39, cat. no. 2.2.10.2, pl. XII: 1–6; P. Miniero 1987, 178, figs. 4–6; Z. Mráv 2005, fig. 21; 2007, 41, 45, reconstructions of light passenger cart.

55 M. Šeper 1962, 347, pl. X: fig. 36.

56 I. Koncani Uhač 2010, 254, cat. no. 47, pl. V: 47, inv. no. AML-A-30456.

57 Š. Ljubić 1891, 4, pl. I, cart from Petrovina near Jaska, iron fittings; M. Šeper 1962, 367, fig. 8, cart from Petrovina; S. K. Palágy 1981, 39, cat. no. 2.2.10.8, 2.2.10.9, pl. XII: 13–16; pl. XXVI, reconstruction of a cart with the positions of the box fittings.

58 M. Šeper 1962, 395, 397, drawing 8: bars B; pl. VIII: fig. 22.

59 M. Šeper 1962, 387, pl. VI: fig. 13; 389, drawing 2: A, cart from Poljanec near Ludbreg, fittings at the junction of the axle with the cart shelf; pl. IX: fig. 26; S. K. Palágy 1981, pl. XXVI: 1–2.



**Slika 7. Željezna šipka s cilindričnim prstenom, kvadratnom pločicom i savijenim vrhom u obliku četverostrane piramide, AMI inv. br. A 2635**

Figure 7. Iron bar with a cylindrical ring, square plate and a bent top in the shape of a four-sided pyramid, AMI inv. no. A 2635

foto / photo: A. Starac; izradila / made by: A. Starac

pruženim trnom, a može se pripisati kolima. Oblikom i dimenzijama podjednak željezni element s omčom i asimetrično pruženim trnom dokumentiran je u cjelini drvenih zaprežnih kola iz Poljanca kod Ludbrega.<sup>55</sup> U istom sloju u kovačnici pronađena je lagano izvijena željezna šipka pravokutnog presjeka (kat. br. 13), duga više od 18 cm (Sl. 13).<sup>56</sup> Između ostalih primjena, mogla je predstavljati okov na sanduku kola<sup>57</sup> ili spojnicu prednje police kola s nosačem vagira na rudu (Sl. 28: F).<sup>58</sup> Željezne izdužene okovne pločice s rupom za zakovicu, kat. br. 14–16 (Sl. 14–16), mogle su na kolima učvršćivati sanduk kola te spojeve osovina kotača s policom na kojoj je počivao sanduk (Sl. 28: H).<sup>59</sup> Skupina željeznih kuka iz kovačnice u vili Dragonera Jug (kat. br. 17–22) imaju omču i dva podjednako duga kraka (Sl. 17–22). Na kolima su kuke u kombinaciji s alkom korištene za učvršćenje kožnate orme na jarmu, u spajanju zaprežnica s vagirom i u spajanju vagira s nosačem na rudu (Sl. 28: E).<sup>60</sup> Kombinacija

55 M. Šeper 1962, 347, T. X: sl. 36.

56 I. Koncani Uhač 2010, 254, kat. br. 47, T. V: 47, inv. br. AMI-A-30456.

57 Š. Ljubić 1891, 4, T. I, kola iz Petrovine kod Jaske, željezni okovni elementi; M. Šeper 1962, 367, sl. 8, kola iz Petrovine; S. K. Palágy 1981, 39, kat. br. 2.2.10.8, 2.2.10.9, T. XII: 13–16; T. XXVI, rekonstrukcija kola s pozicijama okovnih elemenata sanduka.

58 M. Šeper 1962, 395, 397, crtež 8: šipke B; T. VIII: sl. 22.

59 M. Šeper 1962, 387, T. VI: sl. 13; 389, crtež 2: A, kola iz Poljanca kod Ludbrega, okovi na spoju osovine s policom kola; T. IX: sl. 26; S. K. Palágy 1981, T. XXVI: 1–2.

60 Š. Ljubić 1891, 4, T. I, kola iz Petrovine kod Jaske, kuka uhvaćena na alku; M. Šeper 1962, 367, sl. 8, kola iz Petrovine; 344, T. VIII: sl. 21, kola iz Poljanca kod Ludbrega, željezna dvokraka kuka; 395–398, crtež 8, rekonstrukcija kola iz Poljanca kod Ludbrega sa željeznim sastavnicama; S. K. Palágy 1981, 40, kat. br. 2.2.10.41, T. XIV: 10, željezna kuka kao element kola.



**Slika 8. Željezna šipka s cilindričnim prstenom i kvadratnom pločicom, AMI inv. br. A 2648**

Figure 8. Iron bar with a cylindrical ring and a square plate, AMI inv. no. A 2648

foto / photo: A. Starac; izradila / made by: A. Starac



**Slika 9. Željezna šipka s cilindričnim prstenom, AMI inv. br. A 2649**

Figure 9. Iron bar with a cylindrical ring, AMI inv. no. A 2649

foto / photo: A. Starac; izradila / made by: A. Starac

in combination with a ring were used on carts to fasten the leather harness to the yoke, to connect the harnesses to the doubletree, and to connect the doubletree beam to the pole (Fig. 28: E).<sup>60</sup> The combination of a ring and a hook with equally long, closed arms which were driven into the wood, ensured a fixed but a mobile joint. The hooks could be used to fasten canvas or leather covers to the cart using ropes or tie strips made from canvas or leather.<sup>61</sup> One unpublished iron nail with a massive pin (cat. no. 23, Fig. 23) belongs to the same set of findings. Nails or wedges were used in carts to connect the wooden parts and fasten the fittings, to fasten the cart platform to the shelf and the axle,<sup>62</sup> to connect

60 Š. Ljubić 1891, 4, pl. I, a cart from Petrovina near Jaska, a hook hooked to a ring; M. Šeper 1962, 367, fig. 8, cart from Petrovina; 344, pl. VIII: fig. 21, cart from Poljanec near Ludbreg, iron double-armed hook; 395–398, drawing 8, reconstruction of a cart from Poljanec near Ludbreg with iron components; S. K. Palágy 1981, 40, cat. no. 2.2.10.41, pl. XIV: 10, iron hook as a cart element.

61 M. Bolla 2010, 152.

62 M. Šeper 1962, 387, pl. VII: fig. 11; 389, drawing 3: A; 391, drawing 4: G, long wedge.



Slika 10. Željezna šipka s cilindričnim prstenom i kvadratnom pločicom, AMI inv. br. A 2651

Figure 10. Iron bar with a cylindrical ring and a square plate, AMI inv. no. A 2651

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 12. Željezna prstenasto savijena traka s pruženim krakom, AMI inv. br. A 30457

Figure 12. Iron ring-bent strip with an extended arm, AMI inv. no. A 30457

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 11. Željezna prstenasto savijena traka, AMI inv. br. A 30464

Figure 11. Iron ring-bent strip, AMI inv. no. A 30464

foto / photo: A. Starac; izradila / made by: A. Starac

alke i kuke jednako dugih, zatvorenih krakova koji su se zabijali u drvo osiguravala je neodvojiv, ali pomičan spoj. Kuke su mogle služiti za učvršćenje platnenih ili kožnatih pokrova na kolima pomoću konopa ili veznih traka od platna ili kože.<sup>61</sup> Jedan neobjavljeni željezni čavao masivnog trna (kat. br. 23, Sl. 23) pripada istoj cjelini nalaza. Čavli odnosno klinovi u kolima su se koristili za spajanje drvenih dijelova i prikivanje okova, za učvršćenje platforme kola s policom



Slika 13. Željezna izvijena šipka, AMI inv. br. A 30456

Figure 13. A curved iron rod, AMI inv. no. A 30456

foto / photo: A. Starac; izradila / made by: A. Starac

the cart-box parts (Fig. 28: J),<sup>63</sup> and to connect the pole to the doubletree beam.<sup>64</sup> Although the range of constructive applications of each individual iron connective element is quite wide, all these elements observed together leave the impression that they were purposely forged in the smithy for the purpose of making a cart. The incompleteness of the

61 M. Bolla 2010, 152.

63 M. Šeper 1962, 393, 392, drawing 5.

64 M. Šeper 1962, 395–398, pl. VII: fig. 12, drawings 7–8: G.



Slika 14. Željezna traka, AMI inv. br. A 30467

Figure 14. Iron strip, AMI inv. no. A 30467

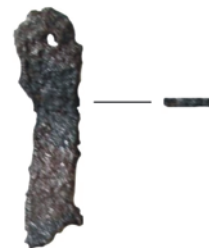
foto / photo: A. Starac; izradila / made by: A. Starac



Slika 15. Željezna traka, AMI inv. br. A 30470

Figure 15. Iron strip, AMI inv. no. A 30470

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 16. Željezna traka s rupicom za zakovicu, AMI inv. br. A 30475

Figure 16. Iron strip with a rivet hole, AMI inv. no. A 30475

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 17. Željezna kuka, AMI inv. br. A 30458

Figure 17. Iron hook, AMI inv. no. A 30458

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 18. Željezna kuka, AMI inv. br. A 30459

Figure 18. Iron hook, AMI inv. no. A 30459

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 19. Željezna kuka, AMI inv. br. A 30460

Figure 19. Iron hook, AMI inv. no. A 30460

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 20. Željezna kuka, AMI inv. br. A 30461

Figure 20. Iron hook, AMI inv. no. A 30461

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 21. Željezna kuka, AMI inv. br. A 30462

Figure 21. Iron hook, AMI inv. no. A 30462

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 22. Željezna kuka, AMI inv. br. A 30463

Figure 22. Iron hook, AMI inv. no. A 30463

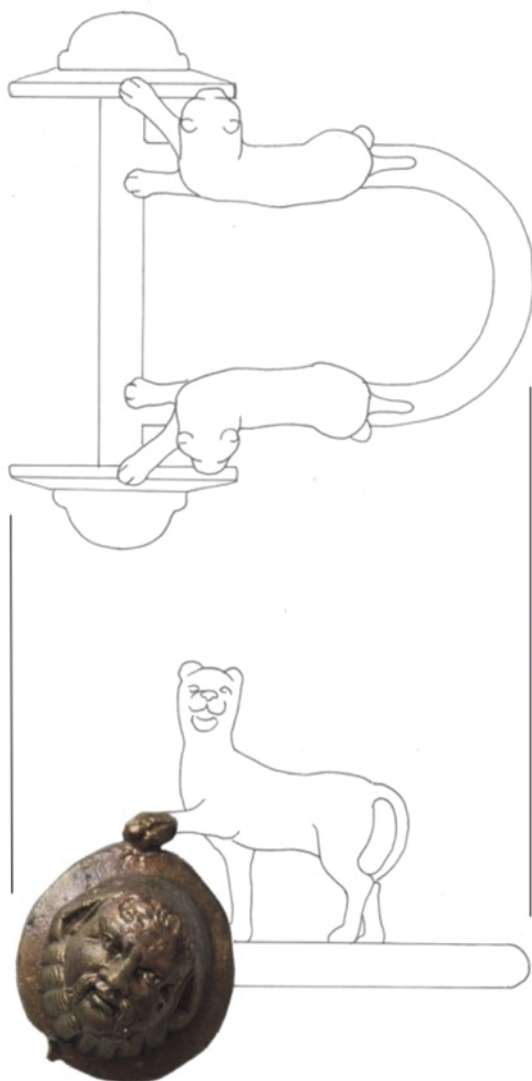
foto / photo: A. Starac; izradila / made by: A. Starac



Slika 23. Željezni čavao, AMI inv. br. A 30465

Figure 23. Iron nail, AMI inv. no. A 30465

foto / photo: A. Starac; izradila / made by: A. Starac



Slika 24. Brončani figuralno ukrašeni nastavak na drvenom jarmu, hipotetska rekonstrukcija

Figure 24. Bronze figure decorated extension on a wooden yoke, hypothetical reconstruction

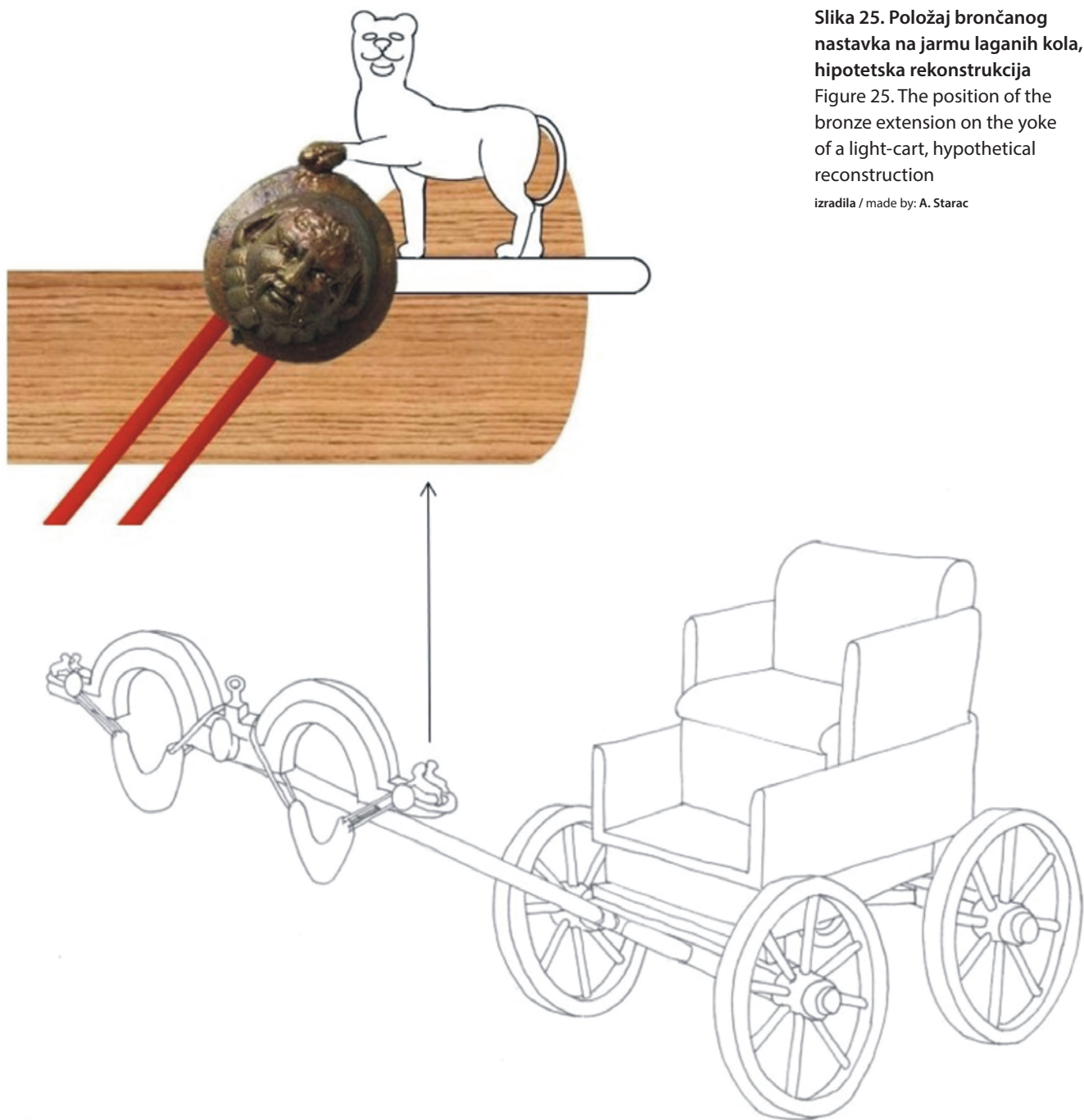
izradila / made by: A. Starac

total amount of iron elements needed to manufacture a cart is explained by the fact that the smithy was abruptly abandoned due to the fire which ravaged the villa in 7<sup>th</sup> century. The cart equipment remained unfinished due to the unforeseen rapid departure from the building. The lack of any decorative bronze elements can be interpreted in support of the assumption that this was a simple load cart intended for the everyday use in the agricultural tasks on the estate.

## CONCLUSION

Of the twenty-three metal cart elements from the Antique Collection of the Archaeological Museum of Istria in Pula, four elements are made from bronze and decorated with the figures of mythological and apotropaic, protective meaning. They belong to light passenger carts and can be dated approximately to the Early Imperial Roman period of 1<sup>st</sup>–3<sup>rd</sup> century. The circumstances of the finding are known for the pieces of the yoke extension decorated with Silen (cat. no. 1) and Medusa (cat. no. 2), which were found inside of two different luxury domūs within the walls of the Roman Pola colony. These findings connect the carts with the owners from the high society who were also the owners of the domūs. The place of manufacture of the cart bronze elements should most likely be sought either in Pola, where the activity of a master of toreutics has been epigraphically confirmed, or in the wider area of the nearby northeast Italy,





**Slika 25. Položaj brončanog nastavka na jarmu laganih kola, hipotetska rekonstrukcija**  
Figure 25. The position of the bronze extension on the yoke of a light-cart, hypothetical reconstruction

izradila / made by: A. Starac

i osovinom,<sup>62</sup> povezivanje dijelova sanduka kola (Sl. 28: J),<sup>63</sup> spajanje dijelova ruda i nosača vagira.<sup>64</sup> Iako je paleta konstruktivne primjene svakog pojedinog željeznog spojnog elementa prilično široka, svi ti elementi promatrani na okupu ostavljaju dojam da su namjenski iskovani u kovačnici za potrebe izrade kola. Nepotpunost ukupne količine željeznih spojnica potrebnih za izradu jednih kola objašnjiva je

where the craft of bronze casting was highly developed. Nineteen iron, functional and undecorated clamps and fittings can be attributed to a cart because of its characteristic shape (cat. no. 5–10) or because of the meaningful closed compound of the finding (cat. no. 11–23). More than half of all items refer to the iron structural elements made in 7<sup>th</sup> century in the smithy of the Late Antique villa Dragonera South located in the area of Pola. All elements were found gathered in one place inside a smithy that was suddenly abandoned due to a fire and was never used again. It stems from this, that they were never mounted on the cart for which they were intended. The purpose of these load-carts was related to the agricultural production on the estate and to

62 M. Šeper 1962, 387, T. VII: sl. 11; 389, crtež 3: A; 391, crtež 4: G, dugi klin.

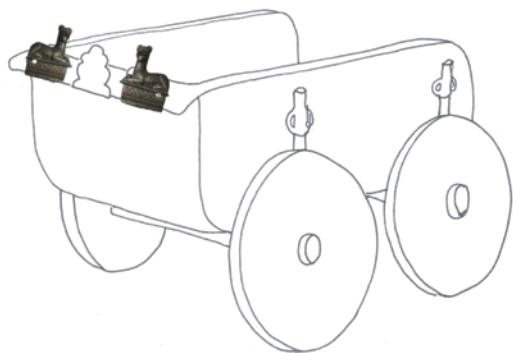
63 M. Šeper 1962, 393, 392, crtež 5.

64 M. Šeper 1962, 395–398, T. VII: sl. 12, crtež 7–8: G.

činjenicom da je kovačnica naglo napuštena zbog požara koji je poharao vilu u 7. st. Započeta cjelina kolne opreme ostala je nedovršena zbog nepredviđenog brzog napuštanja zgrade. Nedostatak bilo kakvih ukrasnih brončanih elemenata može se protumačiti u prilog pretpostavci da se radilo o jednostavnim teretnim kolima gospodarske namjene za svakodnevnu upotrebu u poljoprivrednim radovima na imanju.

## ZAKLJUČAK

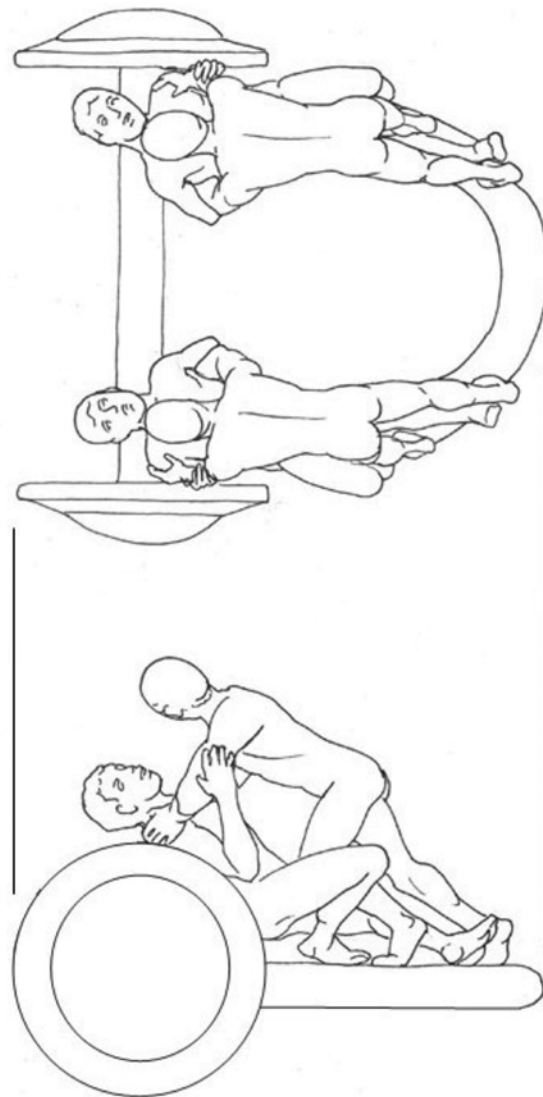
Od dvadeset tri metalna elementa kola iz Antičke zbirke Arheološkog muzeja Istre u Puli, četiri su brončana i figuralno ukrašena mitološkim i drugim figurama apotropijskog, zaštitničkog značenja. Pripadaju laganim putničkim kolima i mogu se datirati okvirno u rimsko ranocarsko razdoblje 1. – 3. st. Okolnosti nalaza poznate su za dijelove nastavka na jarmu, ukrašene Silenom (kat. br. 1) i Meduzom (kat. br. 2), koji su pronađeni unutar dva različita luksuzna domusa unutar bedema rimske kolonije Pole. Ti nalazi povezuju kola s društveno visoko pozicioniranim vlasnicima koji su ujedno bili vlasnici domusa. Mjesto izrade brončanih elemenata za kola s najviše vjerojatnosti treba tražiti ili u Poli u kojoj je epigrafski potvrđeno djelovanje majstora toreutičara ili na širem području obližnje sjeveroistočne Italije gdje je zanat lijevanja bronce bio vrlo razvijen. Devetnaest željeznih, funkcionalnih i neukrašenih spona i okova može se pripisati kolima zbog karakterističnog oblika (kat. br. 5–10) ili zbog smislene zatvorene cjeline nalaza (kat. br. 11–23). Više od polovine svih predmeta odnosi se na željezne konstruktivne elemente izrađene u 7. st. u kovačnici kasnoantičke vile Dragonera Jug na području Pole. Svi su pronađeni skupljeni na jednom mjestu unutar kovačnice koja je iznenadno napuštena zbog požara i nikad više nije korištena. Proizlazi da nikad nisu bili montirani na kola kojima su bili namijenjeni. Namjena tih teretnih kola bila je povezana s poljoprivrednom proizvodnjom na imanju, transportom unutar i izvan granica imanja u procesima prikupljanja, prerade i prodaje. Brončani i željezni elementi zaprežnih kola pronađeni su u Istri u razmjerno malom broju. Pokrivaju dugo razdoblje od prvih sedam stoljeća poslije Krista, od početka Rimskog Carstva i dugo nakon njegova pada, sve do avarsko-slavenskih seoba i dolaska Hrvata u doba bizantske vladavine.



**Slika 27. Položaj okova s figuricom ležeće pantere na kolima, hipotetska rekonstrukcija**

Figure 27. The position of a fitting with a figurine of a lying panther on the cart, hypothetical reconstruction

izradila / made by: A. Starac

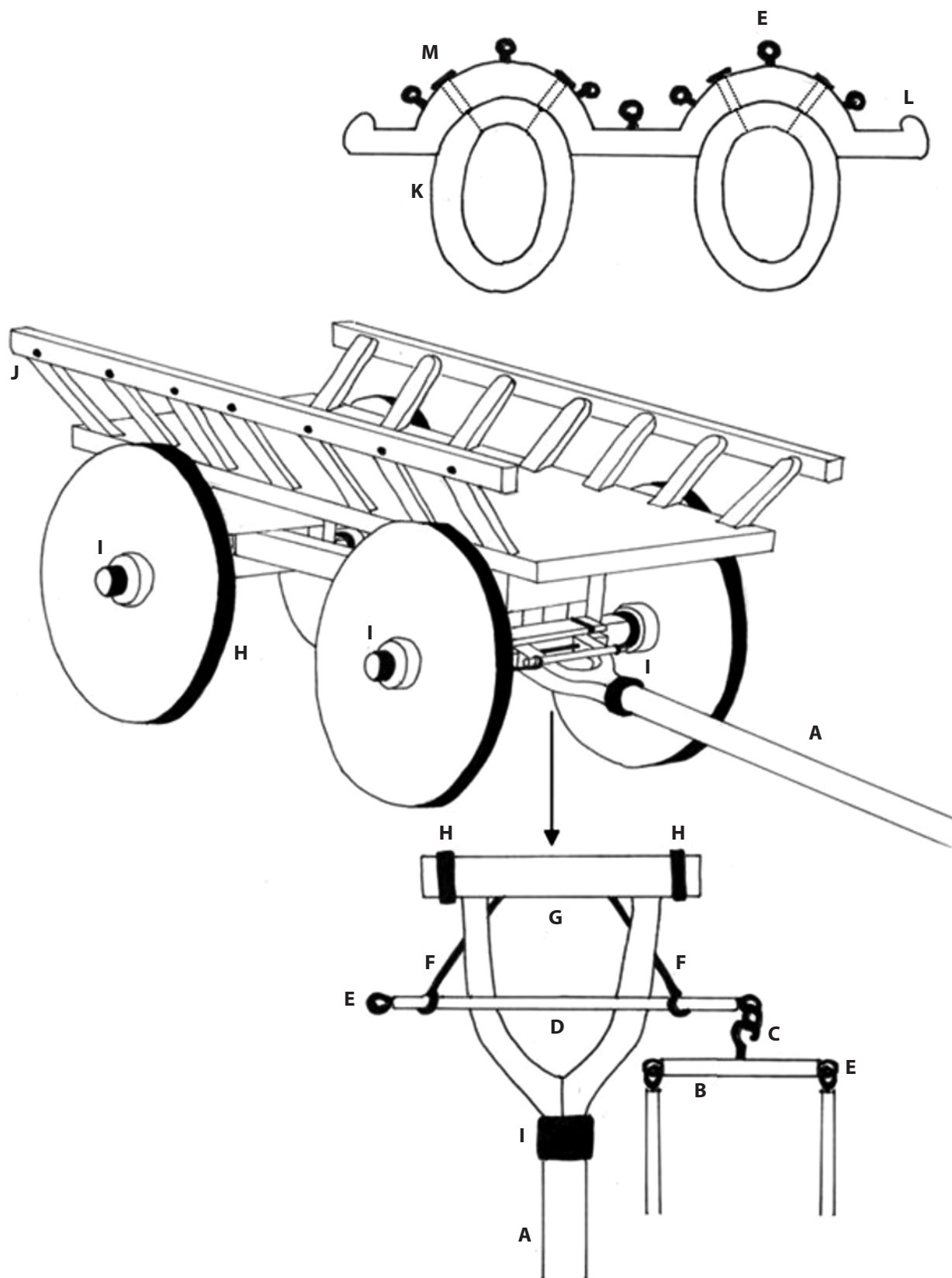


**Slika 26. Brončani nastavak na jarmu ukrašen figurama hrvača, hipotetska rekonstrukcija**

Figure 26. Bronze extension on a yoke decorated with wrestler figures, hypothetical reconstruction

izradila / made by: A. Starac

the transports within and outside of the boundaries of the estate in the processes of collection, processing and sale. The bronze and iron cart elements were found in Istria in relatively small numbers. They cover a long period from the first seven centuries AD, from the beginning of the Roman Empire and long after its fall, until the Avar-Slavic migrations and the arrival of the Croats during the Byzantine rule.



Slika 28. Rimska zaprežna teretna kola s položajem odabranih željeznih elemenata, hipotetska rekonstrukcija  
 A rudo; B vagir; C kuka; D nosač vagira; E dvokraka kuka; F šipka s pločicom; G polica; H okovna traka; I prstenasta okovna traka; J čavao; K kamut; L jaram; M klin u obliku T

Figure 28. Roman animal-drawn load cart with the position of selected iron elements, hypothetical reconstruction  
 A pole; B doubletree; C hook; D doubletree beam; E two-armed hook; F bar with a plate; G shelf; H fitting strip; I ring-like fitting strip; J nail; K horse collar; L yoke; M wedge in a T-shape

## KATALOG

## BRONČANI ELEMENTI ZAPREŽNIH KOLA

**1. Inv. br. AMI-A-5086 (stari inventarni broj 3955) (Sl. 1)**

Opis: brončani okrugli medaljon s glavom satira Silena u dubokom reljefu. Silen ima okruglo lice, šiljate uši, duge brkove zavijenih vrhova i bradu u osam širokih spiralnih uvojaka. Kosa se u kratkim raščupanim pramenovima spušta na čelo. Oči, nos i usta pažljivo su oblikovani sa svim detaljima. Oči imaju udubljene zjenice, široki nos udubljene nosnice, a usne su poluotvorene. Iznad nosa i u uglovima očiju vidljive su duboke bore. Gornja površina glave je glatka. Glavu uokviruje glatka, blago konveksna površina medaljona. Na gornjoj lijevoj strani medaljona nalazi se odlomljeni držač u obliku šape lava ili pantere s četiri prsta. Na donjoj lijevoj strani rub je oštećen. Otraga šuplje, u sredini je vidljiva odlomljena šipka pravokutnog presjeka.

Dimenzije: visina 2,2 cm (nepotpuno), promjer 4 cm, širina sa šapom 4,7 cm (nepotpuno), masa 32,65 g.

Nalazište: Pula, ulica Castropola, kuća Petinelli (ex kućni broj 634), u iskopanom nasipu. Područje rimske kuće s peristilom, 1911.<sup>65</sup>

**2. Inv. br. AMI-A-46063 (Sl. 2)**

Opis: brončani medaljon kružnog oblika s grubo izrađenom glavom Meduze u sredini. Okruglo, buc masto lice velikih očiju s naglašenim kopcima i zjenicama uokvireno je bujnom kosom u kuglastom obliku. Kosa je podijeljena kariranom mrežom udubljenih crta. Iznad čela s lijeve i desne strane izdižu se naznačena vodoravno položena krila. Glava je izrađena u dubokom reljefu, okružena glatkim poljem konveksnog presjeka i uskim prstenastim rubom. Tragovi tauširanja srebrom u očima. Otprilike šestina prstenastog ruba nedostaje iznad tjemena Meduze. Straga se nalazi polukulatasto udubljenje s odlomljenom šipkom okruglog presjeka u sredini.

Dimenzije: visina 1,5 cm (potpuno), promjer 4,6 cm (potpuno), dužina stijenke 0,1 cm, promjer polja s glavom 3,1 cm, širina glatkog konveksnog polja 0,6 cm, širina prstenastog ruba 0,15 cm, promjer stražnje udubine 2,8 cm, promjer šipke 1 cm.

Nalazište: Pula, Kandlerova, Blok XVI, Lokacija XI, 3. V. 2005., S. J. 22-P11-O4, KAND 05 18434. Neobjavljeno.

**3. Inv. br. AMI-A-4617 (Sl. 3)**

Opis: brončana figurica hrvača u borbenom stavu. Nagi, izrazito mišićavi i atletski građen golobradi hrvač prikazan je u pokretu, u iskoraku prilikom borbe. Težina tijela raspoređena je između desne noge, pokleknute i snažno izbačene ispred tijela s osloncem na prednji dio stopala, i lijeve noge koja je povučena unazad i odguruje tijelo prema naprijed. Ruke su podignute naprijed ispred ramena i savijene u krug u hrvački zahvat. Glava grčkog profila s kratkom kosom i naglašenom donjom čeljusti zakrenuta je ulijevo. Na glavi je prikazan nos, izbočene oči ispod obrva spuštenih krajeva, krupna usta otvorenih debelih usana i mesnate uši. Kratke kovrče uokviruju lice, na potiljku su prikazane znatno plićim urezima. Prsti na šaci i

## THE CATALOGUE

## BRONZE ELEMENTS OF ANIMAL-DRAWN CART

**1. Inv. no. AMI-A-5086 (old inventory number 3955) (Fig. 1)**

Description: Bronze round medallion with the head of the satyr Silen in deep relief. Silen has a round face, pointed ears, a long mustache with curled tips and a beard in eight wide spiral curls. The hair descends to the forehead in short disheveled strands. The eyes, nose and mouth are carefully shaped with all the details. The eyes have concave pupils, the wide nose has concave nostrils, and the lips are half open. Deep wrinkles are visible above the nose and in the corners of the eyes. The upper surface of the head is smooth. The head is framed by a smooth, slightly convex surface of the medallion. A broken holder in the shape of a lion's paw or a four-toed panther is on the upper left side of the medallion. The edge is damaged on the lower left side. It is hollow from behind, and a broken rectangular bar is visible in the middle.

Dimensions: height 2.2 cm (incomplete), diameter 4 cm, width with the paw 4.7 cm (incomplete), weight 32.65 g.

Site: Pula, Castropola street, Petinelli house (former house number 634), in an excavated embankment. The area of a Roman house with peristyle, 1911.<sup>65</sup>

**2. Inv. no. AMI-A-46063 (Fig. 2)**

Description: Bronze circular medallion with a roughly made Medusa head in the middle. The round, chubby face with large eyes, accentuated eyelids and pupils is framed by lush hair in a spherical shape. The hair is split by a checkered network of indented lines. Marked, horizontally laid wings are rising above the forehead on the left and right side. The head is made in deep relief, surrounded by a smooth convex field and a narrow ring-like edge. Traces of damascening silver in the eyes. Approximately one-sixth of the ring-like edge is missing above the scalp of the Medusa. At the back, there is a semi-calotte recess with a round broken rod in the middle.

Dimensions: height 1.5 cm (full), diameter 4.6 cm (full), wall length 0.1 cm, field diameter with head 3.1 cm, width of smooth convex field 0.6 cm, ring edge width 0, 15 cm, diameter of rear recess 2.8 cm, diameter of rod 1 cm.

Site: Pula, Kandlerova, Block XVI, Location XI, 3<sup>rd</sup> May 2005, S. U. 22-P11-O4, KAND 05 18434. Unpublished.

**3. Inv. no. AMI-A-4617 (Fig. 3)**

Description: Bronze figurine of a wrestler in a fighting stance. A naked, extremely muscular and athletically built beardless wrestler is shown in motion, stepping during the fight. The weight of the body is distributed between the right leg, bent and strongly thrown out in front of the body with support on the front of the foot, and the left leg is pulled back and it pushes the body forward. The arms are raised forward and above the shoulders and bent in a circle in a wrestling grip. The head of the Greek profile with short hair and a pronounced lower jaw is turned to the left. The head shows a nose, bulging eyes under the eyebrows with

stopalu grubo su prikazani, palci na šakama odvojeni su od ostalih prstiju. Nedostaje lijevo stopalo te mali prst i prstenjak na desnoj ruci.

Dimenzije: visina 11,2 cm (potpuno), širina 4,3 cm (potpuno), dužina 6,2 cm (nepotpuno), masa 340,82 g (nepotpuno).

Nalazište: Pula, Istarska ulica, 1904.<sup>66</sup>

#### 4. Inv. br. AMI-A-5209 (Sl. 4)

Opis: brončana figurica ležeće pantere na pravokutno pločastom okovu savijenom pod pravim kutom. Pantera leži okrenuta nalijevo podvijenih nogu i visoko uzdignute glave s uspravljenim ušima, poluotvorenim raljama i isplaženim jezikom. Nagnuta je gornjim dijelom lagano unazad. Okov je naprijed profiliran u tri polja. Na dnu se nalazi glatko polje konkavnog profila, iznad njega šire polje ukrašeno romboidno urezanim mrežom te na vrhu polukružno zaobljen i okomito narezan rub na kojemu leži pantera. U gornjem desnom uglu tropoasnog okova nalazi se okrugla rupa za zakivanje promjera 0,4 cm. Na stražnjoj strani pločica okova savijena pod pravim kutom završava šiljkom na sredini. Figurica pantere sa stražnje strane je šuplja.

Dimenzije: visina 6,05 cm (potpuno), širina 5 cm (potpuno), dužina 3,9 cm (potpuno), debljina stijenke okova 0,46 cm, visina figurice 3,8 cm, širina figurice 4,75 cm, dužina figurice 2,1 cm, masa 137,63 g.

Nalazište: nepoznato, prije 1949. Neobjavljeno.

### ŽELJEZNI ELEMENTI ZAPREŽNIH KOLA

#### 5. Inv. br. AMI-A-2713 (Sl. 5)

Opis: željezna kuka s trnom za zakivanje kvadratnog presjeka. Glava je mala, okrugla, promjera 0,74 cm. Pričvršćena je zavijenom nožicom na okrugli štit ukrašen u donjem dijelu plitkim kosim urezima i jednim ravnim urezom.

Dimenzije: visina 3 cm (potpuno), širina štita 1,9 cm (potpuno), dužina 7,87 cm (potpuno), dužina trna 5,8 cm, presjek trna ispod štita 0,6 × 0,7 cm, masa 12,4 g.

Nalazište: Nezakcij, 1905., nalaz na području nekropole.<sup>67</sup>

#### 6. Inv. br. AMI-A-3116 (Sl. 6)

Opis: željezni klin u obliku slova *T*, s dugom nogom za usad kvadratnog presjeka 0,45 × 0,45 cm. Gornji dio noge je plosnat, dužine 8,8 cm i presjeka 1,9 × 0,4 cm. Odlomljen je vrh noge i vrhovi poprečnog kraka, presjeka 0,8 × 0,34 cm.

Dimenzije: visina 27 cm (nepotpuno), širina 7,8 cm (nepotpuno), dužina 0,45 cm (potpuno), masa 73,59 g.

Nalazište: nepoznato, prije 1970. Neobjavljeno.

lowered ends, a large mouth with open, thick lips and fleshy ears. Short curls frame the face, with significantly shallower incisions on the nape of the neck. The toes and fingers are roughly shown, the thumbs are separated from other fingers. The left foot, the little toe and the ring finger on the right hand are missing.

Dimensions: height 11.2 cm (complete), width 4.3 cm (complete), length 6.2 cm (incomplete), weight 340.82 g (incomplete).

Site: Pula, Istarska street, 1904.<sup>66</sup>

#### 4. Inv. no. AMI-A-5209 (Fig. 4)

Description: Bronze figurine of a reclining panther on a rectangular plate fitting bent at the right angle. The panther is lying down on its left side, its legs are folded and its head is held high with erect ears, its jaws are half open and its tongue is sticking out. The upper part is tilted slightly backwards. The fitting is profiled in three fields from the front. There is a smooth field of concave profile at the bottom, a wider field is above it, decorated with a rhomboid-like incised net and on the top there is a semicircular, rounded and vertically cut edge on which the panther lies. There is a round riveting hole of 0.4 cm in diameter in the upper right corner of the three-band fitting. On the back, the fitting plate bent at a right angle ends with a spike in the middle. The panther figurine is hollow in the back.

Dimensions: height 6.05 cm (full), width 5 cm (full), length 3.9 cm (full), wall thickness 0.46 cm, height of the figurine 3.8 cm, width of the figurine 4.75 cm, length of the figurine 2.1 cm, weight 137.63 g.

Site: unknown, before 1949. Unpublished.

### IRON ELEMENTS OF THE ANIMAL-DRAWN CARTS

#### 5. Inv. no. AMI-A-2713 (Fig. 5)

Description: Iron hook with a square pin for riveting. The head is small, round, 0.74 cm in diameter. It is fixed by a twisted leg to the round shield decorated in the lower part with shallow oblique incisions and a single straight incision.

Dimensions: height 3 cm (full), width of the shield 1.9 cm (full), length 7.87 cm (full), length of the pin 5.8 cm, cross section of the pin under the shield 0.6 × 0.7 cm, weight 12.4 g.

Site: Nesactium, 1905, found in the area of the necropolis.<sup>67</sup>

#### 6. Inv. no. AMI-A-3116 (Fig. 6)

Description: Iron wedge in the shape of the letter *T*, with a long square leg for the mouth 0.45 × 0.45 cm. The upper part of the leg is flat, 8.8 cm long and 1.9 × 0.4 cm in cross section. The top of the leg and the tops of the transverse arm, 0.8 × 0.34 cm in cross-section, were broken off.

Dimensions: height 27 cm (incomplete), width 7.8 cm (incomplete), length 0.45 cm (complete), weight 73.59 g.

Site: unknown, before 1970. Unpublished.

66 A. Gnirs 1904, 19, sl. 6; 1915, 136, sl. 90, kat. br. 28; B. Marušić, Š. Mlakar 1969, 10, kat. br. 12; D. Dimitrijević 1979, 284, kat. br. 597, prijedlog datacije u 2. st.; R. Matijašić, K. Buršić-Matijašić 1996, 143, prijedlog datacije u 1. st.

67 A. Pusch 1914, 53, sl. 22.

66 A. Gnirs 1904, 19, fig. 6; 1915, 136, fig. 90, cat. no. 28; B. Marušić, Š. Mlakar 1969, 10, cat. no. 12; D. Dimitrijević 1979, 284, cat. no. 597, proposed dating in 2nd century; R. Matijašić, K. Buršić-Matijašić 1996, 143, dating proposal in the 1st century.

67 A. Pusch 1914, 53, fig. 22.

**7. Inv. br. AMI-A-2635 (Sl. 7)**

Opis: željezna šipka okruglog presjeka i savijenog vrha. Na jednom kraju završava cilindričnim prstenom visine 0,9 cm i promjera 1,05 cm, na drugom kraju ima šiljak u obliku četverostrane piramide, širok 1 cm i dug 4,2 cm. Na šipki se nalazi pomična kvadratna željezna pločica koja je provučena kroz rupu u sredini.

Dimenzije: visina 24 cm (potpuno), promjer tijela 0,7 cm, širina pločice 3,2 cm (potpuno), dužina pločice 2,9 cm (potpuno), masa 72,9 g.

Nalazište: nepoznato, prije 1949. Neobjavljeno.

**8. Inv. br. AMI-A-2648. Stari inv. broj 1350 (Sl. 8)**

Opis: željezna šipka okruglog presjeka i odlomljenog vrha. Na drugom kraju završava cilindričnim prstenom visine 0,8 cm i promjera 1,1 cm. Na šipki se nalazi pomična kvadratna željezna pločica koja je provučena kroz rupu u sredini.

Dimenzije: visina 30 cm (nepotpuno), promjer tijela 0,7 cm, širina pločice 4,6 cm (potpuno), dužina pločice 3 cm (potpuno), masa 141,8 g.

Nalazište: nepoznato, prije 1949. Neobjavljeno.

**9. Inv. br. AMI-A-2649 (Sl. 9)**

Opis: željezna šipka kvadratnog presjeka i odlomljenog vrha. Na drugom kraju završava cilindričnim prstenom visine 0,92 cm i promjera 1,2 cm.

Dimenzije: visina 6,5 cm (nepotpuno), presjek tijela 0,5 × 0,45 cm, promjer prstena 1,2 cm, masa 15,7 g.

Nalazište: nepoznato, prije 1949. Neobjavljeno.

**10. Inv. br. AMI-A-2651 (Sl. 10)**

Opis: željezna šipka kvadratnog presjeka i odlomljenog vrha. Na drugom kraju završava cilindričnim prstenom visine 3,7 cm i promjera 1 cm. Na šipki se nalazi pomična kvadratna željezna pločica koja je provučena kroz rupu u sredini.

Dimenzije: visina 23,5 cm (nepotpuno), presjek tijela ispod pločice 0,7 × 0,7 cm, širina pločice 3,7 cm (potpuno), dužina pločice 3,6 cm (potpuno), masa 77,1 g.

Nalazište: nepoznato, prije 1949. Neobjavljeno.

**11. Inv. br. AMI-A-30464 (Sl. 11)**

Opis: željezna prstenasto savijena traka. Traka zatvara puni nepravilni oval.

Dimenzije: visina ovala 3 cm (potpuno), širina ovala 2,2 cm (potpuno), širina trake 1 cm (potpuno), dužina trake 0,2 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>68</sup>

**12. Inv. br. AMI-A-30457 (Sl. 12)**

Opis: željezna prstenasto savijena traka s jednim asimetrično pruženim krakom koji se sužava u šiljak. Traka zatvara puni krug.

Dimenzije: visina 5,1 cm (potpuno), širina 2,3 cm (potpuno), širina trake 0,8 cm (potpuno), dužina trake 0,3 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59. Neobjavljeno.

**7. Inv. no. AMI-A-2635 (Fig. 7)**

Description: Round iron bar with a bent top. It ends with a cylindrical ring at one end, 0.9 cm high and 1.05 cm, and it has a spike in the shape of a four-sided pyramid at the other end, 1 cm wide and 4.2 cm long. There is a movable square iron plate on the bar that is pushed through a hole in the middle.

Dimensions: height 24 cm (full), body diameter 0.7 cm, plate width 3.2 cm (full), plate length 2.9 cm (full), weight 72.9 g.

Site: unknown, before 1949. Unpublished.

**8. Inv. no. AMI-A-2648. Old inv. no. 1350 (Fig. 8)**

Description: Round iron bar with a broken top. It ends with a cylindrical ring at the other end, 0.8 cm high and 1.1 cm in diameter. There is a mobile square iron plate on the bar that is pushed through a hole in the middle.

Dimensions: height 30 cm (incomplete), body diameter 0.7 cm, plate width 4.6 cm (complete), plate length 3 cm (complete), weight 141.8 g.

Site: unknown, before 1949. Unpublished.

**9. Inv. no. AMI-A-2649 (Fig. 9)**

Description: Square iron bar of square with broken top. It ends with a cylindrical ring at the other end, 0.92 cm high and 1.2 cm in diameter.

Dimensions: height 6.5 cm (incomplete), body cross-section 0.5 × 0.45 cm, ring diameter 1.2 cm, weight 15.7 g.

Site: unknown, before 1949. Unpublished.

**10. Inv. no. AMI-A-2651 (Fig. 10)**

Description: Square iron bar with broken top. It ends with a cylindrical ring 3.7 cm high and 1 cm in diameter. There is a movable square iron plate on the bar that is pushed through a hole in the middle.

Dimensions: height 23.5 cm (incomplete), body cross-section under the plate 0.7 × 0.7 cm, plate width 3.7 cm (complete), plate length 3.6 cm (complete), weight 77.1 g.

Site: unknown, before 1949. Unpublished.

**11. Inv. no. AMI-A-30464 (Fig. 11)**

Description: Iron ring-bent strip. The strip closes towards a full irregular oval.

Dimensions: oval height 3 cm (complete), oval width 2.2 cm (complete), strip width 1 cm (complete), strip length 0.2 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>68</sup>

**12. Inv. no. AMI-A-30457 (Fig. 12)**

Description: Iron ring-bent strip with one asymmetrically extended arm narrowing into a spike. The tape closes in a full circle.

Dimensions: height 5.1 cm (complete), width 2.3 cm (complete), strip width 0.8 cm (complete), strip length 0.3 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59. Unpublished.

### 13. Inv. br. AMI-A-30456 (Sl. 13)

Opis: željezna lagano izvijena šipka pravokutnog presjeka. Na jednom kraju je stanjena, na drugom odlomljena.

Dimenzije: visina 18 cm (nepotpuno), širina 1,4 cm (potpuno), dužina 0,4 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>69</sup>

### 14. Inv. br. AMI-A-30467 (Sl. 14)

Opis: željezna traka pravokutnog presjeka, odlomljena.

Dimenzije: visina 5,6 cm (nepotpuno), širina 1,6 cm (potpuno), dužina 0,3 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>70</sup>

### 15. Inv. br. AMI-A-30470 (Sl. 15)

Opis: željezna traka pravokutnog presjeka, odlomljena. Jedan je kraj savijen.

Dimenzije: visina 3,5 cm (nepotpuno), širina 1,1 cm (potpuno), dužina 0,2 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>71</sup>

### 16. Inv. br. AMI-A-30475 (Sl. 16)

Opis: željezna traka pravokutnog presjeka. Na jednom kraju završava polukružno i ima okruglu rupicu za zakovicu, na drugom kraju je odlomljena.

Dimenzije: visina 5,5 cm (nepotpuno), širina 1,2 cm (potpuno), dužina 0,2 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>72</sup>

### 17. Inv. br. AMI-A-30458 (Sl. 17)

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 10 cm (potpuno), širina 3,8 cm (potpuno), dužina 0,8 cm (potpuno), promjer otvora unutar kuke 2 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>73</sup>

### 18. Inv. br. AMI-A-30459 (Sl. 18)

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 7,4 cm (potpuno), širina 3,4 cm (potpuno), dužina 0,7 cm (potpuno), promjer otvora unutar kuke 1,6 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>74</sup>

### 13. Inv. no. AMI-A-30456 (Fig. 13)

Description: A slightly curved rectangular iron bar. It is thinned at one end and broken at the other.

Dimensions: height 18 cm (incomplete), width 1.4 cm (complete), length 0.4 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>69</sup>

### 14. Inv. no. AMI-A-30467 (Fig. 14)

Description: Rectangular iron strip, broken off.

Dimensions: height 5.6 cm (incomplete), width 1.6 cm (complete), length 0.3 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>70</sup>

### 15. Inv. no. AMI-A-30470 (Fig. 15)

Description: Rectangular iron strip, broken off. Bent at one end.

Dimensions: height 3.5 cm (incomplete), width 1.1 cm (complete), length 0.2 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>71</sup>

### 16. Inv. no. AMI-A-30475 (Fig. 16)

Description: Rectangular iron strip. It ends in a semicircle at one end and it has a round rivet hole, it is broken off at the other end.

Dimensions: height 5.5 cm (incomplete), width 1.2 cm (complete), length 0.2 cm (complete).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>72</sup>

### 17. Inv. no. AMI-A-30458 (Fig. 17)

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 10 cm (full), width 3.8 cm (full), length 0.8 cm (full), hole diameter inside of the hook 2 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>73</sup>

### 18. Inv. no. AMI-A-30459 (Fig. 18)

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 7.4 cm (full), width 3.4 cm (full), length 0.7 cm (full), diameter of the hole inside of the hook 1.6 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>74</sup>

69 I. Koncani Uhač 2010, 254, kat. br. 47, T. V: 47.

70 I. Koncani Uhač 2010, 254, kat. br. 50, T. V: 50.

71 I. Koncani Uhač 2010, 254, kat. br. 49, T. V: 49.

72 I. Koncani Uhač 2010, 254, kat. br. 48, T. V: 48.

73 I. Koncani Uhač 2010, 254, kat. br. 52, T. V: 52.

74 I. Koncani Uhač 2010, 254, kat. br. 53, T. V: 53.

69 I. Koncani Uhač 2010, 254, cat. no. 47, pl. V: 47.

70 I. Koncani Uhač 2010, 254, cat. no. 50, pl. V: 50.

71 I. Koncani Uhač 2010, 254, cat. no. 49, pl. V: 49.

72 I. Koncani Uhač 2010, 254, cat. no. 48, pl. V: 48.

73 I. Koncani Uhač 2010, 254, cat. no. 52, pl. V: 52.

74 I. Koncani Uhač 2010, 254, cat. no. 53, pl. V: 53.

**19. Inv. br. AMI-A-30460 (SI. 19)**

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 10,1 cm (potpuno), širina 3,3 cm (potpuno), dužina 0,8 cm (potpuno), promjer otvora unutar kuke 1,6 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>75</sup>

**20. Inv. br. AMI-A-30461 (SI. 20)**

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 7 cm (potpuno), širina 3,9 cm (potpuno), dužina 0,8 cm (potpuno), promjer otvora unutar kuke 2 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>76</sup>

**21. Inv. br. AMI-A-30462 (SI. 21)**

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 8 cm (potpuno), širina 3,6 cm (potpuno), dužina 0,6 cm (potpuno), promjer otvora unutar kuke 1,9 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>77</sup>

**22. Inv. br. AMI-A-30463 (SI. 22)**

Opis: željezna kuka izrađena od savijene trake kvadratnog presjeka. Glava je okrugla, dva jednako duga kraka stisnuta su u jedan trn za usad.

Dimenzije: visina 5,7 cm (potpuno), širina 1,2 cm (potpuno), dužina 0,4 cm (potpuno), promjer otvora unutar kuke 0,5 cm.

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59.<sup>78</sup>

**23. Inv. br. AMI-A-30465 (SI. 23)**

Opis: željezni čavao s niskom koničnom glavicom i trnom kvadratnog presjeka.

Dimenzije: visina 6,2 cm (potpuno), promjer glave 2,6 cm (potpuno), presjek trna 0,8 × 0,8 cm (potpuno).

Nalazište: Dragonera Jug 1, 25. XI. 2004., S. J. 3/P59. Neobjavljeno.

**19. Inv. no. AMI-A-30460 (Fig. 19)**

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 10.1 cm (full), width 3.3 cm (full), length 0.8 cm (full), hole diameter inside of the hook 1.6 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>75</sup>

**20. Inv. no. AMI-A-30461 (Fig. 20)**

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 7 cm (full), width 3.9 cm (full), length 0.8 cm (full), hole diameter inside of the hook 2 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>76</sup>

**21. Inv. no. AMI-A-30462 (Fig. 21)**

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 8 cm (full), width 3.6 cm (full), length 0.6 cm (full), diameter of the hole inside of the hook 1.9 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>77</sup>

**22. Inv. no. AMI-A-30463 (Fig. 22)**

Description: Iron hook made of square bent strip. The head is round, two equally long arms are squeezed into one pin for mouth.

Dimensions: height 5.7 cm (full), width 1.2 cm (full), length 0.4 cm (full), diameter of the hole inside of the hook 0.5 cm.

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59.<sup>78</sup>

**23. Inv. no. AMI-A-30465 (Fig. 23)**

Description: Iron nail with a low conical head and a square pin.

Dimensions: height 6.2 cm (full), head diameter 2.6 cm (full), cross section of the pin 0.8 × 0.8 cm (full).

Site: Dragonera South 1, 25<sup>th</sup> November 2004, S. U. 3/P59. Unpublished.

75 I. Koncani Uhač 2010, 254, kat. br. 54, T. V: 54.

76 I. Koncani Uhač 2010, 254, kat. br. 55, T. V: 55.

77 I. Koncani Uhač 2010, 254, kat. br. 56, T. V: 56.

78 I. Koncani Uhač 2010, 254, kat. br. 57, T. V: 57.

75 I. Koncani Uhač 2010, 254, cat. no. 54, pl. V: 54.

76 I. Koncani Uhač 2010, 254, cat. no. 55, pl. V: 55.

77 I. Koncani Uhač 2010, 254, cat. no. 56, pl. V: 56.

78 I. Koncani Uhač 2010, 254, cat. no. 57, pl. V: 57.



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