# Pretpovijesni jantar i staklo iz Prozora u Lici i Novog Mesta u Dolenjskoj

**Bakarić, Lidija; Križ, Borut; Šoufek, Marin**

LIDIJA BAKARIĆ
BORUT KRIŽ
MARIN ŠOUFEK

# PRETPOVIJESNI JANTAR I STAKLO

## IZ PROZORA U LICI I NOVOG MESTA U DOLENJSKOJ

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*Authors of the texts and the exhibition*:
Lidija Bakarić, Borut Križ, Marin Šoufek

Prijevodi / *Translation*:
Barbara Demo Smith, Vida Lukić Kostrenčić
(engleski / English)

Lektura / *Language advisors*:
Barbara Demo Smith (engleski / English), Diana Šimurina Šoufek (hrvatski /Croatian)

Fotografije / *Photographs*:
Dragan Arrigler, Filip Beusan, Borut Križ, Ante Rendić - Miočević, Snježana Mikulčić – Pavlaković, Arhiv AMZ

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# PRETPOVIJESNI
# JANTAR I STAKLO
## IZ PROZORA U LICI I NOVOG MESTA U DOLENJSKOJ

# PREHISTORIC
# AMBER AND GLASS
## FROM PROZOR IN LIKA AND NOVO MESTO IN DOLENJSKA

ZAGREB, 2006.

# SADRŽAJ

# PREDGOVOR

Već dugi niz godina s neskrivenom pozornošću pratimo vrijedna dostignuća različitih generacija arheologa Dolenjskoga muzeja iz Novoga Mesta u Sloveniji. To se osobito odnosi na njihovu vrlo živu terensku aktivnost, na dugogodišnja arheološka istraživanja što su ih realizirali na poznatim tamošnjim arheološkim lokalitetima, od kojih je, primjerice, Kapiteljska njiva značenjem nadišla uske regionalne okvire, svrstavši se među lokalitete bez kojih je danas nemoguće stvarati sliku pretpovijesnih razdoblja u širem srednjoeuropskome prostoru. U jednakoj su mjeri dragocjena i njihova nastojanja da rezultate istraživanja nedugo nakon obavljenih iskopavanja na prikladan način prezentiraju javnosti, bilo da je riječ o vrlo promišljeno odabranim izložbenim projektima, bilo pak da su u pitanju nakladničke aktivnosti, promptna objava rezultata aktualnih istraživanja. Potrebno je u ovoj prigodi naglasiti da je zanimanje hrvatske stručne javnosti za rezultate istraživanja na lokalitetima u okolici Novoga Mesta svakako potaknuto i činjenicom što je riječ o krajevima koji se nalaze u neposrednoj blizini Žumberačkoga gorja, područja gdje već dulje vrijeme i stručnjaci Arheološkoga muzeja u Zagrebu, kao i kolege iz Muzeja grada Zagreba, sustavno provode arheološka istraživanja koja su, to danas možemo sa sigurnošću ustvrditi, u značajnoj mjeri pridonijela boljem poznavanju cjelokupnih prilika u pretpovijesnim razdobljima, ali također i u rimsko doba. Upravo zbog činjenice što je riječ o prostoru koji, neovisno o aktualnim državnim granicama, nedvojbeno ima mnoga zajednička zemljopisna i kulturno-povijesna obilježja, međusobna suradnja na različitim razinama nužna je i, uvjereni smo, obostrano korisna.

U takvom kontekstu i projekt izložbe ***Pretpovijesni jantar i staklo iz Prozora u Lici i Novog Mesta u Dolenjskoj***, u kojemu, uz zagrebački Arheološki muzej i Dolenjski muzej iz Novoga Mesta, sudjeluje još i Hrvatski prirodoslovni muzej iz Zagreba, potvrda je dobre suradnje među spomenutim muzejskim institucijama.

Željeli bismo u ovoj prigodi podsjetiti da su kolege iz Novoga Mesta posljednjih nekoliko godina u više navrata vrlo uspješnim izložbenim projektima skrenuli na sebe pozornost slovenske, ali, usudili bismo se kazati, i šire europske kulturne javnosti. Kad je o tomu riječ, istaknuli bismo da smo i sami bili u prigodi razgledati zanimljivu izložbu s naslovom »Novo Mesto prije Ilira« (izvorni naziv na slovenskom jeziku glasi »Novo mesto pred Iliri«), koja je u izložbenim prostorima Dolenjskoga muzeja bila postavljena 1995. god., a nedugo zatim, 1997./1998. god., uslijedio je i njihov drugi značajni izložbeni projekt naslovljen »Kapiteljska njiva, Novo Mesto – Željezno doba na području Slovenije« (»Kapiteljska njiva, Novo mesto – Železna doba na Slovenskem«); obje su izložbe, ne samo izborom zanimljivih izložaka, nego i at-

# FOREWORD

The outstanding achievements of several generations of archaeologists at the Museum of Dolenjska (Lower Carniola) in Novo Mesto in Slovenia have attracted our admiring attention over the course of many years. This particularly refers to their very intensive fieldwork, in the form of archaeological excavations carried out over many years at the well-known archaeological sites of this area. Some of them, such as Kapiteljska njiva, have great importance beyond any regional framework, being among those sites without which it would be impossible to form an image of a given prehistoric period within the broader central European area. Their efforts are equally admirable to present the results of research to the public in a suitable manner soon after investigation, whether in the form of selected well-conceived exhibition projects or the prompt publication of the results of excavation. It should also be emphasized that the interest of the Croatian professional community in the results of investigation of sites in the vicinity of Novo Mesto has certainly been stimulated by the vicinity of this area to the Žumberak Heights, where for many years archaeologists from the Archaeological Museum in Zagreb and their colleagues from the Municipal Museum of Zagreb have been carrying out systematic excavations. It can be stated with certainty that this research has contributed greatly to better knowledge of conditions both in the prehistoric and Roman periods. As this entire region, despite the actual state borders, undoubtedly has many geographical, cultural, and historical features in common, mutual cooperation on various levels is both necessary and of benefit to both sides.

In such a context, the exhibition ***Prehistoric Amber and Glass: Prozor in Lika and Novo Mesto in Dolenjska***, organized by the Archaeological Museum in Zagreb and the Museum of Dolenjska in Novo Mesto, with the participation of the Croatian Natural History Museum in Zagreb, represents full confirmation of the excellent cooperation on the part of these museums.

It should be noted on this occasion that our colleagues from Novo Mesto have succeeded in the last several years in drawing the attention not merely of cultural circles in Slovenia, but we dare say even the broader European cultural community through an entire series of highly successful exhibitions. Given our traditionally close ties, we from the Archaeological Museum were fortunate enough to be able to view the fascinating exhibition »Novo Mesto before the Illyrians« (»*Novo mesto pred Iliri*«), presented in the Museum of Dolenjska in 1995, followed soon afterwards, in 1997/1998, by another major exhibition project: »Kapiteljska njiva, Novo Mesto – the Iron Age in Slovenia« (»*Kapiteljska njiva, Novo Mesto – Železna doba na Slovenskem*«);

raktivnom likovnom postavom, uistinu dosegle zavidnu muzeološko-profesionalnu razinu. Možemo stoga žaliti što barem jednu od njih nismo imali prigodu vidjeti i u našim, zagrebačkim izložbenim prostorima; pa će izložba koju pripremamo donekle, nadamo se, nadomjestiti ono što smo prethodnih godina propustili.

Najnoviji izložbeni projekt Dolenjskoga muzeja s naslovom »Staklo i jantar Novoga Mesta« značajni je segment aktualne zagrebačke izložbe. Izložba je bila realizirana 2003. god., u suradnji Dolenjskoga muzeja s ljubljanskim Narodnim muzejom, a nakon izlaganja u Novome Mestu s uspjehom je gostovala i u Njemačkoj, gdje joj je domaćin bio Hochdorf/Enz nadomak Stuttgarta, odnosno tamošnji poznati Keltski muzej (Keltenmuseum). Uvjereni smo da će iznimno atraktivnim izlošcima – za ovu prigodu iz Dolenjskoga muzeja odabrano ih je 127, a dominiraju raznoliki predmeti načinjeni od stakla i jantara koji potječu s nekoliko tamošnjih lokaliteta: Kapiteljske njive, Mestne njive i Kandije – ova izložba pobuditi zanimanje širokoga kruga posjetitelja i u zahtjevnoj zagrebačkoj sredini.

Specifičnost izložbe koju želimo predstaviti proizlazi, među ostalim, i iz činjenice što su izložene i odgovarajuće sirovine, grumenje neobrađenoga baltičkoga jantara, kao i stijene s mineralima i kristalima neophodnima u proizvodnji stakla. Potrebno je također istaknuti da je izlošcima iz Dolenjskoga muzeja pridodana i dionica s relevantnim predmetima od jantara i stakla podrijetlom iz današnjega Prozora u Lici, nekadašnjega istaknutoga japodskoga središta Arupija. Ta poznata japodska nekropola, kao i slična nekropola iz nedalekoga Kompolja, obiluje različitim predmetima načinjenima od jantara i staklene paste, kao i od metala; znatna količina najatraktivnijih izložaka iz prozorske nekropole danas se nalazi u stalnoj izložbenoj postavi zagrebačkoga Arheološkoga muzeja, ali mnogi predmeti ipak nisu mogli naći mjesto u stalnoj izložbi pa će ovo biti dobra prigoda da se primjerci odabrani iz muzejske čuvaonice također predstave zainteresiranoj javnosti. Na izložbi će iz Prozora biti izložen gotovo isti broj izložaka, ukupno 125; riječ je o nalazima koji su otkriveni osamdesetih godina 19. st., ali za koje, nažalost, nedostaje odgovarajuća terenska dokumentacija te sukladno tomu nije moguće pouzdano identificirati pojedine grobne cjeline. Uspoređujući nalaze iz Prozora i Novoga Mesta zanimljiv je podatak da je u ličkim nekropolama u većoj mjeri zastupljen jantar, a rjeđe se pojavljuju stakleni predmeti, dok je u dolenjskim nekropolama situacija upravo obrnuta. Zaključak koji se nametnuo svodi se na pretpostavku da je stanovništvo koje je od 10.- 1. st. pr. Kr. živjelo na području današnje Dolenjske sâmo proizvodilo i oblikovalo staklo, dok je jantarsku robu uvozilo s Baltika. Lički Japodi su, po svemu sudeći, uvozili gotove staklene proizvode, a staklenu pastu su sami proizvodili i oblikovali; jantarski nakit – jer je gotovo u pravilu riječ upravo o nakitu – ili su uvozili kao gotovi proizvod, ili su ga sami oblikovali i dorađivali. Gotovo da nije potrebno naglašavati da je riječ o luksuznim proizvodima, koji su, osim ukrasne funkcije, mogli imati i zaštitnu, odnosno magijsku funkciju.

both exhibitions truly reached an enviable level in museum design and professionalism, not merely tin terms of the choice of interesting artifacts, but also the attractive display. It is regrettable that we did not have to chance to see at least one of them on exhibit in Zagreb; we hope that this exhibition will make some amends for what we previously missed.

The most recent exhibition by the Museum of Dolenjska on »The Glass and Amber of Novo Mesto« represents a significant segment of what is on display here in Zagreb. The exhibition was organized in 2003 by the Museum of Dolenjska in cooperation with the National Museum of Slovenia in Ljubljana, and after Novo Mesto and Ljubljana, it traveled to Germany, to the famous Celtic Museum (Keltenmuseum) at Hochdorf/Enz near Stuttgart. For the Zagreb show, 127 artifacts have been chosen, predominantly various objects of glass and amber discovered at the sites of Kapiteljska njiva, Mestne njive, and Kandija in Novo Mesto. We are convinced that the exceptionally attractive material presented in this exhibition will arouse the interest of a broad circle of visitors among the demanding public of Zagreb.

One specific feature of the exhibition that we wish to emphasize is that the corresponding raw materials are also presented, consisting of clumps of unworked Baltic amber and rocks containing the minerals and crystals necessary for the production of glass. It should also be emphasized that the artifacts from the museum in Novo Mesto have been joined by corresponding material of amber and glass from Prozor in the Lika region of Croatia, once the prominent Iapodian center of *Arupium*. This well-known Iapodian cemetery, like the similar cemetery at nearby Kompolje, is famous for its varied objects made of amber and glass paste, as well as metal. Many of the most attractive artifacts from the cemetery at Prozor are currently on exhibit as part of the permanent collections of the Archaeological Museum in Zagreb, but space was not available for many equally fine items, so this will be a good opportunity for specimens otherwise kept in the museum storerooms to be presented to the public. Almost the same number of artifacts from Prozor will be displayed as from Novo Mesto, a total of 125. These finds were discovered in the 1880s, but unfortunately the corresponding field records are missing and individual grave units cannot be identified. In comparing the finds from Prozor and Novo Mesto, it is interesting that amber is present in much greater quantities in the cemeteries in Lika, while glass objects appear more rarely, while the situation in the cemeteries of Dolenjska is reversed. The obvious conclusion is that the population that lived in the area of present-day Dolenjska from the 10th to the 1st centuries BC themselves produced and worked glass, while amber goods were imported from the Baltic area. The Iapodes apparently imported finished glass products, but produced and worked glass paste themselves, while amber jewellery – as the amber objects were almost always jewellery – was either imported as finished goods or was

Preostaje mi naposljetku još i ugodna dužnost zahvaliti se svima koji su sudjelovali u realizaciji projekta, a svakako i onima koji su stvorili uvjete da izložba ugleda svjetlo dana. To se poglavito odnosi na autore izložbe; Lidiju Bakarić iz Arheološkoga muzeja u Zagrebu i Boruta Križa iz Dolenjskoga muzeja u Novome Mestu, autore arheološkoga dijela izložbe te na Marina Šoufeka iz Hrvatskoga prirodoslovnoga muzeja u Zagrebu, autora geološke dionice na izložbi. Zahvalnost dugujemo i Mariju Beusanu koji je likovno osmislio izložbu, kao i članovima tehničke ekipe Arheološkoga muzeja koji su sudjelovali u njezinoj realizaciji, ali i svim drugim pojedincima čija su imena u različitim ulogama spomenuta u impressumu prigodnoga kataloga. Među one kojima pripada osobita zasluga za ostvarivanje ovoga projekta svakako je i Zoran Gregl; upravo on je, na neki način, bio i idejnim začetnikom projekta i inicijatorom suradnje navedenih institucija. Dakako, bez onih koji su financijski poduprli ovu izložbu ne bi bilo moguće ostvariti zacrtane ciljeve pa nam je stoga dužnost i u ovoj prigodi zahvaliti Ministarstvu kulture RH, kao i nekadašnjem Uredu za kulturu grada Zagreba, aktualnom Gradskom uredu za obrazovanje, kulturu i šport, jer su osigurali potrebna financijska sredstva te na taj način omogućili rad na ovome projektu.

Ante Rendić-Miočević

formed and refined from the raw material. It hardly needs to be emphasized that these were luxurious products that in addition to decorative purposes could have had a protective or magical function as amulets.

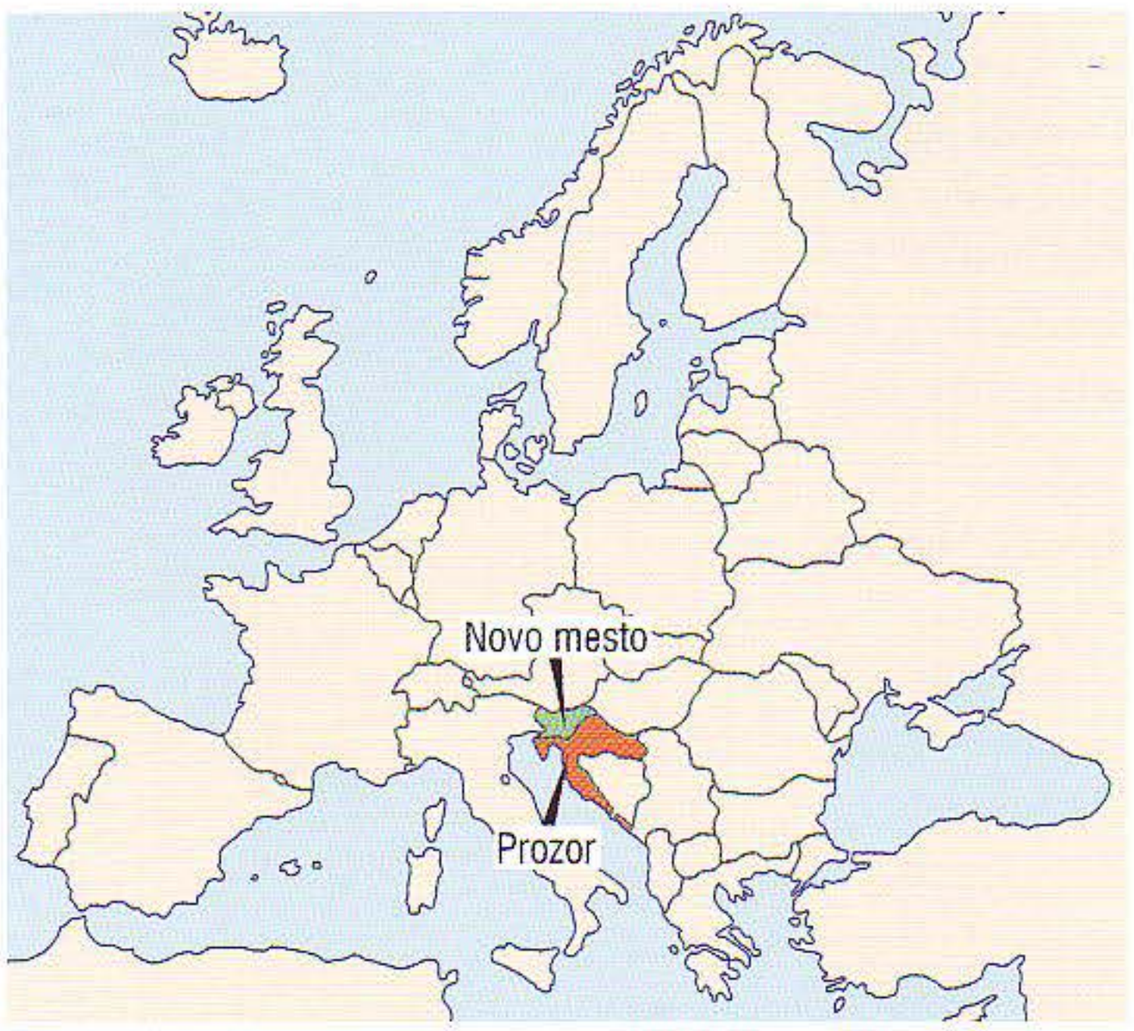
The pleasant duty remains of thanking all those who participated in the project, and particularly those responsible for making the exhibition possible. This refers in particular to the authors of the exhibition, Lidija Bakarić of the Archaeological Museum in Zagreb and Borut Križ of the Museum of Dolenjska in Novo Mesto, responsible for the archaeological part of the exhibition, and Marin Šoufek of the Croatian Natural History Museum in Zagreb, the author of the geological section. We also owe thanks to Mario Beusan, who designed the layout of the exhibition, as well as members of the technical staff of the Archaeological Museum involved in setting up the exhibition. Thanks are also due to all other individuals who contributed in various manners to the successful presentation of the exhibition and are cited in the catalogue. Among those particularly deserving of thanks for the realization of this exhibition is Zoran Gregl; in a certain manner he was the conceptual initiator of the project as well as the cooperation among the above institutions. Our thanks also go to the Croatian Ministry of Culture and the former Office for Culture of Zagreb (now the Office of Education, Culture, and Sport), as without their financial support this exhibition would not have been possible.

Ante Rendić-Miočević

# UVOD

Ovom izložbom željeli smo pokazati sličnosti i različitosti dvaju različitih geografskih prostora u vremenu posljednjega tisućljeća prije nove ere. U arheologiji je ono podijeljeno u tri različite vremenske i kulturološke jedinice.

Značajka kasnoga brončanoga doba ili kulture polja sa žarama, koje traje do 8. stoljeća prije naše ere, a geografski obuhvaća cijelu Europu, je jedinstveni način ukopa – spaljeni pokojnici se u urnama pokapaju u ravnim nekropolama. Vrijeme od 8. do 4. stoljeća pr. n. ere obuhvaća starije željezno doba i najveći dio izložene građe potječe iz toga vremena. Period od 4. stoljeća pa sve do 1. stoljeća pr. n. ere obuhvaća mlađe željezno doba, za koje je u središnjoj Hrvatskoj pa i u Sloveniji značajan dolazak srednjoeuropskoga naroda – Kelta. Prisutnost Kelta u Lici nije pouzdano dokazana, ali se njihova materijalna ostavština ipak pojavljuje sve do dolaska novoga europskoga imperija – Rima, odnosno rimske države koja je svoje interese na prostoru Balkanskoga poluotoka tražila već u 2. stoljeću pr. n. ere.




Najznačajnije i najviše naseljeno razdoblje, izložbom obuhvaćenog teritorija i materijala, je vrijeme starijega željeznoga doba.

Šire područje Like u to doba naseljeno je Japodima, a Dolenjska moćnom grupom stanovnika nama nepoznata imena. Obje grupe su međusobno graničile samo u manjem dijelu, uz rijeku Kupu, dok su im prirodne datosti različite. U Lici prevladava krševiti teren uz nekoliko vrela i rijeka s Likom i Gackom, dok u Dolenjskoj i Beloj krajini, koja kulturološki pripada dolenjskoj grupi, prevladava za poljoprivredu pogodnije tlo uz Krku, Savu i Kupu. Obje skupine njeguju sličnosti u načinu stanovanja, dok u načinu pokapanja, uz sličnosti, postoje i različitosti. Naselja prvoga tisućljeća pr. n. ere, kako u Japoda tako i u dolenjskoj grupi, bila su utvrđena i smještena na uzvisinama kako bi strateški nadzirala okolne ravnice i putove što su vodili od naselja do naselja. Bedemi su bili izgrađeni od kamenja i drvenih greda te od zemlje u tehnici suhoga zdanja bez uporabe veziva – malte. Kuće u unutrašnjosti bile su manjih dimenzija i korištene su više kao sklonište nego u smislu današnje predodžbe o stanovanju, pa se tako, izgleda, život odvijao uglavnom u okolici kuće. Nastambe su bile sagrađene od drva, oblijepljene glinenom žbukom – kućnim lijepom. U unutrašnjosti se nalazilo ognjište, te rupe u podu – prostori za pohranu namirnica.

Zbog oskudice istraživanja gradina njihov nam je urbanizam nepoznat. Gradine su imale jedan, a ponajviše dva utvrđena ulaza, do kojih je vodio put, odmah

# INTRODUCTION

The aim of the exhibition »Amber and Glass« is to show the similarities and differences of two different geographical regions during the period of the last millennium BC. This period is divided archaeologically into three different chronological and cultural units.

The late Bronze Age, also called the Urnfield Culture, which extended to the 8th century BC and encompassed all of Europe, was characterized by a distinctive burial ritual – the cremated remains of the deceased were placed in urns and buried in flat cemeteries. The period from the 8th to the 4th centuries BC is referred to as the early Iron Age, and most of the exhibited material comes from this time. The period from the 4th century to the 1st centuries BC is termed the late Iron Age, characterized in central Croatia and also in Slovenia by the arrival of a central European people – the Celts. An actual presence of the Celts in the Lika region has not been reliably proven, but their material remains can nonetheless be noted up to the appearance of a new European empire – Rome, which pursued its interests in the Balkan peninsula from as early as the 2nd century BC.

The most important and most densely settled period represented by the territory and material covered by the exhibition is the early Iron Age.

The broader region of Lika was settled in this period by a people known as the Iapodes, while a powerful group whose name unfortunately remains unknown lived in Dolenjska (Lower Carniola). These two groups had a common border only in a small section along the Kupa River, while the natural features of their regions differed. Lika has a predominantly rocky terrain with several springs and rivers in the Lika and Gacka valleys, while Dolenjska and Bela Krajina (White Carniola), which belonged culturally to the Dolenjska group, were blessed with territory better suited to agriculture along the Krka, Sava, and Kupa/Kolpa Rivers. The two groups exhibit similarities in settlement type, while both similarities and differences existed in the burial ritual. The settlements of the first millennium BC, both of the Iapodes and the Dolenjska group, were fortified and located on heights for strategic control of the surrounding lowlands and the routes that led from place to place. The walls of these hillforts were built of stone and wooden beams, and from earth, all without the use of mortar. The houses inside the walls were of small dimensions and were used more for shelter than dwelling, as it seems that most activities took place around the houses. The houses were built of wood coated with clay – a technique known as wattle-and-daub. The interior of each house had a hearth, as well as pits in the floor used for storage.

The urban layout of the hillforts remains unknown due to lack of research. Each hillfort had one or at most two fortified gates, with an additionally fortified access road adjacent to the ramparts. The cemeteries – the cities of the dead – were located along such roads, down the slopes of the hillfort, and in

do bedema i dodatno utvrđen. Uz put, niz padine gradine pa i u dolini, nalaze se nekropole – gradovi mrtvih. Oblik nekropola je različit – japodska skupina sahranjuje svoje umrle u ravne nekropole, dok dolenjska gradi grandiozne zemljane grobne humke, tzv. tumule, u koje sahranjuju pripadnike jedne obitelji kroz nekoliko vjekova. Što se tiče načina života, obje skupine bave se stočarstvom i poljoprivredom, trgovinom i zanatstvom, dok su im lov i ribolov sporedne djelatnosti, odnosno više razonoda. U dolenskoj grupi značajna grana je i metalurgija. U centralnoj Dolenskoj bilo je mnoštvo željezne rude, tada strateški važne sirovine, koju su tadašnji stanovnici skupljali po površini i talili u pećima za željezo. Obje skupine imaju bogati i siromašni sloj stanovnika, a obje, kao populacija, pokazuju prilično veliko materijalno bogatstvo, o čemu najbolje svjedoče pronađeni bogati grobni prilozi. Brojni prilozi u grobovima pokazuju kako je vjerovanje u život poslije smrti prisutan kod obje skupine. Mrtve su sahranjivali u vrlo bogato ukrašenoj nošnji, koja je označavala socijalni status pokojnika. U grobovima dolenjske skupine nalazi se nakit izrađen od bronce, željeza, stakla, jantara pa čak i od zlata, uz keramičke i metalne posude te dijelove ratničke opreme, koji označavaju ratnički sloj, dok kod Japoda toga običaja nema. Japodi sahranjuju svoje mrtve isključivo u nošnji, bogato ukrašenoj metalnim dijelovima i nakitom. Među nakitom se najviše ističu izrađevine od jantara i stakla. I jantar i staklo skupocjeni su i izuzetno cijenjeni materijali u pretpovijesnome društvu. Jantar se uvozio kao sirovina s dalekih baltičkih obala, te trgovačkim putem dolazio do odredišta. Japodi su ga voljeli i stoga rabili u velikoj količini. Obrađivali su ga sami, ali uvozili su i gotove proizvode. Staklenu pastu su također sami proizvodili i obrađivali, a staklo je u njih zastupljeno u neznatno manjoj količini. Kod dolenjske skupine situacija je obrnuta. U grobovima žena prevladava nakit izrađen od stakla. To su staklena zrna plave, žute, zelene, bijele i smeđe boje u različitim nijansama i kombinacijama, ukrašavana izbočinama, okašcima te izrađena u različitim oblicima. Staklene ogrlice se u dolenjskoj grupi za vrijeme starijega željeznoga doba (8.–4. st. pr. n. e.) pojavljuju u tako velikim količinama da možemo pouzdano zaključiti da su se pretpovijesni stanovnici Dolenjske bavili proizvodnjom i oblikovanjem stakla i staklenih izrađevina. Staklo je pretpovijesnim kulturama bilo zamjena za drago kamenje, osobito vrjednovani proizvod koji je imao i visoku tržišnu cijenu. Zbog velike količine nakita izrađenoga od tih materijala, pronađenih kod obje skupine, odlučili smo pokazati sličnosti i različitosti pri oblikovanju.

Također, smatramo korisnim vidjeti i neobrađeni jantar, onakav kakav se nalazi na obalama Baltičkoga mora, a koji je tek trgovačkim putovima dolazio do odredišta na obradu.

Kremeni pijesak kao glavna sirovina za izradu stakla, kao i svi varijeteti kremena te matične stijene ključne za genezu stakla prikazani su u namjeri zornoga predstavljanja kompliciranе tehnologije koju su pretpovijesni majstori rabili za izradu nakita, za ono doba izrazitoga obilježja luksuza.

the valleys below. The forms of the cemeteries were different – the Iapodian group buried their dead in flat cemeteries, while the Dolenjska group built immense earthen burial mounds called *tumuli*, where members of a family or clan were buried throughout several cemeteries. In terms of lifestyles, both groups were involved in stock-raising and agriculture, trade and crafts, while hunting and fishing were secondary activities, more like pastimes. Metallurgy was an important branch of the economy in Dolenjska/Lower Carniola. Central Dolenjska abounded in iron ore, then a strategically important raw material. It was gathered by the inhabitants from surface deposits and smelted in furnaces. Both rich and poor social classes were present in these two groups, which as a whole exhibited considerable material wealth, as is best indicated by the rich grave goods. The numerous items placed in graves as offerings show that the members of both groups believed in a life after death. The dead were buried in very richly decorated attire, which denoted the social status of the deceased. The graves of the Dolenjska group contained jewellery made of bronze, iron, glass, amber, and even gold, along with pottery and metal vessels, as well as military equipment that designated the warrior class. This custom was not present among the Iapodes, as they buried their dead exclusively in an attire richly decorated with metal elements and jewellery.

Amber and glass items stand out particularly among the jewellery. Both amber and glass were expensive and highly valued materials in prehistoric societies. Amber was imported as a raw material from the distant coast of the Baltic Sea, and arrived along established trade routes. It was popular among the Iapodes and they used it in large quantities. They worked it themselves but also imported finished items. They also produced and worked glass paste, but glass was present in considerably smaller quantities. The situation was reversed for the Dolenjska group. Jewellery made from glass predominated in the female graves. This primarily consisted of glass beads of blue, yellow, green, white, and brown in various nuances and combinations, made in various shapes and decorated with protrusions and »eyes«. Glass necklaces appear in such large quantities in the Dolenjska group during the early Iron Age (8th–4th centuries BC) that it can be reliably concluded the prehistoric inhabitants of Dolenjska were involved in the production and manufacture of glass and glass products. Glass was a replacement for precious stones in prehistoric cultures, a particularly valuable product that maintained a high market price.

The large amounts of jewellery made from amber and glass and discovered at the sites of both groups inspired us to try to show their similarities and differences. It also seemed useful to show the appearance of raw amber, as it is found on the beaches along the Baltic Sea and as it would have reached its final destinations along trade routes. Quartz sand as the main raw ingredient in producing glass, as well as all the varieties of flint and other minerals essential for the genesis of glass are shown with the intention of graphically presenting the complicated technologies that prehistoric craftsmen had to use in order to produce jewellery, which then, as now, represented a distinctive symbol of luxury.

# O JANTARU...

U staro doba, dok je još svijet imao svoj kraj, s njegovih rubnih dijelova hrabri i poduzetni putnici i trgovci donosili su jantar i najfantastičnije priče o njegovu postanku. Tako prema grčkoj mitologiji bog sunca Helios uvečer dovodi Sunce do mora a onda čamcem preko mora prevozi na istok. Potom ujutro sunčevim kolima prelazi nebom do zapada. Ako se, prevozeći Sunce, previše približi Zemlji, nastane žega te iz drveća stane kapati *sunčevi kamen.* Rimski pjesnik Ovidije u svojim pjesmama nastavlja temu pričom o tome kako je Faeton, Zeusov sin, namolio oca da mu dopusti na jedan dan upravljati kolima. Budući mlad i nevješt, nije znao obuzdati konje te su se kola toliko približila Zemlji da je počela gorjeti. Božica Zemlje, uplašivši se za svoju budućnost, zamoli Zeusa za pomoć. On je obrani ubivši Faetona gromom. Nesretni Faeton zajedno s kolima sunovrati se u rijeku Eridan. Njegove sestre i majka, ne mogavši se rastati s njegovim grobom, stajale su na riječnoj obali i lile suze. Gledajući njihovu tugu, bogovi stvoriše drveće kome su iz granja za sva vremena tekle suze što na suncu otvrdnu i postanu jantar. Ma kako god nam se čudesnom činila ova priča ona u osnovi dobro tumači njegovu genezu, odnosno povezanost jantara sa smolom nekog drveća. U djelima Tacita i Plinija objedinila se sva dotadašnja spoznaja o njegovu postanku i pojavljivanju. Tako se čak navodi način *da u njeg dok je još tekuć dospijevaju i bivaju uhvaćene neke životinje, pa i one krilate.* U Homerovoj Odiseji nalazimo najstariji zapis o trgovini jantarom u kojem neki fenički mornar prodaje blještavi okovratnik urešen nanizanim jantarom. Rimljani su osobito cijenili jantar zbog njegove ljepote, ali i zbog navodne ljekovitosti. Za prosječni komadić jantara mogao se tako u Rimu kupiti odrastao i vrlo znažan rob, a Grci bi ga plaćali istom težinom zlata. Germani su tako darujući 5850 kg jantara rimskome caru Neronu uspjeli, makar i privremeno, odgoditi planirani vojni pohod ogromne i snažne rimske vojske na sjever.

Jantar je predmet interesa i proučavanja raznih struka. Kao osobito dekorativna meterija postao je predmetom interesa gemologa i mineraloga, iako nije mineral jer nema niti pravilnu građu niti je rezultat anorganskih procesa u litosferi Zemlje. Iako on nije tipični fosil, kao što su kosti dinosaura ili ljušture pradavnih školjkaša sada nepostojećih mora, geolozi i paleontolozi ga izučavaju zbog izuzetno dobro, u najsitnijim detaljima, sačuvanoga fosilnoga sadržaja, dokaza o dugom i promjenjivom postojanju života. Kao pratilac mnogih kultura stekao je dugu i važnu pretpovijesnu i povijesnu prisutnost jednaku onoj plemenitih metala te je od osobitoga arheološkoga značaja. Svatko tko se s njime susretne osjeti u njemu nešto arhaično, skriveno u njegovim toplim prirodnim bojama, nježnom opipu, iznimnoj lakoći i neusporedivosti blagoga diskretnoga sjaja. Taj očuvani – petrificirani komadić smole oštećenoga drva sačuvao je

# ABOUT AMBER

In ancient times, when the world still had boundaries, brave and adventurous travellers and traders brought amber and fantastic tales about its origin back from the very ends of the known world. According to Greek mythology. Helios, the god of the Sun, drove the Sun west to the sea in the evening, and brought it back by boat across the sea to the east. The next morning, he again crossed the heavens to the west in the chariot of the Sun. If he came too close to the Earth while driving the sun, the scorching heat would make sun *stones* start to seep from the trees.

The Roman poet Ovid, in his »Metamorphoses«, told the story of how Phaethon, Helios' son, asked for his father's chariot and the right to drive it for a day. Being young and inexperienced, he could not control the horses, and the chariot came so close to the Earth that it began to burn. Gaia, the goddess of the Earth, fearful for her future, asked Zeus for help. Defending her. Zeus struck Phaethon with a thunderbolt. The unfortunate Phaethon fell into the Eridanus River along with the chariot. His sisters and mother stood on the riverbanks and wept endlessly. Seeing their sorrow, the gods turned them into trees that constantly shed tears that turned hardened and turned into amber when exposed to the sun. No matter how fantastic this story seems, it explains the genesis of amber well, in terms of the connection between amber and tree resin. Tacitus and Pliny the Elder consolidated in their works everything that had been known until then about the origin and appearance of amber. They even noted that »some animals, even with wings, were entombed in amber in its liquid state«. The earliest records of the amber trade are found in Homer's »The Odyssey«, where a Phoenician sailor sold a brilliant necklace strung with amber beads. The Romans particularly prized amber for its beauty, and also its healing properties. An average sized piece of amber could fetch the price of a very strong adult slave in Rome, while the Greeks would pay its weight in gold. The German tribes succeeded, at least temporarily, in postponing the planned military invasion of their country by the huge and powerful Roman army by giving 5850 kilograms of amber to the Emperor Nero.

Amber is an object of interest and research in various fields. It interests gemologists and mineralogists because of its ornamental features, despite the fact that it is not a mineral, as it lacks a regular structure and is not the result of inorganic processes in the earth's lithosphere. Although it is not a typical fossil, like dinosaur bones or the shells of ancient shellfish from primeval seas, geologists and paleontologists study it because of the exceptionally well preserved and highly detailed fossil record, proof of the long and variable existence of life on earth. It is particularly interesting to archae-

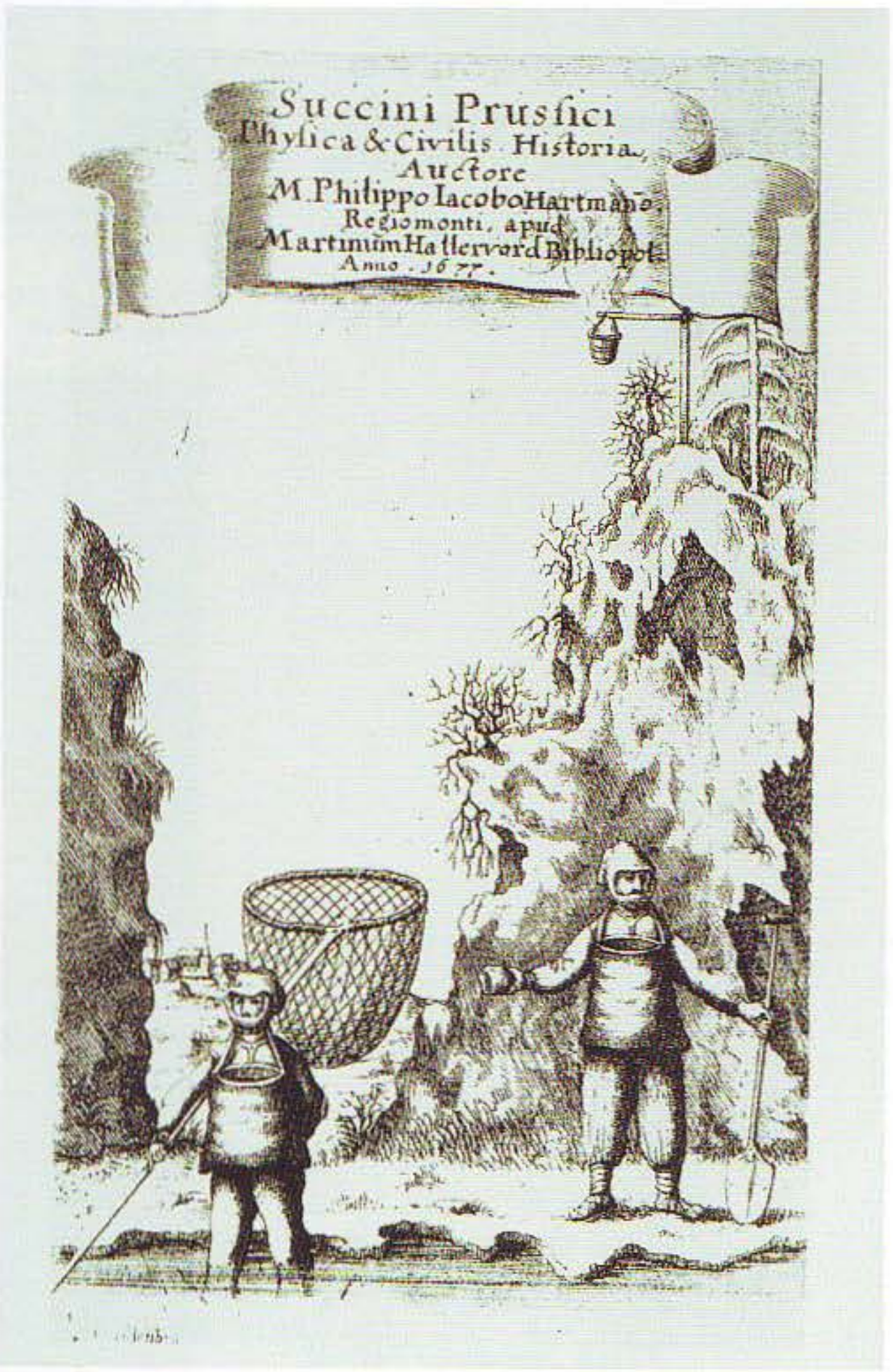
svu blagost pokušaja izlječenja. Na isti način kao što to danas čine brojne četinjače kada liječe svoje rane, činili su to i njihovi biljni preci kroz desetke i stotine milijuna godina unatrag. No od svega toga očekivanoga mnoštva kroz tako dugo razdoblje, tek iznimno rijetko ostvarili su se uvjeti da iz nepostojane smole nastane jantar sposoban preživjeti sve to vrijeme. Tajna njegove dugovječnosti krije se u prirodnim procesima vezanima uz nastanak velikih riječnih delta i laguna uz rubove mora i oceana. Kao lagani materijal, tek nešto teži od vode, rijeke su ga lagano prenosile samoga ili zajedno s drvećem do njihova utoka u more. U deltnim nanosima kroz dugo razdoblje mjereno milijunima godina, dok se drvo polako pretvaralo u lignit, smola se postupno polimerizirala u jantar. Posve sigurno da su pokraj odlučujućega vremenskoga faktora ključnu ulogu imali prvotni kemijski sastav smole, ali i gustoća, sastav, udio vlage i anairobnost glinovitoga sedimenta. Tako je nastalo stotina pojava širom svijeta, ali u većini njih jantara ima tako malo da je ostao nezamijećen. Poznatih nalazišta svega je desetak a samo jedno među njima, na baltičkome primorju, ima osebujnu povijesnu i izdašnu privrednu važnost.

## BALTIČKI JANTAR

Najveće svjetsko nalazište jantara i ujedno nalazište s najduljom tradicijom nalazi se duž obala Baltičkog mora u sjevernoj Europi. Najveća množina ga se nalazi na malome području poluotoka Samland. Poluotok veličine nekoliko stotina kvadratnih kilometara opasuju uske i strme obale s gotovo vertikalnim zaleđem. Taj uski obalni pojas bio je glavni izvor jantara prošlih milenija. Pronalazak jantara ovisio je uglavnom o vremenu. Poslije jakih oluja, kada su preoravali područje žala, jaki valovi izbacivali bi otrgnuti i isprani jantar duž cijele obale toga poluotoka. Najsnažniji valovi i morske struje mogle su ga prenijeti duž obala cijele Kaljinjingradske oblasti te uz obale Gdanjska sve do istočnih obala Danske. Zapadno, obale Litve, Letonije i Estonije postajale bi stjecište sakupljača a nalazili bi ga povremeno i na obalama južne Švedske i Engleske. Koliko je kroz povijest prikupljeno jantara ne zna se, ali iz novijega vremena sačuvane su vjerodostojne zabilješke. Tako je nakon nekoliko olujnih godina, u razdoblju od 1822. do 1825., na obalama Sjevernoga Jutlanda prikupljeno oko 1360 kg jantara. Rekord je zabilježen ipak na samome poluotoku Samland kada je samo u jednome danu 1862. godine, na plaži blizu mjesta Palmnicken (danas Jantarni), skupljeno 2000 kg. Tradicionalno prikupljanje izbačenoga jantara po obali ili iz plićih dijelova mora uz pomoć mreža na dugačkim motkama zadržalo se sve do polovice devetnaestoga stoljeća. Tada počinju prva rudarska nastojanja za njegovo dobivanje. Stručni zaključak geologa Georga Zaddachana iz 1850. kako samo jedan od slojeva dna Baltičkoga mora gotovo u cijeloj površini njegova bazena

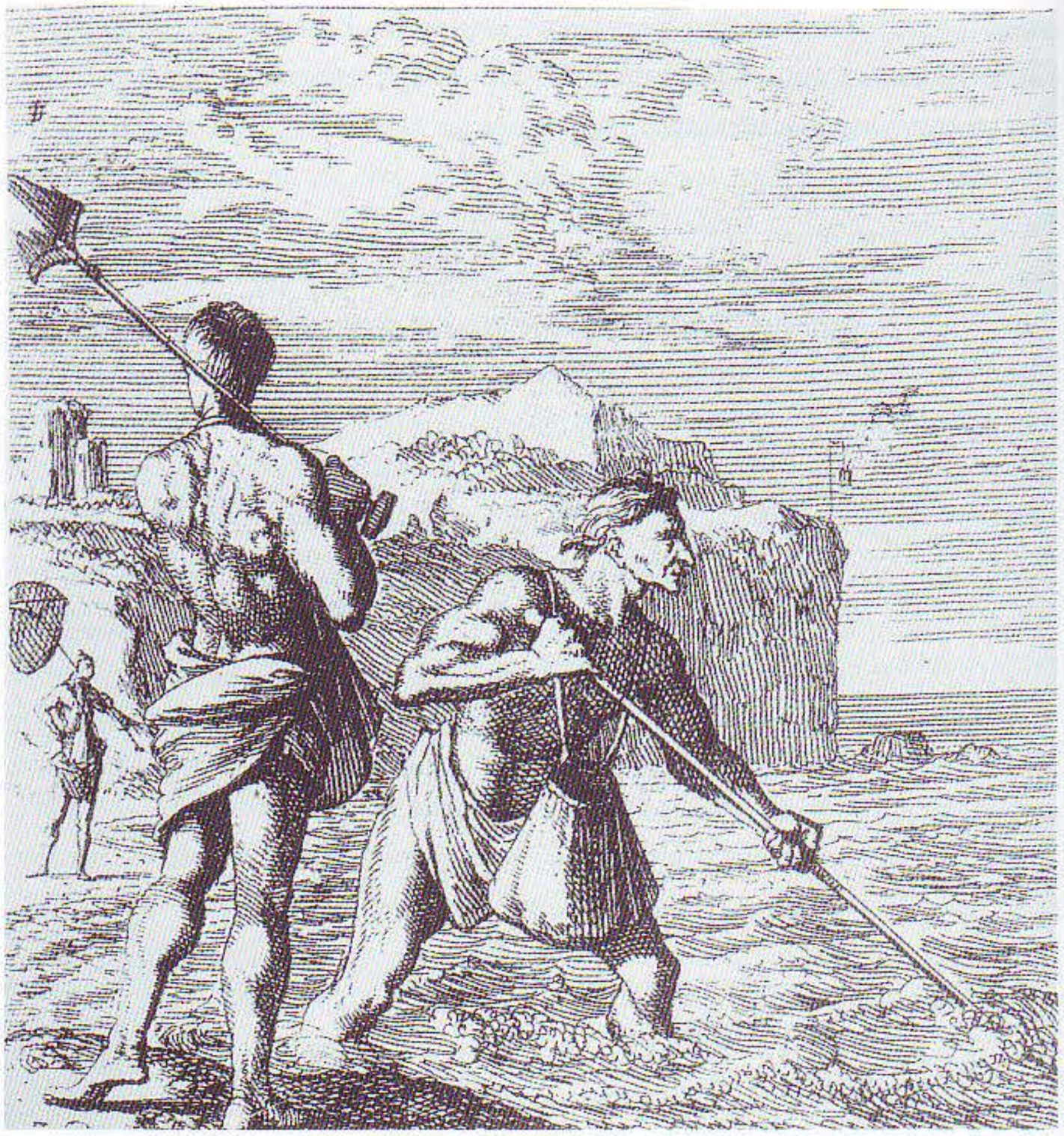
ologists since, like precious metals, it has played an important role in many cultures throughout the prehistoric and historic periods. Everyone who encounters amber feels something archaic in it, hidden in its warm natural colours, smooth surface, exceptional lightness, and incomparable mild subdued glow. This preserved – petrified piece of resin from a damaged tree has fully retained its gentle healing touch. Like many conifers today, which heal their wounds with resin, their predecessors did the same tens and hundreds of million years ago. Even though it could be expected that much amber would be produced in such a long period, the conditions necessary for the unstable resin to turn into amber capable of surviving all that time have rarely existed. The secret of its longevity lies in the natural processes related to the creation of large river deltas and lagoons along the shores of seas and oceans. As a light material, only somewhat heavier than water, rivers transported amber gently by itself or together with the trees into their estuaries. Through a long period measured in millions of years, the wood slowly turned into lignite in the delta deposits, while the resin gradually polymerized into amber. In addition to the crucial factor of time, a key role was played by the original chemical composition of the resin, as well as the density, composition, humidity levels, and anaerobic environment of the clay sediments. There are hundreds of such phenomena throughout the world, but most contain so little amber it remained unnoticed. There are only about ten known historically or economically significant deposits, among which only one has a distinctive historical and economic importance. This is amber from the Baltic coast.

**Preuzeto iz / from P. J. Hartmann, Succini Prussici Physica et Civilis Historia, 1677**
**(D. A. Grimaldi 1996)**




## BALTIC AMBER

The largest amber deposits in the world with the longest tradition of exploitation are found along the shores of the Baltic Sea in northern Europe. The largest quantities can be found in the small area of the Samland peninsula. This peninsula, measuring only a few hundred square kilometers, is bordered by narrow and steep shores backing onto almost vertical cliffs. This narrow shoreline has been the main source of amber for thousands of years. The discovery of amber mostly depended on the weather conditions. After strong storms, when the beaches were turned over, powerful waves would wash fragments of amber ashore along the entire coast of the peninsula. The strongest waves and sea currents could wash amber further along the coast of the Kaliningrad region, then along the Gdansk region beaches all the way to the eastern

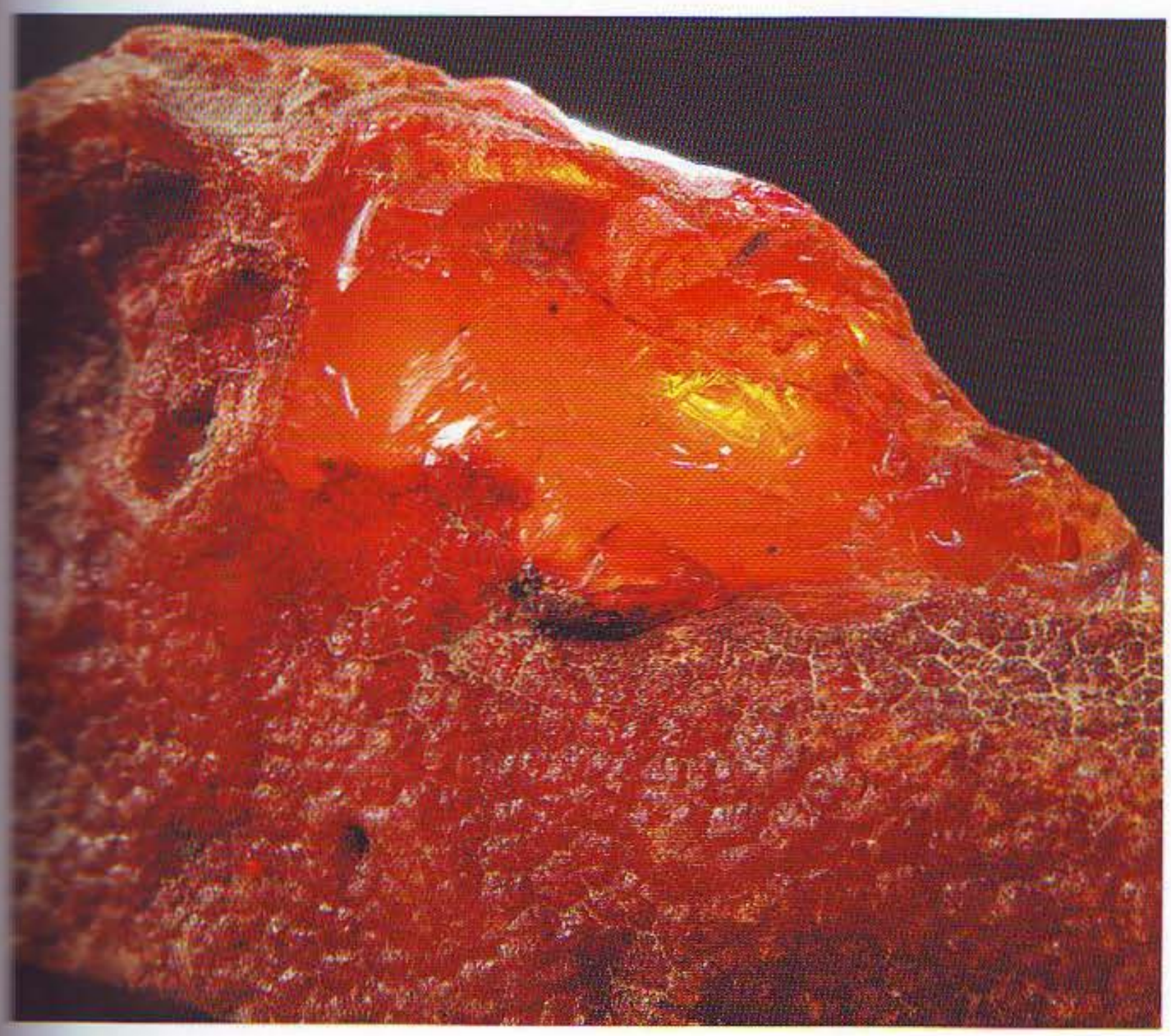


**Preuzeto iz/ from P. Abraham, Etwas für Alle d. eine kurze Beschreibung 1711 (D. A. Grimaldi 1996)**

sadrži jantar i taj se sloj, nazvan *plava zemlja,* samo kod polutoka Samland najbliže približava površini ne samo da je protumačio njegovo najizdašnije pojavljivanja, već je otvorio put i njegovoj većoj eksploataciji. Trebalo je prodrijeti do sloja *plave zemlje*, ustvari zelenkastoga sloja gline obogaćene mineralom glaukonitom koji se nalazi 4 do 5 metara ispod površine mora što je i do 40-tak metara ispod prosječne površine poluotoka. Tako je već 1854. Wilhel Stantien počeo uz pomoć 22 parna bagera skidanje krovnih naslaga. Na tome velikome poslu, osim zastrašujuće mehanizacije onoga vremena, sudjelovalo je i oko tisuću radnika. Nakon četrnaest godina mukotrpnoga rada doprli su do dovoljne količine *plave zemlje* te izdvojili dotada nezamislivih 84 000 kg jantara. Godine 1870. otvorena je nova lokacija za vanjski kop – Palmnicken, koja je već nakon pet godina dala izvanredne rezultate od 204 000 kg a svaka iduća bila je sve bolja i bolja, te je svoj vrhunac doživjela 1895. kada je izvađeno 544 322 kg jantara. U 30-im 20 st. sa svom tad aktualnom rudarskom tehnikom započinje mehanizacija Palmnickena koja se nastavlja do današnjih dana, no zlatna 1895. se više nije nikada ponovila. Treba napomenuti da je kroz sve to razdoblje od sve te količine jantara više od 90% tako loše kvalitete da može poslužiti samo kao bazna sirovina u kemijskoj industriji dok tek preostali, manji dio ima dekorativnu vrijednost.

shores of Denmark. To the west, the coasts of Lithuania, Latvia, and Estonia would become a collecting point for gatherers. Amber was also occasionally found on the beaches of southern Sweden and England.

The quantity of amber collected during history is not known, but reliable records have been kept in recent times. Thus, after several stormy years from 1822 to 1825, about 1360 kilos of amber were collected on the beaches of northern Jutland. A record was reached on the Samland peninsula, where 2000 kilograms were collected in a single day in 1862 on the beach near Palmnicken (present-day Yantarny). The traditional method of collecting the amber washed ashore in the shallow waters with nets and long hoes was continued as late as the middle of the 19th century. This when amber first began to be mined. In 1850, the geologist George Zaddach concluded that only one of the layers of the seabed of the Baltic Sea throughout almost its entire area contained amber. This layer, called *blau Erde* (blue earth), was close to the sea surface only at the Samland peninsula. Not only did this explain the abundance of amber, but it also opened the way to its increasing exploitation. It was not easy to reach the layer of the »blue earth«, in fact a greenish layer of clay rich in the mineral glauconite, located 4 to 5 metres under the sea surface, and about 40 metres below the average level of the peninsula. As early as 1854, Wilhel Stantien started removing surface layers with 22 steam excavators. This immense undertaking involved around a thousand workers in addition to the monstrous machinery of the time. After fourteen years of toilsome work they reached a sufficient amount of *blue earth* and removed the then unprecedented quantity of 84,000 kilograms of amber. A new open-pit mine was started in



**Jantar – sukcint, Baltik**
Amber – succinite, Baltic

## SVOJSTVA I PODRIJETLO NAZIVA

Engleski naziv *amber* vjerojatno dolazi od arapske riječi *aribar* ili riječi *ambergris* koja je označavala neku životinjsku supstancu. Orijentalizam *karabe* dobro opisuje njegovo svojstvo da privlači slamku. Naime, jantar posjeduje svojstvo da se naelektrizira trljanjem. To svojstvo bilo je poznato i starim Grcima pa ga tako Thalet iz Mileta naziva *elektron*. Latinski autori koriste nazive *electrum, succinum, glaesum*. Hebrejski naziv je *hashmal*. Nazivi *ćilibar, ćelibar* ili *ćiribar* dolaze od turskoga *kehlibar,* a naziv jantar od rusiziranoga oblika litvanskoga naziva *gentaros*.

Jantar je nehomogenoga sastava, najčešće je smjesa raznih prirodnih smola više ili manje topljivih u alkoholu, eteru i kloroformu te netopljivih bitumenoznih supstanci. Prosječni kemijski sastav može se prikazati formulom $C_{40}H_{64}O_4$, što nije posve točno jer sastav je nestalan i upitna je polimerizacijska sekvenca. Obično sadrži 67–87% C, 8.5–11% H, 15% O i do 0.46% S. Ugrijan do 300 °C počet će se raspadati dajući bistro žuto *jantarno ulje* i crni *jantarni kolofonij* ili *jantarnu smolu.* Pomiješan i otopljen u terpentinskome ulju daje *jantarni lak* ili *jantarni firnis*. Ugrijan na više temperature planut će jasnim plamenom i postupno izgorjeti. Na osnovu te pojave vjerojatno je izveden njemački naziv *bernstei (gorivi kamen).*

Baltički jantar sadrži 3 do 8% jantarne (succinic acid, lat. succus – sok) kiseline čime se razlikuje od ostalih jantara a napose smolâ koje je ne sadrže ili vrlo malo. Stoga se naziv *sukcinit* rabi samo za opis baltičkoga jantara. Podrijetlo jantarne kiseline treba tražiti ne samo u sastavu prvobitne smole nego i utjecaju morske vode bogate kisikom i alkalnim solima. Njegova tvrdoća je 2 do 3 prema Mohsovoj skali tvrdoće minerala, a gustoća mu je 1,05 do 1,09. Boje su mu najčešće žute u svim njenim nijansama, narančaste, crvenkaste, a ima ga obojanog i u smeđim tonovima i tamnim nijansama do potpuno crnog. Rijetko je zelenkast i sivoplavičast što je rezultat uklopaka nekih minerala. Na nekim primjercima se zbog pojave interferencije mogu opaziti efekti duge. Neki vjeruju da je boja izvorno rezultat vrste drva iz koga je kapala smola. No tome vjerojatno nije tako jer naknadni procesi imaju utjecaj i na promjenu boje. Pod ultraljubičastim svjetlom pokazuje jasnu plavičastu fluorescenciju što ga lako razlikuje od recentnih smola ili kopala. Providnost jantara je jako varijabilna, od potpuno bistrih do posve neprozirnih. Na neprozirnost utječu brojni uklopci među kojima su najčešći mjehurići zraka. Njihov udio, ali i njihova veličina stvaraju dodana estetska obilježja pa se tako razlikuju dva osnovna varijeteta; *oblačni jantar* koji sadrži velike zračne uklopke i *koštani jantar* koji je pun mikroskopski sitnih mjehurića te je neproziran i sličan slonovači. Prijelazni varijetet naziva se *bastard* ili *flom* koji je u osnovi neproziran i pun efekata što sliče mliječnim virovima. Osim sukcinita, pronalazi se i nešto malo jantara koji ne sadrže jantarnu kiselinu. Takvih je svega 0,2% od ukupne količine a to su tipično žuti *gedanit*, smeđi i neprozirni *stanitienit* te potpuno crni *bekerit*. Najrjeđe se među njima pojavljuje žuti *glesit* koji je osjetno mekši od ostalih.

1870 at Palmnicken. After only five years, it gave the stunning results of 204,000 kg, and each succeeding year was better, reaching a peak in 1895, when 544,322 kilograms of amber were extracted. In the 1930s the Palmnicken mine began to be mechanized with the most advanced technology of the time, and it has continued in operation to the present, but the golden year of 1895 has never been repeated. It should be mentioned that throughout all this time and from all these quantities of amber, more than 90% was of such low quality that it served only as a basic raw material for the chemical industry, while only the small amount remaining had a decorative value.

## PROPERTIES AND ORIGIN OF THE NAME

The English term amber probably derives from the Arabic word *aribar* or the word *ambergris*, which denotes an animal substance. The oriental term *karabe* perfectly describes amber's property of attracting a straw, as amber becomes electrified if rubbed. The ancient Greeks were familiar with this property, and Thaletus from Miletus called it *electron*. Latin writers used the tems *electrum*, *succinum*, *glaesum*. The Hebrew name is *hashmal*. Names like *ćilibar*, *ćelibar*, or *ćiribar* derive from the Turkish *kehlibar*, and the Croatian word *jantar* derives from the Russian form of the Lithuanian word *gentaros*.

The composition of amber is unhomogeneous, most frequently a mixture of various natural resins more or less soluble in alcohol, ether, or chloroform and a series of unsoluble bituminous substances. The average chemical structure can be expressed by the formula $C_{40}H_{64}O_4$, which is not exact because the structure is not consistent and the polymerization sequence is questionable. It usually contains 67–87% C, 8.5–11% H, 15% O, and up to 0.46% S. When heated to 300° C, it begins to disintegrate into a clear yellow *amber oil* and a black *amber colophony* or *amber resin*. Mixed into oil of turpentine it turns into *amber varnish*. Heated to higher temperatures, it flares up in a clear blaze and gradually burns down. The German name *bernstein* (burning stone) probably derives from this property of amber.

Baltic amber contains 3 to 8% of amber acid (succinic acid, Lat. succus = juice), which distinguishes it from other types of amber and other resins that contain little or no amber acid. Therefore the term *succinite* is used only for Baltic amber. The origin of amber acid should be sought not merely in the composition of the original resin but also in the influence of sea water rich in oxygen and alkaline salts. It measures between 2 and 3 on the Mohs hardness scale with a density from 0.15 to 1.09. The most frequent colours are all shades of yellow, as well as orange and red, but it can also be coloured in brown tones and dark nuances almost ranging to black. It is rarely found in green or grey-blue colours, which are the result of mineral inclusions. Some

**Jantar – sukcinit, varijetet; obični jantar, Baltik**

Amber – succinite, variety; cloud amber Baltic

## GEOLOŠKA PRIPADNOST

Na osnovu fosilnoga sadržaja utvrđena je tercijarna pripadnost (eocen – oligocen) baltičkoga jantara što odgovara starosti od 30 do 40 milijuna godina. Njegova velika varijabilnost upućuje na to da njegovo podrijetlo treba tražiti u raznim vrstama drveća. Sačuvani biljni dijelovi uklopljeni u jantaru potvrdili su takvu pretpostavku.Tako su od 1836., kada počinju brojna botanička i paleobotanička istraživanja, do danas identificirane i opisane vrste Pinites succinifer, rod Pinus, Araucaria te rodovi Keteleeria i Pseudolarix. Osim biljnih uklopaka, pronađeni su mnogi drugi fosili. Daleko najbrojniji su uklopci insekata koji, osim dekorativnosti, imaju osobiti značaj u rasvjetljavanju njegove geološke pripadnosti. Među nalazima insekata po ljepoti i uščuvanosti posebno se ističu neke vrste mrava, daleki srodnici današnjih pčela, i pauci. Poznati su nalazi nekoliko rakova, a pronađena su i dva kralježnjaka, jedna žabica i gušter. Takvi iznimni primjerci, osim neizmjerne znanstvene vrijednosti, postali su i predmetom sakupljanja tako da svaki primjerak jantara s fosilnim sadržajem postiže dodatnu vrijednost među kolekcionarima.

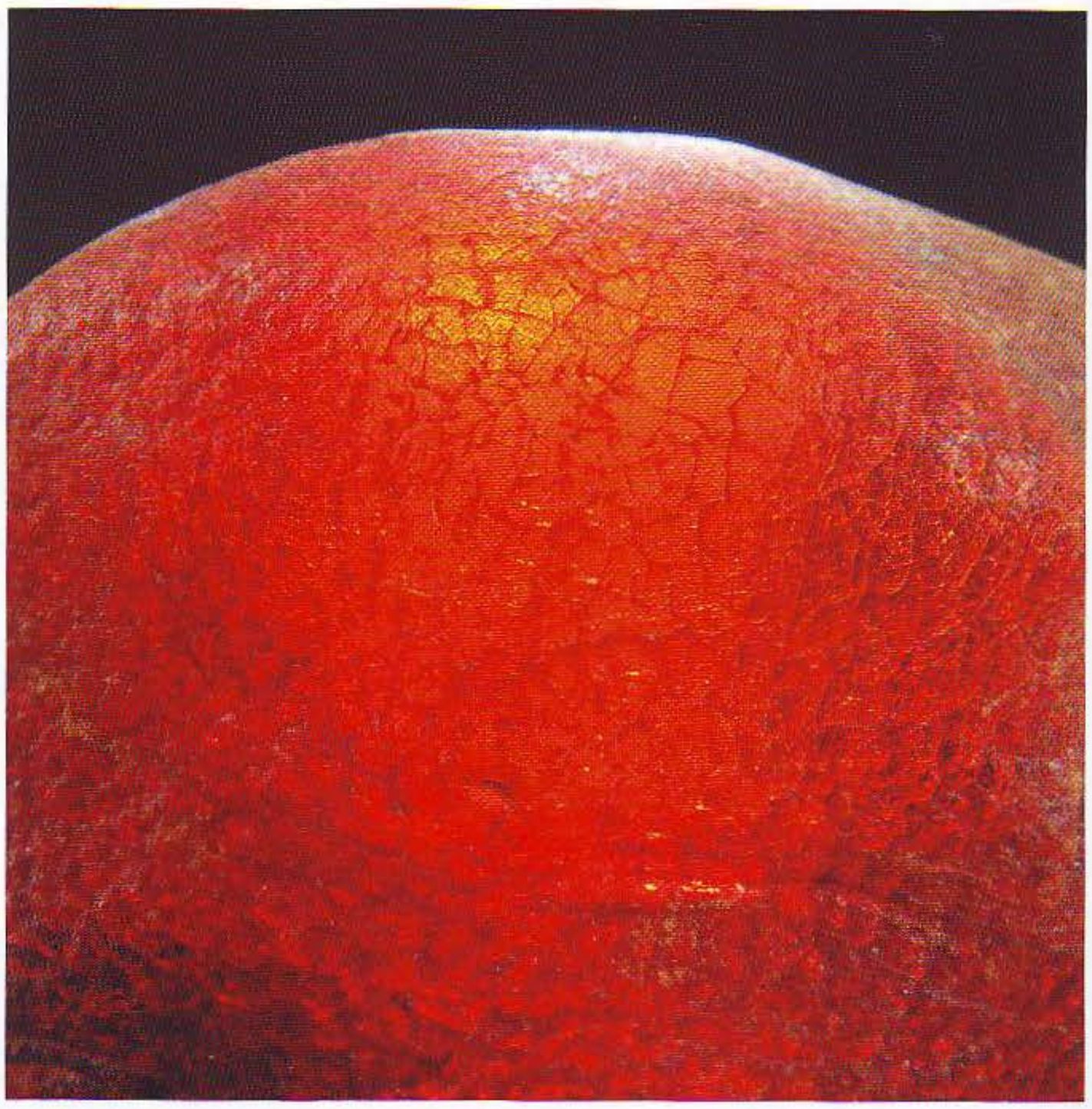
## NAJVAŽNIJE ZBIRKE BALTIČKOGA JANTARA

Najveći pronađeni primjerci jantara prema srednjovjekovnim izvorima težili su 12 i 16 kg ali upitna je pouzdanost onodobnih zapisa. Pouzdano je kako su pronađeni veći primjerci od 6750 g 1803. te od 9700 g 1860., ali nažalost nisu

samples have a rainbow effect caused by interference. Some believe that the colour originally resulted from the type of tree that produced the resin. But this is not probable, as subsequent processes also influence changes in colour. When exposed to ultraviolet light, amber shows a clear bluish fluorescence that easily distinguishes it from recent resins or copals. Amber varies in transparency, from completely clear to completely opaque. The opacity is caused by numerous inclusions, most frequently air bubbles. Their proportion and their size create additional aesthetic properties, and two basic varieties are distinguished: *cloud amber* with large air inclusions and *bone amber* with many microscopic bubbles, which make it opaque and similar to ivory. A transitional variety is called *bastard* or *flom*. It is basically opaque with many elements that look like milky whirls. Apart from succinite, a small quantity of amber without amber acid is found. It comprises only 0.2% of the total quantity, and typical forms are the yellow *gedanite*, the brown opaque *stanitienite*, and the completely black *beckerite*. The most unusual among these is yellow *glesite*, which is much softer than other types of amber.

**Jantar - sukcinit, varijetet; bastard, Baltik**

Amber - succinite, variety; bastard, Baltic



**Jantar - sukcinit, Baltik**
Amber - succinite, Baltic

sačuvani. U Muzeju jantara u Kaljinjingradu čuva se primjerak od 4280 g koji je pronađen 1950. godine. Osim njega, tu je trajni smještaj našla i zbirka Stantien-Becker sa svojih 70000 primjeraka. Lijepi primjerak od 9675 g, pronađen 1890., čuva se u berlinskome Humboldt muzeju. U Harvardskome muzeju nalazi se zbirka od 16000 fosilifernih primjeraka koju je 1867. iz Europe donio entomolog Hermann Hagen. U Letoniji velike zbirke baltičkoga jantara čuvaju se u Letonskome prirodoslovnome muzeju u Rigi i u Jantarnom muzeju u Palangi. Letonski povijesni muzej i Povijesni institut posjeduju najveće zbirke arheološkoga i etnografskoga jantara.

## GEOLOGICAL CLASSIFICATION

The fossil contents of Baltic amber confirm a dating to the Tertiary (Eocene – Oligocene), which corresponds to an age of 30 to 40 million years ago. Its great variability indicates that its origin should be sought in various tree types. Preserved floral inclusions in amber have confirmed such a hypothesis. In the many botanical and paleobotanical investigations carried out from 1836 to the present, the following have been identified and described: the species *Pinites succinifer*, the genus *Pinus*, the genus *Araucaria*, and the genera *Keteleeria* and *Pseudolarix*. Many fossils other than floral inclusions have been found. By far the most frequent are insect inclusions. In addition to being decorative, they also play an important role in illuminating the geological age of the amber. Certain types of ants, distant relatives of modern bees, and spiders stand out among the insect finds for their beauty and state of preservation. The remains of a few crabs have also been found, as well as two vertebrates, a small frog and a lizard. These extraordinary examples, in addition to their immeasurable scientific value, have also become collectors' items – every amber specimen with a fossil inclusion is highly valued among collectors.

## THE MOST IMPORTANT COLLECTIONS OF BALTIC AMBER

According to medieval sources, which are not always reliable, the largest known pieces of amber found weighed 12 and 16 kilograms. It is reliably known that a large piece weighing 6750 g was found in 1803, and one weighing 9700 g in 1860. Unfortunately, they have not been preserved. The Amber Museum in Kaliningrad houses a piece of amber weighing 4280 g, discovered in 1950. The same museum also contains the Stantien-Becker collection, consisting of 70,000 specimens. A fine example weighing 9675 g, found in 1890, is in the Humboldt Museum in Berlin. The Museum of Comparative Zoology at Harvard University houses a collection of 16,000 fossiliferous specimens, many brought from Europe in 1867 by the entomologist Hermann Hagen. Large collections of Baltic amber are kept in the Latvian Natural History Museum in Riga and in the Lithuanian Amber Museum in Palanga. The Latvian Historical Museum and Institute of History contain the largest collection of archaeological and ethnographical amber.

# OD KREMENA DO STAKLA

Ljepota, te zagonetna fizička i optička svojstva stakla poticala su ljudsku kreativnost, koja je dovela do mnogih važnih spoznaja. Moderna, sofisticirana znanost otkrivala je zakonitosti njegova nastanka, te ga definira kao neorganski produkt fuzije koji je brzim hlađenjem preveden u krutinu bez kristalizacije. Pri tome je ostala sačuvana amorfna struktura tj. nepravilan atomski raspored sličan tekućinama, a ujedno je postignuta krutost i rezistentnost. Tako je staklo postalo jedinstvenom materijom koja prati ljudsku civilizaciju od najranijih dana.

Prema Pliniju, Historia Naturalis 77. g. n. e., do pronalaska stakla došlo je slučajnim otkrićem negdje oko 5000. g. pr. n. e., kada su fenički trgovci na obali blizu Belusa u Maloj Aziji zabunom ukrcali pogrješan materijal za izradu grnčarije. Isporučili su, naime, tronu (natrij hidrogen karbonat) koja je pomiješana s pijeskom dospjela u peći za grnčariju što je rezultiralo nastankom stakla. Je li Plinijeva anegdota točna i nije toliko važno. Činjenica jest da drugoga zapisa o postanku stakla nema, te je vjerojatno da je otkriće postupka pravljenja stakla vezano za neki slučajan događaj.

Egipatske ogrlice od staklenih kuglica iz 2500.g, pr. n.e., kao najstariji očuvani stakleni predmeti, svjedoče o uporabi stakla koja seže daleko u povijest. Egipatska kultura se zbog velikoga broja nalaza staklenih predmeta, te ostataka kalupa i peći za taljenje smatra izvorištem proizvodnje stakla. Otkriće postupka puhanja stakla pripisuje se babilonskoj kulturi. Sigurni materijalni dokazi o tome sežu u 3. st. pr.n.e. Širenje Rimskoga Carstva dovelo je babilonske i sirijske staklopuhače u Rim, koji preuzima primat u proizvodnji i trgovini staklom. Politički usponi i padovi Rimskoga Carstva imali su snažni utjecaj na širenje, ali potom i na zamiranje proizvodnje stakla. Dezintegracija te stagnacija Zapadnoga Rimskoga Carstva dovela je gotovo do nestanka proizvodnje stakla na njegovu području. Tada Venecija, zahvaljujući dobrim trgovinskim odnosima, od Bizanta preuzima proizvodnju stakla te se ona, oživljena tijekom 13. i 14. stoljeća, postupno širi Europom. U Engleskoj se tijekom 17. stoljeća razvija proizvodnja *olovnog stakla* što se postiže dodavanjem olovnog oksida u osnovnu smjesu, a krajem toga stoljeća u Francuskoj se po prvi put uspješno proizvodi lijevano ravno staklo. Isto onakvo kakvo danas koristimo za prozore, no dobiveno puno mukotrpnijim postupkom koji je uključivao zamorno brušenje i poliranje. Tek razvoj tehnologije i povećana proizvodnja u 19. st. ruši visoku, i mnogima nepristupačnu, cijenu stakla tako da ono postaje dostupno svim slojevima društva.

Za razliku od velike pravilnosti koja se očituje u periodičkome ponavljanju atoma kod izgradnje kremena, staklo nema uređenu strukturu pa ga s pra-

# FROM QUARTZ TO GLASS

The beauty and the mysterious physical and optical properties of glass have always inspired human creativity, resulting in numerous important discoveries. Modern, sophisticated science has discovered the laws of its origin and thus has defined it as an inorganic product of fusion that solidifies without crystallization when cooled rapidly. Preserving an amorphous structure, with an irregular atomic array similar to liquids, and simultaneously being both rigid and resistant, glass became a unique material that has accompanied human civilization from the earliest times.

According to the Roman historian Pliny (*Historia Naturalis*, AD 77), glass was discovered by chance around 5000 BC when Phoenician merchants mistakenly transported the wrong material for making pottery from a beach near Belus in Asia Minor. They delivered a substance known as *trona* (sodium hydrocarbonate or soda ash), which was mixed with sand and placed in a kiln, resulting in the creation of glass. It is hardly important whether or not Pliny's anecdote is accurate. The fact is no other record exists about the invention of glass, so it is quite probable that the procedure for producing glass was indeed discovered accidentally.

Egyptian necklaces of glass beads dating from 2500 BC, the most ancient preserved glass items, bear witness to a use of glass extending far into the past. The Egyptian culture is believed to have been the original source of glass production because of the large number of finds of glass objects, remains of moulds, and furnaces. The discovery of the process of blowing glass is attributed to the Babylonian culture. Reliable material proof extends only to the 3rd century BC. The expansion of the Roman Empire brought Babylonian and Syrian glassblowers to Rome. It became the centre of major glass production and trade. The cyclical political rise and fall of the Roman Empire was strongly reflected in increases, but also decreases in glass production. The disintegration of the Empire and the stagnation of the Western Roman Empire almost brought an end to the production of glass on its territory. Later Venice, thanks to excellent trading connections, took over glass production from Byzantium and having revived it, gradually saw to its spread across Europe in the 13th and 14th centuries. *Lead glass* was developed in England in the 17th century, which was produced by adding lead oxide to the basic mixture for glass. The end of 17th century saw the first successful production of cast flat glass in France. This was the same as the glass used today in windows, but it was made in a more toilsome process that included tedious grinding and polishing. Owing to further technological development and

vom svrstavamo u amorfne materijale. Pomnijim uvidom u strukturna svojstva opažaju se pak velike razlike od, statistički gledano, potpuno neuređene strukture. Silicij koji čini glavninu stakla udružuje se u otvorene lance ili bolje rečeno povijene vrpce u čijim petljama nalaze mjesta ostali konstituenti; metali ili njihovi oksidi. U staklo se dodaje u većoj ili manjoj količini oko 50-tak kemijskih komponenti i elemenata da bi se postiglo neko željeno svojstvo; boja, gustoća, tvrdoća, stupanj refleksije, otpornost na trenje i agresivne kemikalije. Sastav stakla u osnovi je ostao nepromijenjen od prvih dana proizvodnje do danas. Obično staklo sadrži oko 70% kremenog pijeska, 13% kalcij oksida, i 12% natrij karbonata. Glavni tehnološki problem, visoka temperatura potrebna za konverziju kremena u talinu, od antike do danas rješava se uporabom natrij karbonata (popularno sode), koja je zahvaljujući svojstvu da osjetno snižava talište postala prvi poznati i nezamijenjeni dodatak. Umjesto *sode* može se koristiti i tzv. *kaustična soda* (natrij hidroksid) koja je od osobite važnosti u proizvodnji *vodenog stakla*. Mješavina sode i kremenoga pijeska se otapa u rastaljenoj sodi do zasićenosti, odnosno formiranja natrij silikata koji je, ovisno o udjelu pijeska i sode, topljiv u vodi.

Za potreban kalcij oksid koriste se vapnenci. Opreznim, malim povećanjem njegova udjela može se postići veća viskoznost staklene taline, skraćivanje vremena skrutnjavanja a i poboljšati neka svojstva; kao što je otpornost na atmosferilije.

Olovo, u obliku olovo oksida, može u cijelosti zamijeniti kalcij oksid. Time se postiže znatno povećanje gustoće i indeksa loma stakla. Od takvog *olovnog ili kristalnog stakla* spretni brusači znadu izraditi predmete živog, gotovo briljantnog sjaja. Element bor može u cijelosti ili djelomice zamijeniti silicij, pa dobivamo *borno staklo*, koje, osim što dobro podnosi visoke temperature, ima vrlo mali koeficijent termalne ekspanzije, zbog čega se mnogo koristi u izradi laboratorijske opreme.

Kremen, odnosno kremeni pijesak glavni je sastojak stakla. Stoga je osobita pozornost posvećena tome mineralu. Kremen je jedan od najčešćih minerala u Zemljinoj kori. Kao $SiO_2$ komponenta prisutan je u litosferi s više od 55%, od toga je udio kremena čak 12%, a ostatak je vezan na silikate i alumosilikate. Kremen je glavni sastojak mnogih eruptivnih, metamorfnih i sedimentnih stijena. U kvarcitima, nekim pješčenjacima, pijescima ili šljuncima on je i jedini mineralni sastojak pa stvara važna sirovinska ležišta.

Naziv *kremen* vjerojatno potječe iz 14 st. kada su češki rudari nazivom *krem* označavali tvrde i jalove žice unutar rudnih tijela. Takve pojave saski rudari nazivali su *quertz*. Iz njihova naziva neosporno potječe i naziv *kvarc*, također vrlo raširenо ime ovoga minerala.

U povoljnim uvjetima kremen se razvija u predivne kristale. Kristalno tijelo zatvara šesterostrana prizma koja završava šesterostranim piramidnim pokrovom. Pojedinačni kristali kremena nisu rijetkost, no obično se pojavljuju

increased production in the 19th century, the exorbitant price of glass, for many out of reach, decreased and glass became accessible to all social classes.

In contrast to the great regularity of the atomic periodical array in the structure of minerals, glass does not have an ordered structure, so it is classified as an amorphous material. However, detailed research has shown that its structural properties are distinctly different from fully amorphous structures. Silicon, the main component of glass, forms an open lattice, or rather, linked curved bands containing additional components, such as metals or their oxides. Some 50 chemical components and elements are added to glass in larger or smaller amounts with the aim of achieving a desired property: colour, density, hardness, rate of reflection, and resistance to friction and aggressive chemicals. The basic composition of glass has not been changed since it was invented. Ordinary glass contains about 70% quartz sand, 13% calcium oxide, and 12% sodium carbonate. The main technological problem, the high temperatures necessary to melt quartz, has been solved from ancient times to the present by the addition of sodium carbonate (also called soda). Soda rapidly lowers the melting point and it became the first known and irreplaceable addition to glass. Instead of ordinary soda, caustic soda (sodium hydroxide) can also be used, which is particularly important in the production of *water glass*. A mixture of soda and quartz sand is melted in the caustic soda until saturation, that is until sodium silicate is formed, which is soluble in water, depending on the proportion of sand and soda.

Calcium oxide (or lime), made from limestone, is an important stabilizer. By cautiously increasing its proportion, the viscosity of the molten glass can be increased, reducing the hardening time and improving certain properties, such as resistance to weathering.

Lead, in the form of lead oxide, can replace calcium oxide completely. The addition of lead considerably increases the density and the refraction index of glass. Skillful glass cutters can make objects with a lively, brilliant lustre from such *lead* or *crystal glass*. Boron can partly or entirely replace silicon. *Boron glass*, apart from being resistant to high temperatures, has a very low coefficient of thermal expansion and therefore is frequently used in the production of laboratory equipment.

Quartz, in the form of quartz sand, is the main component of glass. Hence much attention has been paid to this mineral. Quartz is one of the most frequently found minerals of the earth's crust. As a $SiO_2$ component, it makes up more than 55% of the lithosphere, and of this quartz has as much as 12%, while the remainder are tied to silicates and alumosilicates. Quartz is the main component of many volcanic, metamorphic, and sedimentary rocks. In quartzites, some sandstones, sands, and gravels, it is the only mineral ingredient, forming important deposits of raw material. The Croatian term »kremen« probably derives from the 14th century, when Czech miners called

u grupama od nekoliko pa do stotinjak priraštenih pojedinaca. Lijepo razvijeni kristali kremena koji su savršeno prozirni, poput najbistrije vode, i potpuno bezbojni poznati su pod nazivom gorski kristal. Podrijetlo toga naziva seže u vrijeme glasovitoga grčkoga filozofa Platona (424.–347. god. pr.n.e.). Naime, u to doba bilo je uvriježeno mišljenje da je gorski kristal nastao skrućivanjem najčistije vode tj. da je led (grč. κρίσταλλοσ) nastao pod posebnim uvjetima. Presudan argument starih Grka za tu tvrdnju bila je činjenica da se kristali nalaze u Alpama, njima jedino poznatome nalazištu toga minerala, u području vječnoga snijega i leda. Isto mišljenje nalazimo i u rimskoga prirodoslovca Plinija koji u svom dijelu Historia Naturalis piše: »..... *uvijek se nalaze gdje zimi snjegovi donose najveću studen, stvara ih zbijeni led i najčistiji snijeg.*« Takvo mišljenje o nastanku gorskoga kristala zadržalo se, začudo, gotovo dvije tisuće godina. Vezu između kremena i leda definitivno je osporio engleski fizičar i kemičar Robert Boyle (1672. god.) utvrdivši da je kristal kremena gotovo tri puta teži od leda. Točnije, gustoća kremena je 2,65, a po tvrdoći je sedmi član Mohsove ljestvice, dakle i puno tvrđi od leda.

Javlja se i obojen, čemu je najčešće uzrok prisutnost stranih atoma u strukturi. Obojenja mogu izazvati i različiti sitni uklopci, ali i prirodna radioaktivnost stijena u kojima nastaje. Svaki tako obojeni varijetet ima svoj posebni naziv a poznati su kao vrlo rašireni i rado korišteni uresni materijal. Ljubičasti varijetet kremena zove se *ametist*, mnogo rjeđi žuti kristali – *citrini*. Kremene svih intenziteta sivosmeđe boje, od jedva zamjetljive do tako intenzivne da su jedva

**Ahat, Kameni vrh, Lepoglava, Hrvatska**

Agate, Kameni vrh, Lepoglava, Croatia

hard and barren veins in ores »krem«. Such veins were called »quertz« by Saxon miners. The word »quartz«, perhaps the most widespread name for this mineral, was undoubtedly derived from this term.

Under the right conditions, quartz can develop into beautiful crystals. The body of the crystal is a hexagonal prism ending in a hexagonal pyramidal top. Individual quartz crystals are not rare, but they are usually found in groups ranging from several up to a hundred individual crystals growing adjacent to one another. Finely developed quartz crystals that are perfectly transparent, like the clearest of waters, and completely colourless, are known as rock crystals. The origin of the name goes back to the time of the famous Greek philosopher Plato (424–347 BC). It was commonly thought at that time that rock crystal had been created by solidification of the clearest water, that in fact it was ice (krístallos) formed under special conditions. The decisive argument of the ancient Greeks for this theory was the fact that such crystals were found in the Alps, the only known site of discovery for this mineral at the time, in regions of everlasting snow and ice. The same opinion was shared by the Roman naturalist Pliny, who in his work *Historia Naturalis* wrote: »*...they are always found where the snows in winter bring the greatest cold, they are created from compressed ice and the purest snow.*« Surprisingly enough, this theory about the creation of rock crystal prevailed for almost two thousand years. Any connection between quartz and ice was definitively refuted by the English physicist and chemist Robert Boyle (AD 1672), who proved that quartz crystal is three times heavier than ice. In fact, the density of quartz is 2.65, and it ranks 7 on the Mohs scale of hardness, which means it is much harder than ice.

Quartz can also be coloured, the most common cause being the presence of foreign atoms in its structure. Colouring can also be caused by various small inclusions and the natural radioactivity of the rocks in which it was formed. Every coloured variety has its own name and they are widely distributed and popular ornamental materials. The purple variety is called *amethyst* and the much rarer yellow crystals are *citrines*. Quartz crystals of all grey-brown shades, ranging from barely coloured to so intensive tones they are barely transparent, are called *smoky quartz*. Entirely black and opaque quartz is called *morion*. The pink variety, called *rose quartz*, is quite common but is rarely well shaped. Very dense accretions of granular or fibrous quartz, whose structure is visible only under the strongest microscopes, go by the common name of *chalcedony*. Among these, the red to yellow-reddish ones are known as *cornelian*. *Agate* is a chalcedony made of variously coloured thin layers with concentric cross-sections.

Quartz is created by the crystallization of molten magma through pneumatolithic processes, from hot gases and water solutions. Its creation can be biogenic, as when single-celled organisms like radiolaria and diatoms build their



providni, zovemo *čađavcima*, a posve crn i neproziran kremen zovemo *morion*. U znatnoj količini, ali vrlo rijetko lijepo oblikovanih kristala, pojavljuje se ružičasti varijetet – *ružičnjak*. Vrlo guste nakupine sitno zrnatog ili vlaknastog kremena, čija se struktura uočava tek pod najvećim mikroskopskim povećanjima, zovu se zajedničkim imenom *kalcedoni*. Među njima su crveni do žutocrveni primjerci poznati pod nazivom *karneol*. *Ahat* je kalcedon različitih obojenih tankih slojeva, čije su presjeci koncentrične građe.

Kremen nastaje kristalizacijom iz rastaljene magme, pneumatolitskim procesima, iz vrućih plinova, te iz vodenih otopina. Može nastati i biogeno, naime jednostanični organizmi poput radiolarija (zrakaša), te dijatomeja (alga kremenjašica) svoje prekrasne kućice grade od kremena ili opala, a mnoge spužve izlučuju tzv. opalne sklerite, sitne iglice ili kvržice koje služe za učvršćivanje njihovog vrećastog »tijela«. Takve kremene naslage poznate su pod imenom *kremena zemlja*, *kremeno brašno*, ili *tripoli*. Ima ih u okolici Zagreba kod Vrapča, no velika su ležišta poznata iz Makedonije (Pulići, Zovići). Biogenoga podrijetla su i taložne stijene nastale akumulacijom skeleta organizama građenih od kremena ili opala – *radiolariti* ili *dijatomiti*.

Kremen je glavni sastojak najvećega dijela *pijesaka* i *pješčenjaka*. Pijeskom nazivamo rastresiti materijal koji se najčešće definira veličinom zrna od 0,0625 do 2,0 mm. Njegov sastav može biti vrlo raznolik, pa tako imamo *kremeni*, ili pak *karbonatni pijesak*, koji smatramo mehaničkim sedimentom, ili pak *ooidni*, koji je produkt kemijskih (ili biokemijskih) procesa.

Pijesak, kao i sav talog koji nastaje razaranjem kopna, velikim dijelom dospijeva u mora, no većinom je to tipični kopneni sediment. Taloži se u riječnim dolinama ili duž morskih obala, a većina pustinja prekrivena je spektakularnim putujućim pješčanim humcima koje još nazivamo dinama ili sipinama. Najčešći izvor pijesaka su plutonske stijene i metamorfiti tipa gnajsa iz kojih potječe najveći dio kvarca i feldspata u pijescima; terigeni (kopneni) sedimenti izvori su kvarca i čestica stijena, među kojima je čest rožnjak, koji je također pretežito kvarcnoga sastava.

Kako od primarnih magmatskih i metamorfnih stijena, koje sadrže desetak osnovnih i još niz akcesornih minerala, nastaje ležište gotovo čistog kvarcnog pijeska? Tajna je u svojstvima minerala – tvrdoći, kalavosti i kemijskoj stabilnosti. Stijene su na površini izložene atmosferskim i biogenim utjecajima koji ih malo po malo razaraju. U stijenama iz kojih potječe najviše kremena on zapravo često i nije najobilniji mineral, ali je neznatno topljiv, pa se kemijski gotovo i ne mijenja, tvrd je, a usto nema kalavost, pa je i mehanički izvanredno stabilan. Tako trošenje najprije zahvaća feldspate, koji se pretvaraju u kaolinit ili neke druge minerale glina, koje vode lako ispiru i odnose kao vrlo fine čestice, a minerali poput piroksena i amfibola mogu biti otopljeni i odnešeni u obliku iona. Pri tome naravno važnu ulogu ima i dužina transporta, tijekom kojega sve više nestaju mehanički manje stabilni minerali. Poznato

beautiful shells from quartz or opal. Many sponges excrete opal sclerites, tiny needles or bulges to harden their baggy »bodies«. These quartz sediments are known as *quartz earth*, *quartz flour*, or *tripoli*. They can be found in the vicinity of Zagreb, at Vrapče, but large deposits are also known from Macedonia (Pulići, Zovići). Sedimentary rocks formed by the accumulation of the skeletons of organisms built of quartz or opal are also of biogenic origin – such as radiolarite or diatomite.

Quartz is the main ingredient of most *sands* and *sandstones*. Sand is defined as a loose material with a grain size of 0.0625 to 2.0 mm. It can vary widely in composition; there are *quartz* or *carbonate* sands, which are considered mechanical sediments, or *oolithic* sands, which are the product of chemical (or biochemical) processes.

Sand, like all deposits formed by land erosion, primarily flows into the sea, but mostly it is a typical terrestrial sediment. It can be deposited in river valleys or along seacoasts. Most deserts are covered with spectacular moving sand banks, which are also called dunes. The most frequent source of sands is plutonic rocks and metamorphic rocks like gneiss, from which most of the quartz and feldspars in sand come. Terrigenous (land) sediments are the sources of quartz and rock particles, among which chert (also primarily composed of quartz) is common.

How are deposits of nearly pure quartz sand formed from primary magmatic and metamorphic rocks, which contain some ten fundamental minerals along with a series of secondary ones? The secret lies in the properties of the minerals – their hardness, cleavage, and chemical stability. Rocks are exposed on the surface to atmospheric and biogenic influences that cause them to decay little by little. Quartz is often not the most abundant mineral in the rocks from which it is formed, but it is barely soluble and thus does not change chemically, it is hard and does not split, which makes it exceptionally stable mechanically. The erosion first effects the feldspars, which turn into kaolinite or other clay minerals that water easily washes away as very fine particles, and minerals like pyroxene and amphibole can be dissolved and carried away as ions. Naturally, an important role in the process is played by the duration of transport, during which mechanically less stable minerals increasingly disappear. It is known, for instance, that Namibian sands are transported by winds along the coast all the way to five thousand kilometres distant parts of central Africa. This long journey is »survived« only by quartz and other minerals like garnets, zircon, rutile, or titanite, which are often found in larger quantities in such sand than in the original rocks. However, sands travelling relatively short distances to the shores can also be equally »purified«. Waves on the seashores constantly move the sand, even for short distances, and efficiently eliminate the unstable particles. The process can result in extraordinary pure quartz sands.



je, na primjer, da namibijske pijeske vjetrovi transportiraju duž obala sve do središnjih dijelova Afrike na udaljenost od oko pet tisuća kilometara. Tako dugi put »preživi« samo kvarc i minerali poput, na primjer, granata, cirkona, rutila ili titanita, kojih u takvom pijesku često nalazimo više nego u primarnim stijenama. No pijesci koji do obala mora putuju razmjerno kratko također mogu biti do jednake mjere »očišćeni«. Naime, valovi na morskoj obali koji pijesak neprekidno premještaju, makar i na manje udaljenosti, jednako efikasno eliminiraju nestabilne čestice. Rezultat mogu biti izvanredno čisti kvarcni pijesci.

Nalazišta pijeska u panonskom bazenu u uskoj su vezi s izdizanjem Alpa. U razdoblju neogena nastaju naslage klastičnih sedimenata kao rezultat njihova trošenja. Tijekom sljedećega razdoblja, pleistocena, kroz naizmjenične oledbe, kada ledenjaci erodiraju ogromne količine stijena, i zatopljivanja, kada rijeke prenašaju nanose u doline, nastaju nakupine pijesaka. U Hrvatskoj takvih naslaga kremenoga pijeska ima na području Psunja kod Lipika; a tu su i Jagma, Brezovo polje, Ravno brdo, dolina Šumetličke rijeke. Ogromne količine, ali dosta onečišćena pijeska nalaze se kod Đurđevca. Podrijetlo toga pijeska je u Alpama, donosila ga je »Paleo Drava«, a potom prenosio vjetar stvarajući dine. Zbog maloga sadržaja kremena nije se nikada koristio u izradi stakla. U Sloveniji su sva nalazišta sedimentnog postanka. Dolina Krke i rubovi Krške kotline te sjeverno, u okolici Krmelja, Sevnice i Senova, poznata su nalazišta u Dolenjskoj. Geološki je zanimljiv lokalitet Birčna vas gdje kremeni pijesak zapunjuje vrtače. Mokro polje, Poklek, Lončarjev dol, a Mesta Raka i Ravno su nalazišta u intenzivnoj eksploataciji. Na području Bosne i Hercegovine poznata su nalazišta kremenoga pijeska kod Prijedora, Sanskog Mosta, Doboja, Modriče, Tuzle, Zvornika i Kozluka.

*Kremena cjedina* ili *gejzirit* je opalna tvar koja se kemijski izlučuje oko vrućih vrela (gejzira) u formi stalaktita i prevlaka.

*Kremen kresivac* nalazi se u obliku gomolja ili pločastih konkrecija u vapnencima gdje je nastao dijagenetskim procesima, a izvor $SiO_2$ su organizmi s kremenim skeletima, ili vulkanski pepeo.

*Vulkansko staklo* ili *opsidijan* je prirodno staklo, dakle amorfna tvar s velikim udjelom $SiO_2$ komponente. Karakterističnog je ljušturastoga loma, boje je tamnosmeđe i još češće crne. Rezultat je brzoga ohlađivanja izlite magme.

*Tektiti* su produkti sraza velikih meteorite sa Zemljom. Kod tako velikih udara dio Zemljine litosfere se u trenu rastali i biva izbačen u formi rastaljenih velikih kaplji koje mogu padati nekoliko desetaka pa i stotina kilometara uokolo samoga meteoritskoga impakta.

The sand deposits in the Pannonian basin are closely related to the elevation of the Alps. Layers of clastic sediments were formed during the Neogene period as a result of their erosion. During the following period, the Pleistocene, accumulations of sands were formed through alternating cold periods when glaciers eroded huge amounts of rocks, and warm periods when the rivers transported the sediments into valleys. In Croatia, such deposits of quartz sand can be found in the area of Psunj (near Lipik), and also Jagma, Brezovo polje, Ravno brdo, and the Šumetlička River valley. Enormous quantities of sand, although impure, are known from the Đurđevac area. This sand originated in the Alps, it was transported by the paleo Drava River and later by winds that formed dunes. It has never been used in glass production because of the minimal quartz content. All the deposits in Slovenia are of sedimentary origin. Known finds in the Dolenjska region include the Krka River valley and the edges of the Krško basin, and to the north the surroundings of Krmelj, Sevnica, and Senovo. The site of Birčna vas is geologically interesting as quartz sand fills sink-holes. Other deposits at Mokro polje, Poklek, Lončarjev dol, Mesta Raka and Ravno are intensively exploited. In Bosnia and Herzegovina deposits of quartz sand can be found at Prijedor, Sanski Most, Doboj, Modriča, Tuzla, Zvornik, and Kozluk.

Washed quartz or *geyserite* is an opal material that is chemically released around hot springs (geysers) in the form of stalactites and coatings.

*Flint quartz* can be found as clumps or plate-like blocks in limestones, where it was formed by diagenetic processes, while sources of $SiO_2$ are organisms with quartz skeletons or volcanic ashes.

*Volcanic glass* or *obsidian* is a natural glass, meaning an amorphous material with a large proportion of $SiO_2$ components. It has a characteristic conchoidal fracture, and is dark brown or more frequently black in colour. It is the result of fast cooling of flowing magma.

*Tektites* are products of the collisions of large meteorites with the earth. When such major collisions occur, parts of the earth's lithosphere are melted instantaneously and are dispersed in the shape of large molten drops, which can fall tens and even hundreds of kilometres from the point of the meteorite impact.

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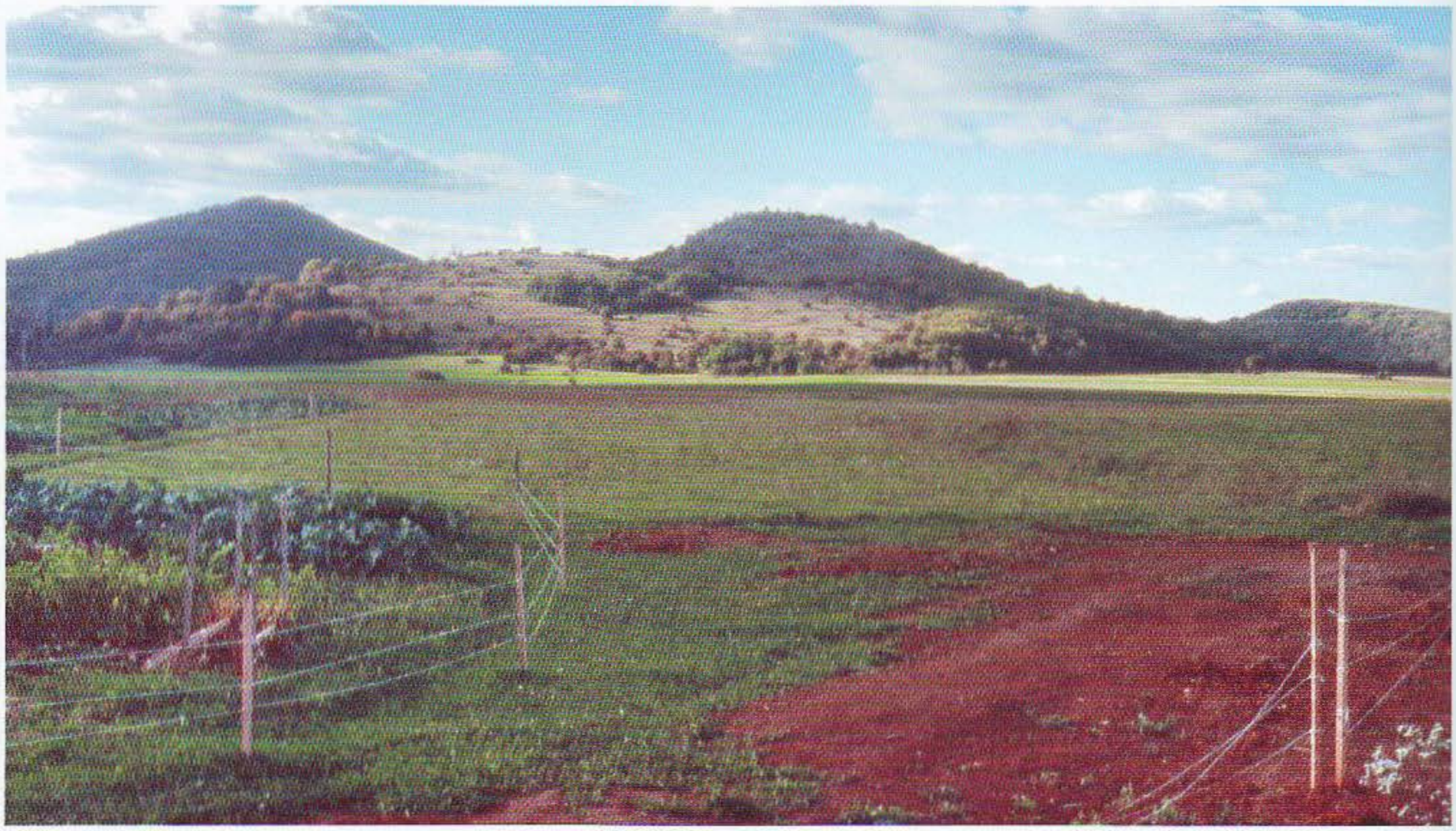
# NASTANAK I RAZVOJ JAPODSKE KULTURE

JAPODI (*Iapodes*, *Iapudes, Iapydes*) su prvotno skup srodnih plemenskih zajednica koje s vremenom prerastaju u narod, a njeguju istovjetnu materijalnu i duhovnu kulturu – način izgradnje utvrđenih naselja, način pokapanja, običaja i vjerovanja. Na temelju prožimanja autohtonih kulturnih tradicija i novopridošlih panonskih utjecaja kulture polja sa žarama, kraj kasnoga brončanoga doba možemo označiti kao nastanak japodske grupe (10. st. pr. n. e.). Granice njihovoga područja koje su se tijekom tisuću godina mijenjale su sljedeće: matično područje obuhvaća Liku i Ogulinsko-plaščansku udolinu s dijelom Gorskoga kotara i Korduna, a nastavali su i sjeverozapadnu Bosnu, uključujući i srednji dio toka rijeke Une (Cazinska i Bihaćka krajina). Povremeno su zauzimali i teritorij Hrvatskoga primorja. Cijeli kraj sastoji se od više krških polja, međusobno odvojenih humovima: Gacko, Ličko, Krbavsko, Koreničko, Gračačko i druga polja.

Antički pisci spominju pojedine japodske gradove. Strabon Amasijac (63. g. pr. n. e.) napisao je djelo *Geografia,* te u VII. knjizi spominje Japode, njihovu morsku obalu te kopnene gradove Metul (*Metulum, Metulon* – vjerojatno Viničica kod Josipdola), Arupij (*Arupium* – Vital kod Prozora), Monetij (*Mo-*

**Veliki i Mali Vital**



# THE ORIGINS AND DEVELOPMENT OF THE IAPODIAN CULTURE

The Iapodes (also *Iapudes*, *Iapydes*) were originally a group of related tribal communities that over time grew into a nation. Their identical material and spiritual culture was expressed in the construction of fortified settlements, and in burial rituals, traditions, and beliefs. The beginnings of the Iapodian Group can be dated to the end of the late Bronze Age (10th century BC), when indigenous cultural traditions became mixed with the newly arrived Pannonian influences of the Urnfield Culture. The boundaries of the area settled by the Iapodes changed over a thousand years. The central area encompassed the Lika region and the Ogulin and Plaški valleys, with parts of the Gorski Kotar and Kordun regions. They also inhabited northwestern Bosnia, including the central section of the Una River (the Cazin and Bihać regions). They occasionally occupied the territory of the Croatian Littoral. The whole region is made up of several Karst plains separated by hills: the Gacka, Lika, Krbava, Korenica, Gračac and other plains.

The Greek and Roman writers noted several Iapodian towns. Strabo mentioned the Iapodes in Book VII of his »Geography« (63 BC), specifically their coastal areas and the inland towns of *Metulum* (Metulon – probably Viničica near Josipdol), *Arupium* (Vital near Prozor), *Monetium* (probably Humac at Brinje), and *Avendo* (Kompolje). Other sources cited *Terponos* (probably Trojvrh near Plaški), *Ancus* (probably Stražbenica near Vrebac), *Ausancalio* (probably Medak), *Bivium* (probably Josipdol), and *Epidotium* (probably Kvarte). The locations of the above-mentioned towns have not yet been confirmed, but merely hypothesized. The question of whether or not the Iapodes reached the sea and settled there has not yet been solved, and archaeological data on this are lacking.

The Iapodes were an association of communities ruled by the most powerful among them. At the time of Octavian (1st century BC), they were divided into two associations situated on either side of the Kapela mountain range. Those on the southern side were called the Cisalpine Iapodes, and on the northern side, the Transalpine Iapodes. In the mid 3rd century BC, the Celts gradually began settling in regions along major rivers and founding settlements primarily in the Pannonian part of Croatia and in certain parts of Slovenia. Cultural influences from the Celts began to reach Iapodian territory, although the Celts themselves did not. Iapodian material culture was to some extent modified by these influences, but it still retained its indigenous traditions.

**Sinac, gradina Rudine**
Sinac, hillfort Rudine

*netium* –vjerojatno Humac u Brinju) i Vendon (*Avendo* – Kompolje). Iz drugih izvora zna se za gradove Terpon (*Terponos* – vjerojatno Trojvrh kod Plaškog), Ank (*Ancus* – vjerojatno Stražbenica kod Vrepca), Ausankalij (*Ausancalio* –vjerojatno Medak), Bivij (*Bivium* – vjerojatno Josipdol) i Epidocij (*Epidotium* – vjerojatno Kvarte). Lokacije tih gradova nisu dokazane, radi se samo o pretpostavkama. Pitanje japodskoga prodora na more te zauzimanje obale još nije riješeno, a arheoloških podataka o tome za sada nema.

Japodi su predstavljali savez zajednica pod vodstvom najjače među njima. U doba Oktavijana (1. st. pr. n. e.) dijelili su se u dva saveza s dvije strane planinskoga masiva Kapele. Južni dio naseljavali su Cisalpini, a sjeverni Transalpini.

Polovicom 3. stoljeća prije nove ere Kelti postupno naseljavaju područja oko većih rijeka i osnivaju naselja pretežito u panonskome dijelu Hrvatske i u nekim dijelovima Slovenije, odakle počinje strujanje kulturnih utjecaja na japodsko tlo. Japodski teritorij nisu nikada zauzeli. Na osnovu keltskih utjecaja japodska se materijalna kultura donekle mijenja, ali još uvijek slijedi autohtone tradicije.

Rimsko osvajanje japodskoga teritorija traje gotovo 200 godina. Pred sam kraj 1. tisućljeća pr. n. e., preciznije 35. g. pr. n. e., zapovjednik rimske vojske Oktavijan (poslije rimski car August), poduzima osvajački pohod na Japodiju i Panoniju, te redom osvaja japodske gradove, Avendo (Kompolje kod Otočca) i Arupij (Prozor kod Otočca), koji su se predali bez borbe. Grad Metul (vjerojatno Viničica kod Josipdola) pružio je organiziran otpor, koji je ubrzo ugušen. Nakon bitke kod Metula Japodija gubi samostalnost i postaje sastavni dio Rimskoga Carstva. Oktavijan 29. g. pr. n. e. u Rimu slavi trijumf nad Japodima. Nakon pokoravanja svih plemena između Jadrana, Drine i Save, Rimljani definiraju provinciju Ilirik. Ilirik je zemljopisno-administra-

**Zrna jantara, Prozor, 1. st. pr. n. e.**
Amber beads, Prozor, 1st century BC

The Roman conquest of the lands of the Iapodes lasted for almost 200 years. At the very end of the 1st millennium BC, in 35 BC, the commander of the Roman army, Octavian (later the first Roman emperor Augustus), launched an invasion of the Iapodian and Pannonian territories, and conquered in short order the Iapodian towns of Avendo (Kompolje near Otočac) and Arupium (Prozor near Otočac), which surrendered without a fight. The city of Metulum (probably Viničica near Josipdol) offered organized resistance, which was soon crushed. After the battle at Metulum, the Iapodian lands lost their independence and became a part of the Roman Empire. Octavian celebrated a triumph in Rome over the Iapodes in 29 BC. After all the tribes between the Adriatic Sea and the Drina and Sava Rivers had been conquered, the Romans organized the province of Illyricum. Illyricum was a geographical and administrative concept without defined cultural or ethnic communities, and the mistake has often been made of considering the Iapodes, as well as the Liburni and Histri, to have been Illyrian nations. The preserved archaeological heritage proves that the Iapodes were not an Illyrian people, but merely belonged geographically and administratively to the province of Illyricum in the Roman period.

Archaeological investigation of the Iapodian territory began at the end of the 19th century and has continued to the present, with a few short interruptions. Some two hundred hillfort settlements have been documented, but test excavations have been conducted only at a few. Not all corresponding ceme-

**Kompolje, gradina Crkvina**
Kompolje, hillfort Crkvina

tivni pojam s nedefiniranim kulturno-etničkim zajednicama, pa je u novijoj povijesti često dolazilo do zabune da se Japodi, kao i Liburni i Histri, imenuju jednim od ilirskih naroda. Sačuvana arheološka baština dokazuje da Japodi nisu ilirski narod, ali u rimsko doba zemljopisno pripadaju administrativnome pojmu Ilirik.

Arheološka istraživanja japodskoga teritorija započela su krajem 19. stoljeća te s kraćim prekidima traju do danas. Registrirano je oko 200 gradina – naselja, a tek na nekoliko njih vršena su sondažna istraživanja. Sve pripadajuće nekropole nisu otkrivene. Najveće nekropole otkrivene su na lokalitetima Prozor i Kompolje – Hrvatsko polje kod Otočca, a na gradinama Veliki i Mali Vital (Prozor) i Crkvina (Kompolje) vršena su tek manja sondažna istraživanja. Veća istraživanja poduzeta su i na lokalitetu Pećina kod Ličkog Lešća, a sondažna istraživanja i na Gradini nad Pećinom. Djelomično su istraženi lokaliteti Vrebac, Smiljan, Široka Kula, Trošmarija, Skradnik, Donji Kosinj, Duga Gora, a nalaza ima i s lokaliteta Bilaj, Brinje, Dabar, Gračac, Krbavica itd. Velike ravne nekropole otkrivene su i u Jezerinama, Golubiću, Ribiću i Ripaču kod Bihaća, te u Osretku kod Cazina. Sve to govori o mnoštvu naseljenih područja s razvijenom privredom, zanatstvom i trgovinom. Privreda je obuhvaćala stočarstvo, zemljoradnju, lov i ribolov, također zanatstvo, uz snažan razvoj metalurgije, obradu metala – bronce, bakra i željeza na prvom mjestu, a zatim srebra i zlata. Tu moramo još pribrojiti i proizvodnju i obradu staklene paste te obradu jantara. U zanatstvo moramo ubrojiti obradu drveta, i ostale vještine, od kojih nam nisu sačuvani tragovi.

Početak njihove povijesti možemo smjestiti na kraj kasnoga brončanoga doba i početak starijega željeznoga doba, tj. potkraj 10. st. pr. n. e. Osnovni tip naselja, koja nazivamo gradine, Japodi podižu na humovima, povišenim, strateški odabranim lokacijama, najčešće na rubovima krških polja (Ličko, Gacko, Krbavsko polje itd.). Uobičajeno je da je jedno naselje središnje, te

**Ličko Lešće – Pećina**

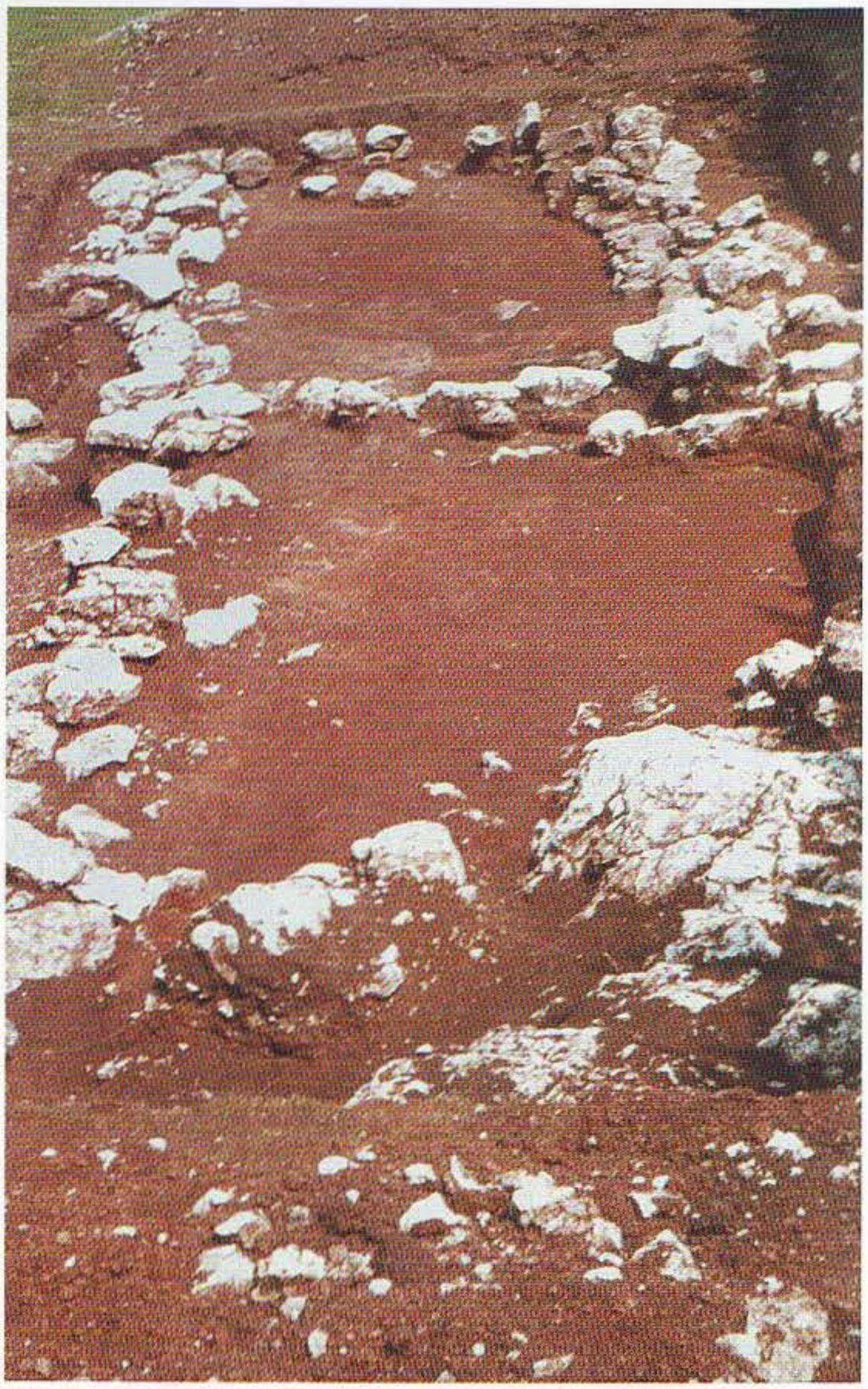
teries have been discovered to date. The largest cemeteries were found at Prozor and Kompolje – Hrvatsko polje near Otočac. Only limited test excavations have been carried out at the hillforts of Veliki and Mali Vital (Prozor) and Crkvina (Kompolje). More extensive research has been undertaken at the site of Pećina near Ličko Lešće, with test excavations at Gradina above Pećina. The following sites have been partly investigated: Vrebac, Smiljan, Široka Kula, Trošmarija, Skradnik, Donji Kosinj, and Duga Gora. Some finds are known from Bilaj, Brinje, Dabar, Gračac, Krbavica, etc. Large flat cemeteries were discovered at Jezerine, Golubić, Ribić and Ripač near Bihać, as well as at Osredak near Cazin. This all indicates that there were numerous settled areas with a developed economy, crafts, and trade. The economy consisted of stock-breeding, agriculture, hunting, and fishing. Crafts were also important, particularly the increasing development of metallurgy or metalworking – primarily bronze, copper, and iron, but also silver and gold. Amber working and the production and working of glass paste were also significant. Crafts must also have included woodworking and other skills of which traces have not been preserved.

The beginnings of Iapodian history can be placed at the end of the late Bronze Age and beginning of the early Iron Age, at the end of the 10th century BC. The basic type of settlement, which we call a hillfort, was erected by the Iapodes on hilltops, in elevated strategically selected positions, most often along the edges of Karst plains (Lika, Gacka, Krbavska plain, etc.). Usually one settlement was central, with other smaller, elevated settlements that belonged to individual districts. Houses were built on the levelled top or on terraces around the hillfort. A defensive system of dry-stone ramparts enclosed every hillfort settlement. The ramparts were built from a mixture of unworked stones without mortar (dry-stone) and timber (palisades). Many such stone ramparts have been preserved to the present, some up to 2 metres

**Ogrlica od staklene paste, Prozor, željezno doba**
Necklace made of glass paste, Prozor, Iron Age

da postoje i manja, povišena naselja, koja pripadaju jednome okrugu. Kuće grade na zaravnjenome vrhu ili na terasama uokolo gradine. Oko svakoga gradinskoga naselja izgrađen je kameni suhozidni bedem kao obrambeni sustav. Bedeme su gradili mješavinom neobrađena kamenja bez vezivnoga materijala (suhozid) i drva (palisada). Mnoštvo takvih kamenih bedema sačuvano je do danas, poneki u visini i do 2 metra (gradina Piplica – Lovinac; gradina Velika i Mala Karaula – Široka Kula; Masnikosina gradina – Pećani; gradina Stražbenica kod Vrepca, Rudine u Sincu itd.). Ulaz u naselje bio je na najpristupačnijem mjestu koje je štićeno masivnim drvenim vratima. Život se odvijao unutar bedema, na prirodnim ili izgrađenim terasama, ili na otvorenom prostoru podno gradina (podgrađe). Kameni ostaci temelja kuća pokazuju četvrtastu osnovu kuće s jednom do dvije prostorije, unutar kojih se nalazi ognjište.

**Plato Velikog Vitala**
Plateau of Veliki Vital



**Vital, temelj kuće**
Vital, house foundation

in height (Piplica-Lovinac; Velika and Mala Karaula – Široka Kula; Masnikosina – Pećani; Stražbenica near Vrebac, Rudine at Sinac, etc.). The entrance to the settlement, located at the most accessible point, was protected with a massive wooden gate. People lived either within the ramparts, on natural or artificial terraces, or in the open spaces below the hillforts (suburbium or lower town). The remains of stone foundations show that the houses had square plans with one or two rooms and an indoor hearth.

Each settlement of this type required extensive lowland areas for fields, pastures, water supplies, hunting areas, and building material (wood, stone, soil). Most hillfort settlements were connected visually, meaning from the highest point of one hillfort another settlement could be seen, together with its accompanying land, which played an important role in control of the area. Caves were rarely inhabited. Pile-dwelling settlements were built in the Una River basin.

The Iapodes had a cult of the dead and believed in the afterlife. The deceased were buried in the immediate vicinity of the settlements in flat cemeteries or under grave mounds (tumuli). They either were cremated (rarely), with their ashes placed in pottery vessels (urns), or were placed in earthen graves (more common), walled with broken or naturally flat stones. The deceased were sometimes laid on a wooden board or

**Gacko polje**
Gacka valley

Svako takvo naselje podrazumijeva i širi nizinski prostor potreban za život – poljoprivredno zemljište, pašnjake, vodu, lovno područje te građevni materijal (drvo, kamen, zemlja). Većina gradinskih naselja vizualno je povezana, odnosno s najviše točke jedne gradine vidi se druga, zajedno s pripadajućim prostorom, što je važno za kontrolu prostora. Rjeđe naseljavaju pećine, a u Pounju grade sojenice.

Japodi njeguju kult mrtvih te vjeruju u zagrobni život. Umrle pokapaju u neposrednoj blizini naselja u tzv. ravne nekropole ili pod humke (tumuli) na dva načina: spaljuju ih (rjeđe), a pepeo pohranjuju u keramičke posude – žare, ili ih pak polažu u zemljanu raku (češće), ograđenu lomljenim ili prirodnim pločastim kamenjem. Pokatkad umrloga polože na drvenu dasku ili u drveni sanduk. Kod žarnih je ukopa umrli spaljen na spalištu, pepeo je pohranjen u keramičku žaru, a grobni prilozi, najčešće nakit, dodavan je u žaru naknadno. Rijetko se vide tragovi paljevine na prilozima. Ponekad se pokraj glave umrloga nađe posuda u koju se stavljala hrana ili piće duši umrloga. U ravnim nekropolama uočeno je da postoje grupacije grobova, objedinjene vjerojatno po rodovskoj pripadnosti, a pokraj takvih grupacija redovito je vatrište. Vatrište je služilo za obavljanje obrednih radnji te za žrtve paljenice. Kult svete vatre zadržao se od davnih vremena na tom području, te je bio vezan uz kult mrtvih. Spališta umrlih odvojena su od vatrišta, a i puno su rjeđa, zato što je običaj spaljivanja umrlih puno rjeđi. Treba naglasiti da je na japodskom području u dolini rijeke Une (Bosna) taj omjer ujednačen.

Japode pokapaju u odjeći, često ukrašenoj metalnim dijelovima i nakitom. Na osnovi tih ostataka možemo djelomično rekonstruirati njihov način odijevanja i ukrašavanja, te proniknuti u neke njihove običaje i vjerovanja. Običaj je da se ni po čemu ne ističe način života pojedinaca, stoga umrli nemaju obilježja ratnika, ratara, obrtnika i sl. Nemaju običaj polaganja uporabnih predmeta (sjekire, oruđe ili oružje) u grob, a o razlozima za to možemo sa-

**Oglavlje, Prozor, 7. st. pr. n. e.**
Head covering, Prozor, 7th century BC

in a coffin. In cremation burials, the deceased was burnt on a funeral pyre, the ashes were collected in a pottery urn, and the grave goods, most often jewellery, were added to the urn later, as traces of burning are quite rare. Vessels with food and drink intended for the soul of the dead can sometimes be found by the head of the deceased. Groups of graves have been noted at the flat cemeteries, probably reflecting clan or family membership, and remains of fireplaces are regularly found next to them. Such fireplaces were used for ritual ceremonies and for burnt offerings. The cult of holy fire, related to the cult of the dead, had been retained from primeval times in this area. Funeral pyres are found in locations separated from the fireplaces, and are much less frequent because the custom of cremating the deceased was much more rare. It should be noted, however, that in the Iapodian region along the Una River valley in Bosnia, the proportion of inhumation and cremation burials is equal.

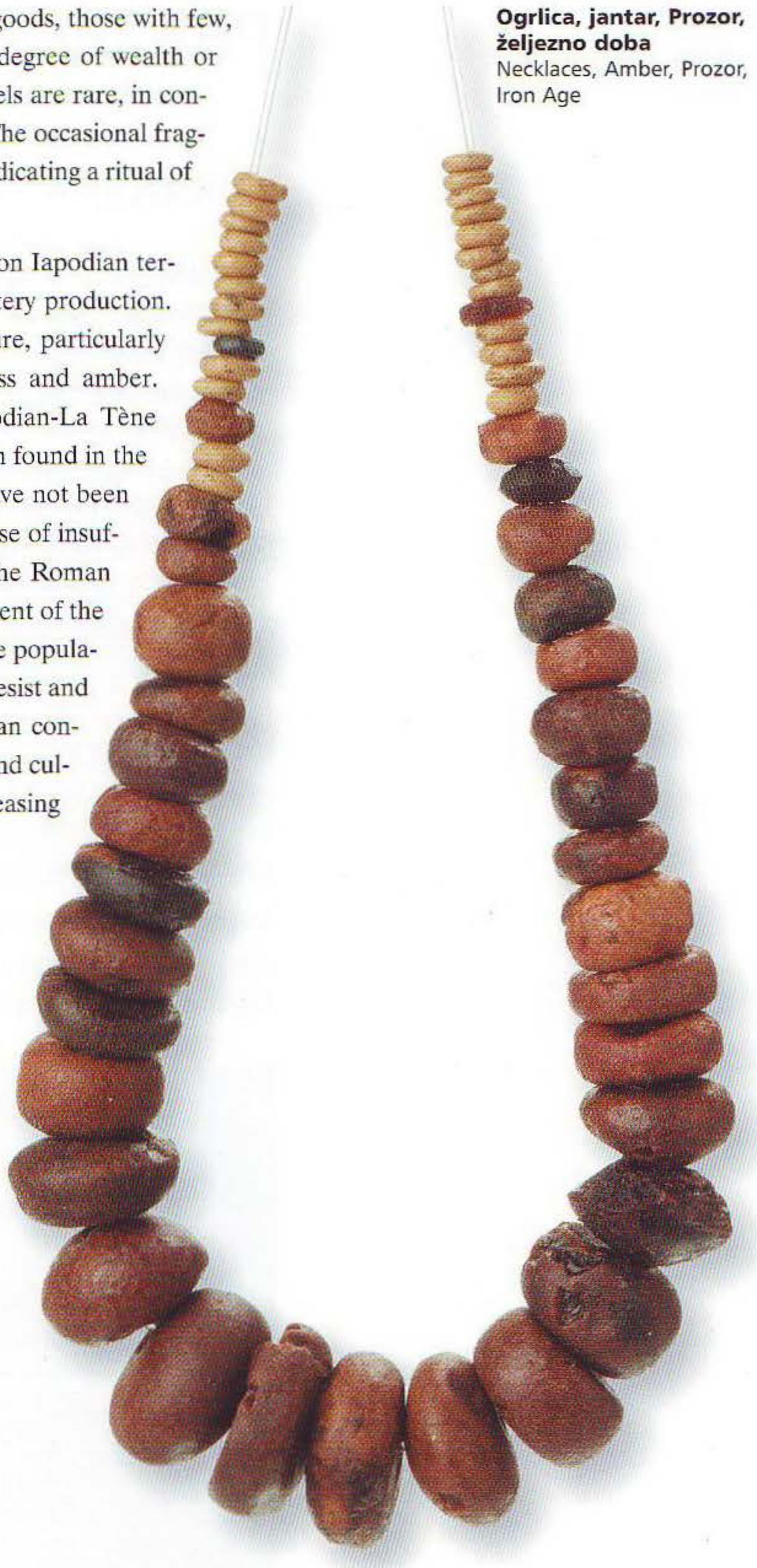
The Iapodes were buried in suitable clothing, often decorated with metal elements and jewellery. Such remains aid in the partial reconstruction of their attire and adornment, and offer insights into some of their traditions and beliefs. It was their custom that nothing should distinguish the lifestyle of the individual, meaning that the dead were not identified as warriors, farmers, craftsmen, and so forth. We can only speculate about the reasons why they did not have a custom of placing everyday objects (axes, tools, or

mo nagađati. Ima grobova bez priloga, s malo ili mnogo priloga, što daje naslutiti stupanj bogatstva ili siromaštva pojedinaca. Rijetki su grobovi s priloženom keramičkom posudom, kao što je to običaj kod susjednih naroda. Češće se nađe poneki ulomak keramičke posude grube fakture, što govori o običaju ritualnoga razbijanja posude iznad groba.

Prijelaz iz starijega u mlađe željezno doba na japodskom teritoriju nije uočljiv ni u načinu stanovanja, ni u proizvodnji keramičkih predmeta. U materijalnoj kulturi vidljivi su tzv. keltski utjecaji, posebno na fibulama, te na predmetima izrađenim od stakla i jantara. U nekropolama Pounja nađeni su grobovi koji sadrže predmete s izrazito japodsko-latenskim karakteristikama zajedno s ranorimskim predmetima. Takvi grobovi do sada nisu nađeni na centralnome japodskome području, a uzrok je nedovoljna istraženost. Povijesni izvori govore o rimskom zauzimanju Japodije, te o porobljavanju stanovništva gradova koji su pružali otpor. Stanovništvo gradova Avendo i Arupij nisu pružili otpor, te su se nakon rimskoga zauzeća gradova vratili u svoje domove. Oni su zasigurno još neko vrijeme zadržali svoje običaje i kulturno naslijeđe, unatoč naseljavanju stranoga (rimskoga) stanovništva.

weapons) in the graves. The graves without grave goods, those with few, and those with many items, allow us to note the degree of wealth or poverty of the individual. Graves with pottery vessels are rare, in contrast to the customs of the neighbouring peoples. The occasional fragment of coarse pottery is more frequently found, indicating a ritual of shattering a vessel above the grave.

The transition from the early to the late Iron Age on Iapodian territory cannot be seen in the lifestyle or in the pottery production. Celtic influences are evident in the material culture, particularly the fibulae (brooches), and objects made of glass and amber. Graves containing both objects with typical Iapodian-La Tène characteristics and early Roman artifacts have been found in the cemeteries of the Una River basin. Such graves have not been found to date in the central Iapodian region because of insufficient investigation. Historical sources recorded the Roman occupation of the Iapodian lands and the enslavement of the inhabitants of the cities that offered resistance. The population of the towns of Avendo and Arupium did not resist and therefore returned to their homes after the Roman conquest. They definitely still retained their customs and cultural heritage for some further time despite increasing immigration by foreign (Roman) settlers.



**Ogrlica, jantar, Prozor, željezno doba**
Necklaces, Amber, Prozor, Iron Age

# PRETPOVIJESNI PROZOR

## POKRAJINA GACKA

Zbog svojih geološko-petrografskih, geografskih i klimatskih posebnosti Gacka je druga pokrajina po veličini i značaju u cijeloj zavelebitskoj regiji. Ova pokrajina nosi naziv Gacka, jer se prostire uz istoimenu rijeku. Smjenjuju se veća i manja polja, izdužene uvale na rubu kojih ima mnogo manjih uzvišenja – humova. Na prvom mjestu treba spomenuti bilo Ostrovice, koje Gacku zavalu od niza manjih polja oko Drenovog Klanca, Kompolja i Brinja na jugozapadu dijeli na prostrano Gacko polje na jugoistoku. Cijelom dužinom Gackoga polja teče rijeka Gacka, od izvorišta na jugoistočnome dijelu, kod Lešća, do Otočca, gdje se dijeli u dva rukavca. Lijevi rukavac zalazi u dolinu Švice, a desni rukavac prolazi kroz Otočac te se ispod Brloga rastavlja opet na dva manja rukavca – jedan rukavac uvire u ponore kod Hrvatskoga polja, a drugi u ponore kod Gusića polja. Veliko kraško Gacko polje dugačko je 26 km, a najveća mu je širina 16 km. Zbog specifičnih uvjeta (relativno blaga klima, obilje vode u Gackoj koja nikad ne presuši, ali zna poplaviti, zemlja-crljenica na kojoj uspijevaju žitarice), ovaj je kraj bio pogodan za naseljavanje, tragove kojega možemo pratiti od najstarijih pretpovijesnih kultura.

Tragovi starijega kamenoga doba (paleolitika) su skromni. Na istočnoj strani izvora potoka Pećine u Ličkom Lešću otkriveni su dijelovi kostura raznih životinja, te pougljenjena kost nekog većeg preživača, što dokazuje prisustvo

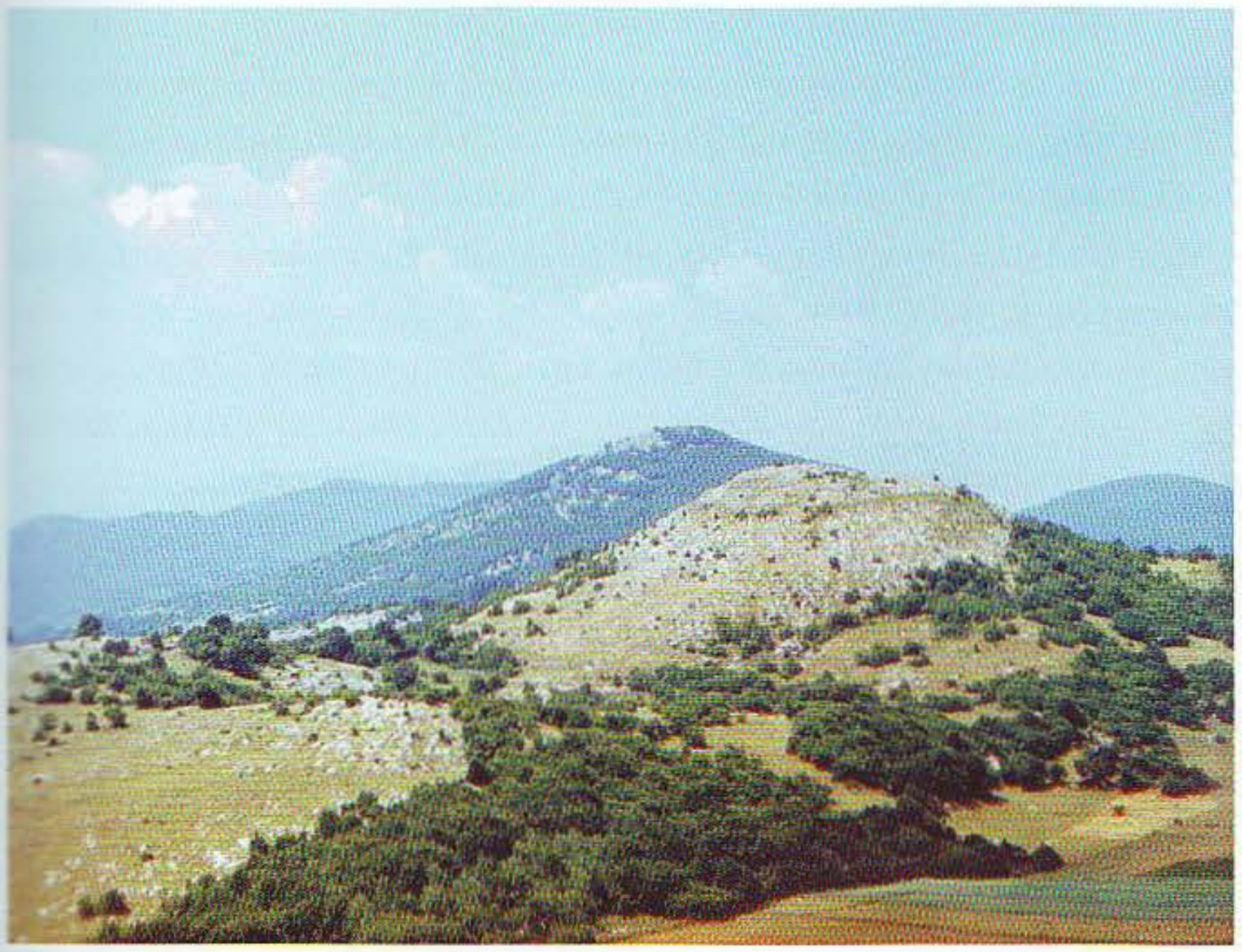
**Rijeka Gacka**
River Gacka

# PREHISTORIC PROZOR

## THE GACKA REGION

In terms of its geological, geographic, and climatic features, the Gacka is the second region in size and importance in the entire area on the inland side of the Velebit Mountains. This region is called the Gacka as it extends along the river of the same name. It consists of large and small plains, elongated valleys with many small elevations or hillocks along the edges. An important feature is the Ostrovice ridge, which divides the Gacka basin into a series of small valleys around Drenov Klanac, Kompolje, and Brinje in the southwest and the vast Gacka plain in the southeast. The Gacka River flows through the whole length of the plain, from its source on the southeastern side at Lešće, to Otočac, where it divides into two branches. The left branch flows into the Švica valley, and the right branch flows through Otočac and below Brlog again divides into two smaller branches – one flows into the chasm at Hrvatsko plain and the other into a chasm at Gusić plain. The large karst plain of Gacka is 26 km long, with a greatest width of 16 km. The specific conditions (a relatively mild climate, the constant level of water in the Gacka, which can sometime flood, fertile red soil good for growing grain) mean that this land was suitable for settlement, which can be traced back to the earliest prehistoric cultures.

Traces from the early Stone Age (Paleolithic) are scarce. Parts of the skeletons of various animals and a carbonized bone of a large ruminant were



**Veliki i Mali Vital**

paleolitičkoga lovca. Eneolitik, odnosno bakreno doba zastupljen je dvjema malim, plosnatim sjekirama. Jedna je nađena u šumi blizu Drenovoga Klanca, a druga u polju kod Ličkoga Lešća. Obje sjekire su slučajni nalazi.

Kraju srednjega i početku kasnoga brončanoga doba pripadaju nalazi sa lokaliteta Pećina u Ličkom Lešću (isti lokalitet koji je koristio i paleolitički lovac) gdje je nađen veći broj ulomaka keramičkih posuda.

Srednjemu i djelomično kasnome brončanome dobu pripada velika nekropola u pećini Bezdanjači koja se nalazi u masivu Godače, na brijegu Vatinovac, sjeveroistočno od Sinca. Na polovici toga strmoga brijega nalazi se prostrana pećina, u kojoj je otkriveno oko 200 skeletnih grobova. Popudbinu umrlih čine brojne keramičke posude, te nešto brončanih i drvenih predmeta. S toga lokaliteta potječu i najstariji nalazi jantara i stakla – u skupnom grobu br. 4 nađeno je malo okruglo zrno jantara probušeno po sredini, te kao zaseban nalaz ogrlica načinjena od zrna tamnoplavoga stakla, kombiniranih s kućicama puževa. Nalazi su okvirno datirani u 1400–1200 godina prije n.e.

Od kraja kasnoga brončanoga doba na tom prostoru počinje se formirati, na osnovu autohtonih tradicija i novopridošlih doseljenika, pleme koje će se nazvati Japodi. Tragovi njihove kulture mogu se pratiti skoro cijelo jedno tisućljeće neprekinutoga razvoja, sve do 35. godine prije naše ere, kada njihov teritorij osvajaju Rimljani.

## NASELJA

Naselja u Gackoj, u kojima su nađeni sigurni ostaci japodske materijalne kulture, smještena su na manjim uzvisinama na rubu polja, a samo jedno bilo je u pećini (Ličko Lešće). U arheološkoj literaturi, a i u narodnom govoru poznata su kao gradine, a prema izvršenoj klasifikaciji svih gradinskih naselja ovdje je zastupljen tip pojedinačne gradine. Izuzetak je dvojna gradina Veliki i Mali Vital u Prozoru, jer je smještena na dva brijega međusobno povezana blagim prijevojem. Naselja su utvrđena snažnim bedemima načinjenim od lomljenoga kamena ili širokim kamenim zidovima građenim u tehnici suhoga zidanja. Često imaju i posebno zaštićeni ulazni dio. Ulaz je 2–4 m širok i zatvaran je vjerojatno drvenim vratima, od kojih nam na žalost nisu sačuvani tragovi.

Na području Gacke do danas su registrirane 23 gradine, a na većini nisu izvršena arheološka istraživanja. Najpoznatije, te manjim dijelom istražene gradine su Crkvina kod Kompolja te Mali i Veliki Vital kod Prozora.

found on the eastern side of the source of the Pećina Stream at Ličko Lešće, proving the presence of a Paleolithic hunter. The Eneolithic or Copper Age was represented by two small flat axes. One was found in the forest near Drenov Klanac, the other in a field near Ličko Lešće. Both axes were chance finds.

The many fragments of pottery vessels from the Pećina site at Ličko Lešće (the same site used by the Paleolithic hunter) are dated to the end of the middle and the beginning of the late Bronze Age.

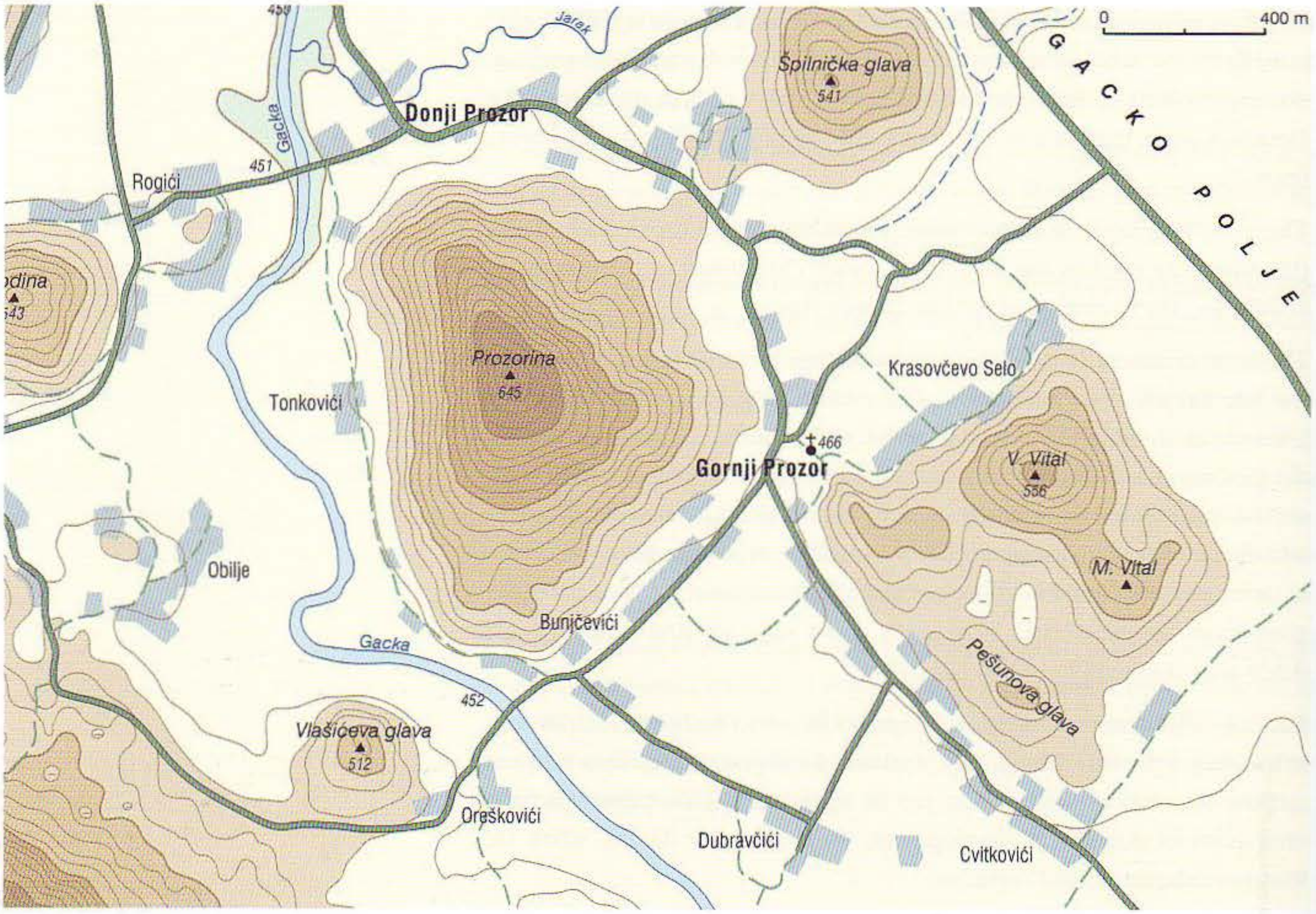
The large cemetery in Bezdanjača cave belongs to the middle and partly to the late Bronze Age. The spacious cave containing about 200 inhumation graves is located halfway up the steep hill of Vatinovac northeast of Sinac in the Godača massif. Numerous pottery vessels and some bronze and wooden objects represented travelling provisions for the dead. The earliest finds of amber and glass come from this site – a small round amber bead perforated in the center was found in collective grave 4. A necklace made of dark blue glass beads combined with snail shells was a separate find. The finds are dated approximately to 1400–1200 BC.

The tribe that was to be called the Iapodes began to be formed in this area at the end of the Bronze Age, as a mixture of indigenous traditions and new settlers. Remains of their culture can be traced throughout almost a thousand years of continuous development, up to the year 35 BC, when the Romans conquered their territory.

## SETTLEMENTS

Settlements in the Gacka region where Iapodian material remains have been found are located on small elevations along the edges of plains. A single cave settlement has been discovered (Ličko Lešće). In the archaeological literature, as well as in everyday language, they are known as hillforts, and according to the standard classification of all hillfort settlements, these represent the individual hillfort type. The exception is the double hillfort of Veliki and Mali Vital in Prozor, as it is situated on two hills connected with a slight saddle. The settlements are fortified with powerful ramparts of broken stone or wide stone walls built in the dry-stone technique. They often have a specially fortified entrance section. Such entrances were 2–4 m wide, and were probably guarded by wooden gates, but traces have not been preserved.

Twenty-three hillforts have been registered to date in the Gacka region, but archaeological excavation has not been performed at most of them. The most well-known but poorly investigated hillforts are Crkvina near Kompolje and Mali and Veliki Vital near Prozor.




# PROZOR

Selo Prozor nalazi se u središtu Gackoga polja, južno od glavne ceste Otočac-Gospić, 8 kilometara udaljeno od Otočca. Seoske kuće grupirane su jednim dijelom pokraj rijeke Gacke, a drugim uz rub polja, odnosno uz podnožje brjegova Veliki i Mali Vital, Prozorina i Plasa. Ugodna mikroklima, obilje vode ribom bogate Gacke te prostrane, plodne ravnice pružaju stanovnicima sela dobre uvjete za život i gospodarski razvitak.

Dvojna gradina Veliki i Mali Vital nalazi se na kotama 557 i 517, a u odnosu na prostor polja zauzima središnje i dominirajuće mjesto. S Velikoga i Maloga Vitala može se uspostaviti vizualna komunikacija s većim brojem gradina toga najširega dijela polja.

Veliki Vital ima izgled koso zasječenoga stošca kojemu je vrh danas potpuno ogoljen. Na sjevernoj strani, ispod vrha, vide se ostaci kamenoga bedema, a na južnoj strani, pri vrhu, nalazi se veća zaravnjena terasa na kojoj je sačuvan sloj humusa. Ispod te terase nižu se manje terase na kojima su podizane japodske kuće.

# PROZOR

The village of Prozor is located in the center of the Gacka plain, 8 kilometers from Otočac and just south of the main road to Gospić. Some of the village houses are grouped along the Gacka River with others along the edge of the plain, at the foot of the hills of Veliki and Mali Vital, Prozorina, and Plasa. The pleasant microclimate, the constant abundance of water in the fish-rich Gacka River, and the vast, fertile lowland areas mean the inhabitants of the village have favourable living and economic conditions.

The double hillfort of Veliki and Mali Vital is located at 557 and 517 meters above sea level, with a central and dominant position in the plain. Visual communication can be established from it with most of the hillforts in this widest part of the plain.

Veliki Vital looks like a cone cut at an angle, and its peak is completely bare today. The remains of stone ramparts are visible below the peak on the northern side, and a large levelled terrace with a preserved layer of humus is located on the southern side of the peak. A series of smaller terraces with Iapodian houses extend below this terrace.

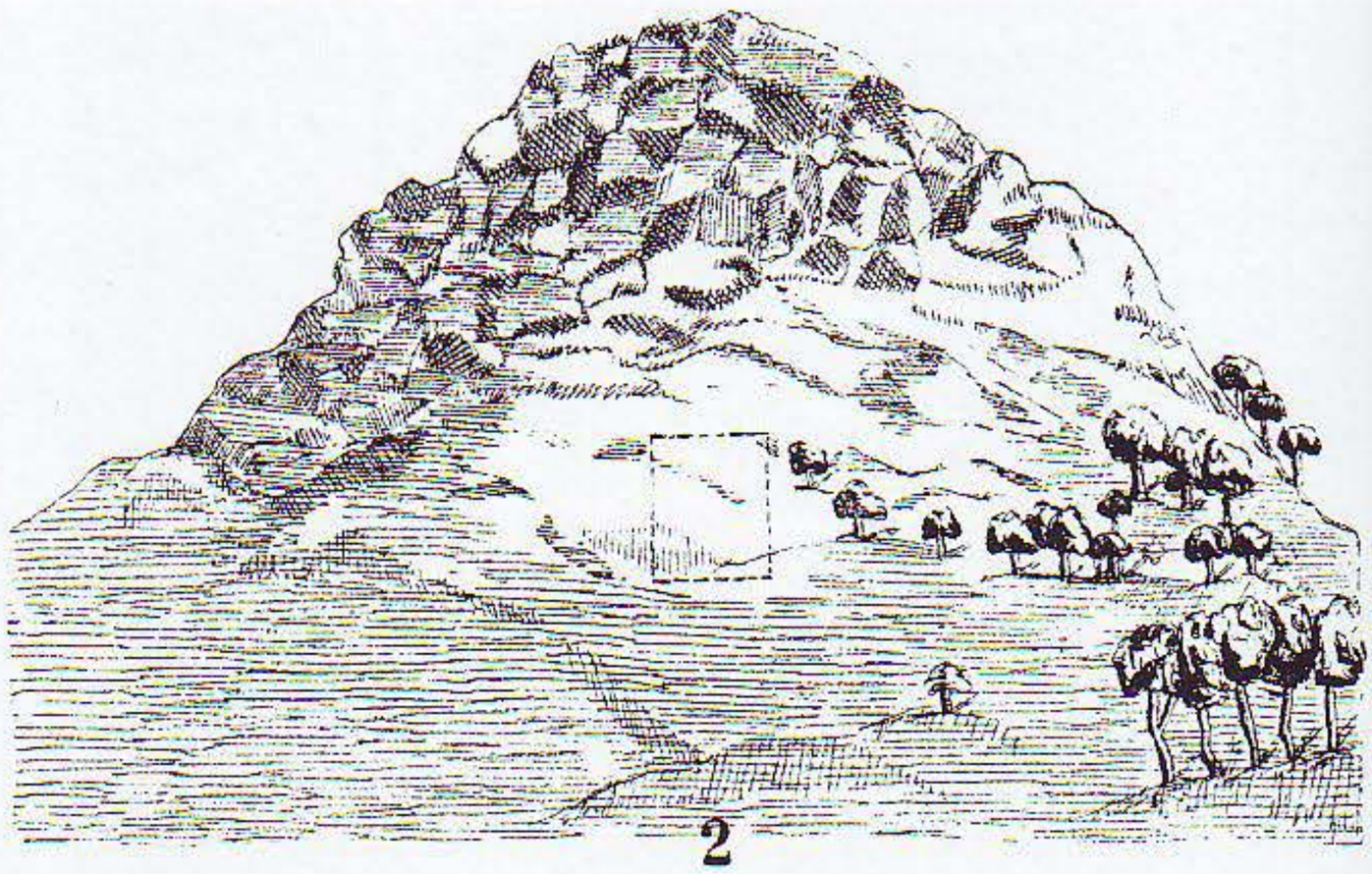
**Zrna stakla, Prozor, željezno doba**
Glass beads, Prozor, Iron Age

Blagim zemljanim prijevojem s istočne strane Velikoga Vitala prelazi se na gradinu Mali Vital. Danas je sačuvan samo manji dio kamenoga bedema na istočnoj strani. Površina te gradine vrlo je kamenita, tek na nekoliko mjesta ima sačuvanoga humusa.

Prema povijesnim izvorima ova dvojna gradina bila je japodski Arupij. Apijan Aleksandrinac, grčki povjesničar iz 2. stoljeća nove ere piše da su Arupijci i po broju i po hrabrosti najugledniji Japodi. U strahu od dolaska Oktavijanove vojske 35. godine prije naše ere oni se iz grada povukoše u šumu, očekujući što će se dogoditi. Kada je Oktavijan zatekao prazan grad, odlučio je da ga ne zapali i uništi, te obećao da, ukoliko se stanovnici vrate, mogu i dalje nastaviti nesmetano živjeti, ali pod rimskom upravom. Zbog toga obećanja, Arupijci su se vrlo brzo predali i vratili u svoj grad na brdu Vital. Rimljani su podno njihovoga grada izgradili svoj grad, rimski municipij *Arupium*. Prema arheološkim podacima, rimski doseljenici i Japodi imali su suživot tijekom 1. stoljeća naše ere, a vjerojatno i kasnije.

## POVIJEST ISTRAŽIVANJA

Prve podatke o lokalitetu zabilježio je 1880. g. učitelj Marko Marković koji iste godine započinje istraživanja, a nalaze šalje u Arheološki muzej u Zagrebu. Arheološki muzej od 1881. godine preuzima ta istraživanja, a vodi ih Šime Ljubić, tadašnji ravnatelj Muzeja. Marko Marković je imenovan muzejskim povjerenikom, te i dalje vrši istraživanja. Sama iskapanja traju desetak godina. Na žalost, Muzej posjeduje vrlo oskudnu dokumentaciju o tome, točne lokacije iskapanja su upitne, a terenskih dnevnika nema. U izvještajima se



**Vital, Š. Ljubić, 1885. godine**

The hillfort of Mali Vital is reached by a slight earthen saddle on the eastern side of Veliki Vital. Only a small part of the stone rampart on the eastern side has been preserved. The surface of the hillfort is very stony, with humus is preserved only in few places.

According to historical sources this double hillfort was once the Iapodian city of Arupium. Appian of Alexandria, a Greek historian of the 2nd century AD, wrote that the citizens of Arupium were the most renowned of the Iapodes for their numbers and courage. Fearing the arrival of Octavian's army in 35 BC, they withdrew to the woods, waiting to see what would happen. When Octavian reached the empty town, he decided not to destroy it, and promised the citizens that if they returned they could continue to live undisturbed, but under Roman rule. After this promise made, the citizens of Arupium soon surrendered and returned to their city on the hill of Vital. The Romans built their city below the Iapodian town – the Roman municipium of Arupium. The archaeological material confirms that the Romans and the Iapodes coexisted during the 1st century AD, and probably later as well.

## HISTORY OF RESEARCH

The first information about the site was recorded in 1880 by the teacher M. Marković, who began excavations in the same year and sent the finds to the Archaeological Museum in Zagreb. The Archaeological Museum took over the investigation in 1881, with Šime Ljubić (then director of the Museum) in charge. Marko Marković was appointed a museum trustee and continued the excavations, which continued for ten or so years. Unfortunately, the Museum has very little documentation about the excavations, the exact locations of the excavated trenches are uncertain, and the field logs are missing. The reports mention the sites of Vital, Vitalj, Vitlo, and the bottom of a hill. The excavated material was dispatched to the Museum and was added to material that had come into the Museum's possession before and after the excavations, either by purchase, donation, or other means. The records have not been preserved.

The most complete account of the prehistoric and Roman site of Mali and Veliki Vital was written by K. Patsch in 1990. He collected all the published data into a complete story ranging from the discovery of the site, with various statements by the inhabitants, to scientifically documented facts. Indignant over the attitude of the state and various individuals to the site, he wrote: *Unfortunately, the research carried out at the site to the present does not correspond at all to its significance. Anyone who wanted to has been excavating here, for pleasure, invited and not invited, without any plan and purpose… The job has been only half done, as the excavations would be stopped if a treasure did not immediately surface.* Only in 1971 did systematic archaeological excavation begin on the northeastern slope of Vital, and later on the southwest-

**Zrna jantara, Prozor, željezno doba**
Amber beads, Prozor, Iron Age

spominju lokacije Vital, Vitalj, Vitlo, te podnožje brda. Građa s istraživanja dospjela je u Muzej, te je pridružena građi koja je prispjela prije i poslije toga istraživanja; bilo otkupom, darom ili nekim drugim načinom. Dokumentacija nije sačuvana.

Najcjelovitiji prikaz pretpovijesnoga i antičkoga nalazišta Mali i Veliki Vital napisao je K. Patsch 1990. godine. Sabrao je sve do tada objavljene podatke u cjelovitu priču od otkrića lokaliteta, preko raznih izjava mještana do znanstveno utemeljenih podataka. Revoltiran odnosom države, a i pojedinaca, prema tome lokalitetu piše: *Na žalost istraživanje kojemu se do sada posvetilo nimalo nije u skladu s njegovim značenjem. Ovdje je bez plana i svrhe kopao svatko kome je to bio užitak, i pozvani i nepozvani. ... Posao je samo napola obavljen; obustavljalo bi se ako se kopanjem blago nije isti tren pomolilo na površini zemlje.* Tek od 1971. godine započeta su sustavna arheološka iskapanja na sjeveroistočnoj padini Vitla, a poslije i na jugozapadnoj strani, ispod kamenitoga vrha. Ukupno je istraženo 5 japodskih kuća, površine 6 x 4 m. Temelji kuća su građeni od većega, neobrađenoga kamenja, složenoga u suhozid, koji je mjestimično sačuvan i do 0,80 m visine. Podnice su pravljene na način da se ilovača prvo dobro nabije i uglača, onda se nad njom pali vatra radi učvršćivanja, te pod dobiva intenzivno crvenu boju. U svakoj kući je u kutu bilo ognjište veličine oko 1 $m^2$, mjestimično ograđeno kamenjem.


**Prozor, Veliki i Mali Vital**

ern side, below the stone peak. Five Iapodian houses of 6 x 4 meters were excavated. The foundations were built in the dry-stone technique of large, unworked stones and were partly preserved up to a height of 0.80 m. The flooring was made from loam, which was first well stamped and polished, and then a fire was lit above it to strengthen it and to give the floor an intensive red colour. Every house had a hearth in a corner, around 1 $m^2$ in size, partly walled with stones.

Around the houses and in the layers of earth above them, many fragments of pottery vessels were found, as well as several iron nails, one bronze belt buckle, several fragments of bronze sheet metal, and an iron knife. On the basis of these finds it has been concluded that the houses, although built closely, were not contemporary, so that houses 3 and 5 belong to the later phases of the early Iron Age, while house 4 was erected in the late Iron Age, probably at the end of the 2nd century BC.

The cemetery of this settlement is situated south of Veliki and Mali Vital, in a basin separated from the plain by a low hill. Šime Ljubić, then director of the Archaeological Museum in Zagreb, started to excavate the cemetery the same year as the hillfort, alongside many teachers, landowners, local inhabitants, chance travelers, and military officers. He published some of the finds in the journal of the Archaeological Museum in 1885, and in the »List of Material of the Archaeological Department of the National Museum in Zagreb« in 1889. The scarce data indicates that the dead were inhumed, and much less frequently cremated. Individual graves were dug one above another, at a depth from 0.40 to 2 m. It is assessed that there were approximately 200 graves. Revisory excavations at the cemetery were carried out in 1971/72. Seventy-six graves were found in a 348 $m^2$ area. Here the graves were also dug in two or three layers, one above another. The deceased were buried in various manners. Most frequently they were laid on a board, surrounded

Oko kuća i u slojevima zemlje iznad njih nađeno je mnogo ulomaka keramičkih posuda, nekoliko željeznih čavala, jedna brončana kopča za pojas, nekoliko ulomaka brončanih limova, te željezni nož. Na osnovi tih nalaza, iako građene jedna blizu druge, kuće nisu istovremene, pa tako kuće br. 3 i 5 pripadaju kasnijim fazama starijega željeznoga doba, dok je četvrta kuća podignuta u mlađemu željeznomu dobu, vjerojatno krajem 2. stoljeća pr. n. e.

Nekropola toga naselja nalazi se na terenu južno od Velikoga i Maloga Vitala, u kotlini koja je odvojena od polja nižim brežuljkom. Nju je iste godine kada i gradinu, pokraj mnogih učitelja, vlasnika zemljišta, stanovnika okolice, putnika namjernika te raznih vojnih časnika započeo istraživati Šime Ljubić, onodobni ravnatelj Arheološkoga muzeja u Zagrebu. Nalaze je djelomično objavio u Vjesniku Arheološkoga muzeja 1885. godine te u »*Popisu Arkeologičkoga odjela Narodnog Zemaljskog muzeja u Zagrebu*« 1889. godine. Iz oskudnih podataka saznajemo da su umrli sahranjivani inhumacijom, a mnogo rjeđe kremacijom. Pojedini grobovi su ukopavani jedan iznad drugoga, od 0,40 do 2 m dubine. Procjenjuje se da je riječ o oko 200 grobova. Obavljena su revizijska iskapanja te nekropole, te je 1971/72. godine istraženo 348 m2 terena i nađeno 76 grobova. I ovdje su grobovi ukopavani u dva i tri sloja jedan iznad drugoga. Umrli su sahranjivani na više načina. Najčešće su polagani na dasku, ograđivani manjim i većim neobrađenim kamenjem, ponekad složenim u grobnu konstrukciju. Orijentirani su u raznim pravcima, ali najčešće sjever-jug. Osim inhumacije, i ovdje je u manjoj mjeri zastupljeno spaljivanje. Nađeno je samo 5 žarnih grobova. Ti grobovi su datirani u kasno brončano doba, te označavaju i početak sahranjivanja na toj nekropoli.

Istraživanja prozorskoga lokaliteta iz vremena rimske vladavine započela su krajem 19. stoljeća, a tek 1971. godine započinju sustavnija iskapanja. Na lokalitetu »Buljma« otkriveni su dijelovi zida neke građevine, mnoštvo ulomaka keramike i kamenih bijelih i crnih kockica podnoga mozaika zgrade, te kanal koji je vjerojatno predstavljao dio vodovoda. Otkriven je i dio druge građevine, te pod jedne prostorije s hipokaustom (sustav za zagrijavanje prostorija toplim zrakom). Nađeno je i nešto rimskoga novca, od kojega najstariji potječe iz Trajanovoga doba (1. stoljeće nove ere), a najviše kovanica pripada 3. i 4. stoljeću.

Nedaleko od ruševina Arupija, u prirodnim stijenama nalaze se reljefni prikazi boga Mitre, čiji je kult u rimsko vrijeme prenesen iz istočnih provincija Rimskoga Carstva. Sačuvana su tri spomenika: u stijenama iznad Sinca, na »Rajanovom Griču« u Čovićima i na lokalitetu »Oltari« u Prozoru.

Za ovu priliku odlučili smo izložiti izbor karakterističnih predmeta izrađenih od jantara, staklene paste i stakla, koji su nalaženi na tom lokalitetu tijekom gotovo 90 godina sakupljanja građe, odnosno do 1971. godine, kada su vršena revizijska istraživanja. Kako ne posjedujemo terensku dokumentaciju, sistematizaciju nalaza možemo načiniti isključivo tipološkom analizom pred-

with large and small unworked stones, sometimes arranged in a grave structure. They were oriented in different directions, but most often from north to south. In addition to inhumation, cremation burials were also present, but to a considerably lesser extent, as only 5 urn graves were found. They were dated to the late Bronze Age and also signify the start of burials at the cemetery.

Investigation of the Prozor site from the Roman period began at the end of 19th century, while systematic excavations only started as late as 1971. Parts of the wall of some building were discovered at the »Buljma« site, as well as numerous pottery fragments, white and black stone tiles from floor mosaics, and a channel, which probably represented part of the drains. Part of another building was found, and the floor of a room with a hypocaust (hot air central heating system). A few coins were also discovered, the oldest from the reign of Trajan (1st century AD), and the majority from the 3rd and 4th centuries AD.

Not far from the ruins of Arupium, relief images of the god Mithras, whose cult was introduced from the eastern Roman provinces, can be seen carved into cliff faces. Three such monuments have been preserved: in the rocks above Sinac, at »Rajanov grič« in Čovići and at the »Oltari« site in Prozor.

On this occasion we have decided to exhibit a selection of characteristic objects made of amber, glass paste, and glass discovered at this site during almost 90 years of collecting material, until 1971, when the revisory excavations were conducted. Since the field records are lost, the objects can be classified exclusively by typological analysis, which in some cases is almost impossible. Many necklaces did not change in form throughout the thousand years of the Iapodian culture and thus their age cannot be precisely determined. The same applies to other objects, such as bow fibulae with an amber or glass paste bead on the bow. This indicates the deeply rooted Iapodian traditions and their respect for long-lasting jewellery forms.

**Čovići, Rajanov Grič – mitrej**
Čovići, Rajanov Grič – mitreum

**Sinac, mitrej**
Sinac, mitreum

meta, što je u pojedinim slučajevima gotovo nemoguće. Naime, brojne ogrlice tijekom jednog tisućljeća postojanja japodske kulture izrađivane su u nepromijenjenom obliku, pa se njihova precizna datacija ne može utvrditi. Sličan je slučaj i s ostalim predmetima, kao npr. lučnim fibulama sa zrnom jantara ili staklene paste na luku. To govori o ukorijenjenoj japodskoj tradiciji te poštivanju dugotrajnih oblika nakita u toj pretpovijesnoj kulturi.

## JANTAR

Među mnoštvom materijala iskopanoga 1881 g.[1], množinom se ističu predmeti izrađeni od jantara, kojih se u Prozoru, prema riječima Š. Ljubića, iskopalo *na tisuće i tisuće, te jih množina u muzeju, ali su se kroz rad i drugako u većem broju razdrobili i uništili.* Tu se prvenstveno misli na množinu okruglih probušenih zrna koja su bila sastavni dio ogrlica, pektorala, raznih prsnih ukrasa. Ista jantarna zrna su se rabila i kao dodatni ukrasni nizovi na kapama, pojasevima i raznim fibulama. Sačuvana su i samostalna zrna s fibula, vodoravno probušena, a metalni dio je uništen. Glavni istraživač prozorske nekropole, muzejski povjerenik Marko Marković 1881. godine u svojem izvještaju govori da u Muzej poštom šalje *sve zrnje od stakla, koje se je po raznih grobovih našlo, zrnje od jantara, koje ne šaljem radi njegove vriednosti nego radi broja i*

[1] Iskapanja don Šime Ljubića 1881. g. popraćena su samo kraćim izvještajem. Kako o ostalim nalazima s tog lokaliteta nemamo podataka, a pomiješani su zajedno s nalazima iz 1881. godine, okvirno za sve nalaze stavljamo tu godinu. Dio tog materijala objavljen je u Š. Ljubić: »Popis..«, a pojedini predmeti u radovima R. Drechsler i D. Balen, tiskanim poslije 2. svjetskog rata. Materijal iskopan u istraživanjima 1971. godine odvojen je te objavljen u zasebnim publikacijama.

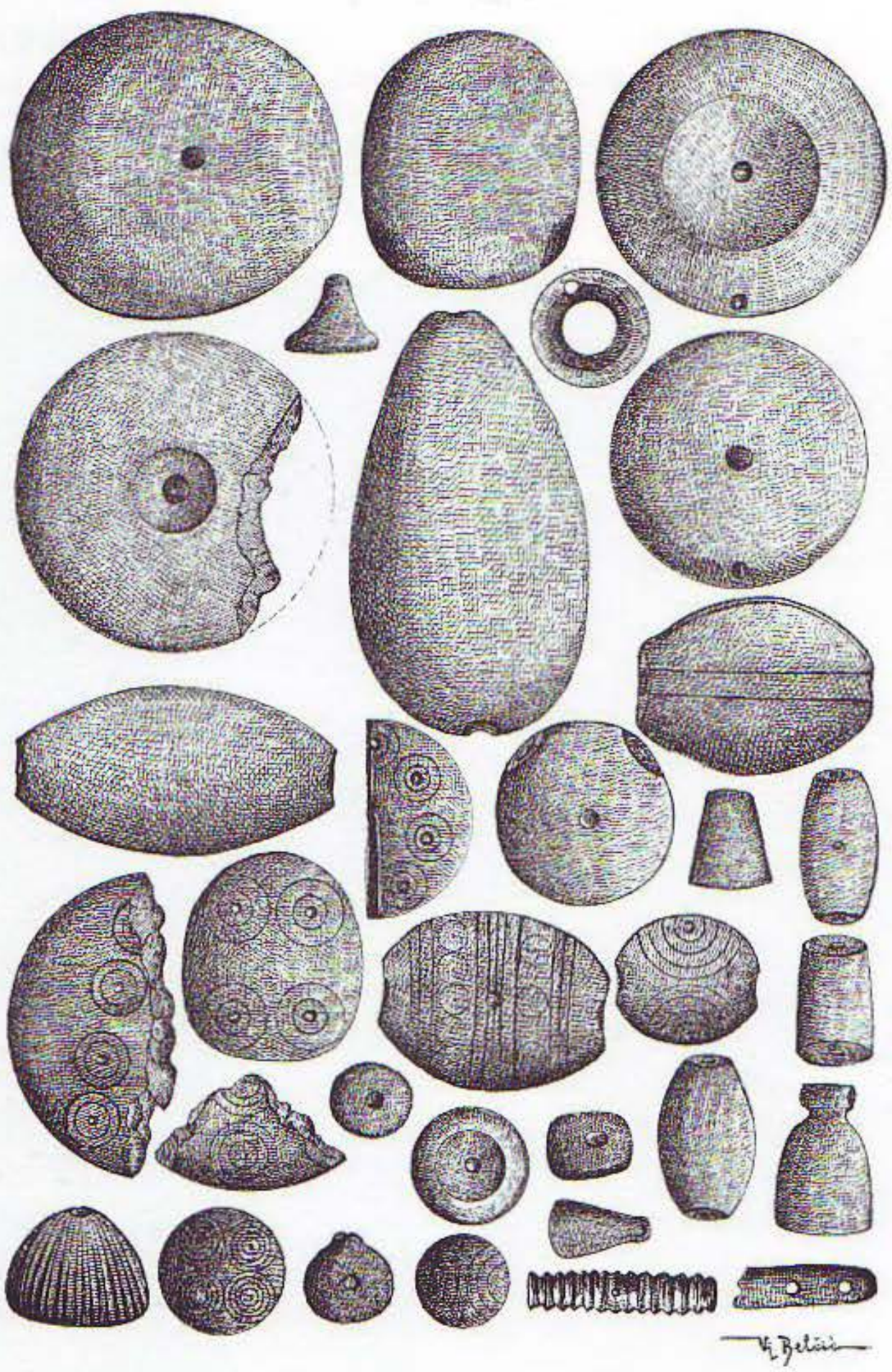
# AMBER

Among the abundance of material excavated in 1881, objects made of amber stand out in terms of their number, and at Prozor, as Š. Ljubić wrote,...*thousands and thousands of them were excavated, many are in the museum, but many were also crushed and destroyed during the excavations*... This primarily refers to the many round perforated beads that were parts of necklaces, pectorals, and various chest ornaments. The same amber beads were used as additional decorative rows on caps, belts, and various fibulae. Individual beads from fibulae, horizontally perforated, were preserved without the metal sections. The main excavator of the Prozor cemetery, the museum trustee Marko Marković, stated in his report from 1881 that he was sending to the museum... *all the glass beads found in various graves, and amber beads that are being sent for their numbers and not for their value*... It is apparent from this sentence that amber was not highly valued at the time, and was not collected unless it was found in large quantities, and that it was collected from all the graves at the site and immediately separated from the other material.

Interesting theories appeared about the origins of so many amber objects among the Iapodes. In 1961, when spectrographic and other analyses had not yet been introduced, a theory was developed about the existence of local resin on Iapodian territory. Amber is in fact a resin, produced by trees as protection from disease and damage. Resin of various trees falls onto the soil, but only resin that falls onto soil with specific features would be transformed into amber during a period of a million years. Even today the process of natural conservation, meaning the transformation of ordinary resin into amber, is still not entirely understood. Resin that has not »aged« in the soil long enough is called copal. It is softer and turns into liquid when burnt, unlike amber.

Amber taken from its natural surroundings several thousand years ago, known as archaeological amber, has different characteristics than recently extracted amber. It is both less hard and more brittle, it fractures differently, has a different colour, melts at 200° C, and burns differently. On the basis of these characteristics of archaeological amber,

**Zrna jantara, Š. Ljubić, 1889. godine**
Amber beads, Š. Ljubić 1889




[1] Šime Ljubić wrote only a short report on his excavations in 1881. Since there are no records about other finds from the same site, and they are mixed with other finds from 1881, all finds are assigned to that year. Part of the material was published in Š. Ljubić's »List...«, and individual objects in articles by R. Drechsler and D. Balen published after the second world war. The material excavated in 1971 was published separately.

*množine izkopanih predmeta*... Iz te rečenice vidljivo je da u to doba jantar sam po sebi nije imao visoku cijenu, te da nije prikupljan ukoliko ga nije bilo u velikoj količini, te da je sabiran iz svih grobova te na licu mjesta odvajan od ostaloga materijala.

O podrijetlu tolike količine japodskoga jantara pojavljuju se zanimljive teorije. Godine 1961, kada nije bilo spektografskih i sličnih analiza, pojavila se teorija da na japodskome teritoriju egzistira smola koja je lokalne provenijencije. Naime, jantar je smola, odnosno 'nusprodukt' drveća koje se proizvodeći smolu brani od raznih oštećenja i bolesti. Različito drveće je puštalo svoju smolu na zemlju, ali samo smola koja je pala na zemlju koja ima određene uvjete pretvarala se u jantar tijekom milijuna godina. Sam proces prirodne konzervacije, odnosno transformacije obične smole u jantar do danas nije još sasvim razumljiv. Smola koja nije dovoljno »odležala« u zemlji naziva se kopal. Mekaniji je i prilikom gorenja pretvara se u tekućinu, za razliku od jantara koji sagorijeva.

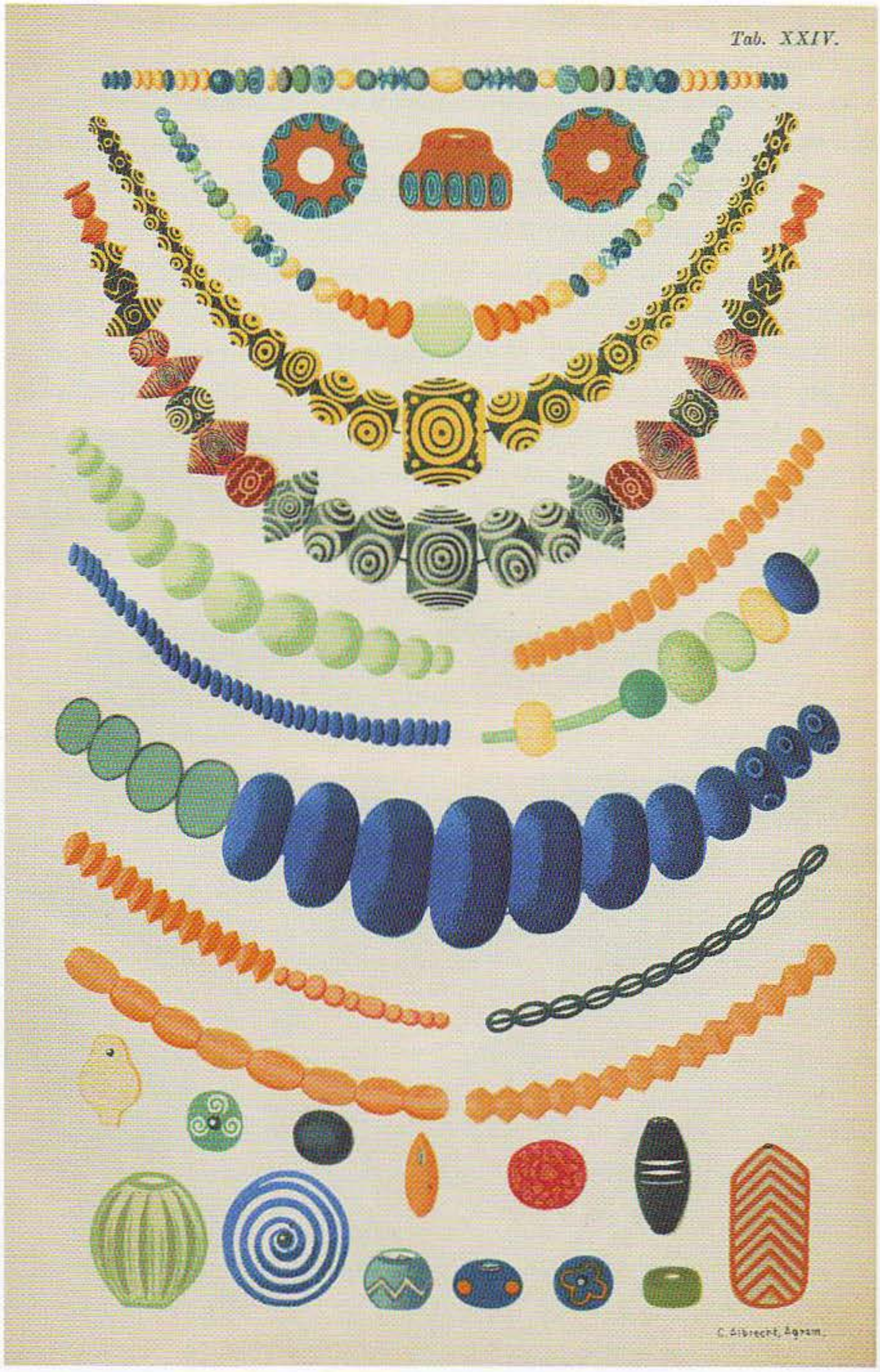
Jantar izvađen iz svojega prirodnoga okoliša prije nekoliko tisuća godina, tzv. arheološki jantar, ima različite karakteristike od onoga upravo izvađenoga. Ima manju tvrdoću, krhkiji je, ima drugačiji (prije)lom, drugačiju boju, topljiv je već na 200°C, te drugačije izgara. Po tim karakteristikama arheološkoga jantara zaključeno je da je jantar pronađen na arheološkim lokalitetima u Lici stvoren od smole lokalne provenijencije. Ta teorija je opovrgnuta već 1978. god., kada su napravljene analize infracrvenom spektrofotometrijom koje su dokazale da jantar pronaden na području Like ima baltičko podrijetlo, odnosno da je identičan današnjem baltičkom jantaru, s izvjesnim odstupanjima uslijed djelovanja atmosferskih utjecaja tijekom vremena. Doduše, teorija o lokalnoj smoli bila je plasirana i za područje Italije, gdje su također nađene veće količine tzv. arheološkoga jantara. Naravno, i ta teorija je opovrgnuta u korist baltičkoga jantara. Manje nalazište jantara postoji na Siciliji, odakle potječe tvz. simetit, nazvan po rijeci Simeto. To nalazište antički autori nisu registrirali. Prostim okom ne razlikuje se od ostalih vrsta jantara, već samo po sastavu određenim kemijskom analizom. Pronađen je na arheološkim lokalitetima Sicilije, dok na lokalitetima Italije prevladava baltički jantar. U novije vrijeme ponovno su »podgrijane» teorije o lokalnoj provenijenciji japodskoga jantara, koje naprosto ne stoje. Japodski, odnosno lički teritorij nema prirodne uvjete za stvaranje takve prirodne smole.

## STAKLENA PASTA

Situacija s predmetima načinjenima od staklene paste slična je kao i s jantarom. Od Šime Ljubića saznajemo da *i ovakovih se niza i niza od njih u ne manjoj množini nego li jantara izkopalo u Prozoru, te i mnogo kroz izkapanje i dru-*

it was concluded that the amber found at sites in the Lika region had been produced from resin of local provenience. The theory was refuted in 1978, when infrared spectrophotometric analyses were conducted. They proved that the amber found in the Lika region has a Baltic provenience, i.e. its composition is identical to modern Baltic amber, with some deviations due to atmospheric weathering throughout time. The theory about local resin was also considered relevant for Italy, where large quantities of archaeological amber were also discovered. This theory was also refuted, as this, too, was Baltic amber. Lesser deposits of amber exist on Sicily, called simetite, after the Simeto River. Classical authors did not, however, note this. It cannot be distinguished in terms of appearance from other types of amber, only through chemical analysis of its composition. It has been found at archaeological sites on Sicily, while Baltic amber predominates at mainland Italian sites. Theories about some local provenance of Iapodian amber have been »warmed up« recently, but they simply make no sense. The Iapodian territory, meaning the Lika region, simply does not offer the necessary conditions for production of such natural resin.

**Zrna staklene paste, Prozor, željezno doba**
Glass paste beads, Prozor, Iron Age




**Zrna staklene paste i stakla, Š. Ljubić, 1889. godine**
Glass paste and glass beads, Š. Ljubić 1889

*gako satrlo.* Predmeti načinjeni od staklene paste izrazito su japodski lokalni proizvod s originalnim načinom ukrašavanja. Izrađivali su se predmeti vrlo slični izrađevinama od jantara, a proizvedeni su u lokalnim radionicama. Zbog veće specifične težine izrađevina od staklene paste, predmeti su teži i veći.

Staklena pasta po kemijskom sastavu sadrži sve elemente za izradu olovnoga stakla – osnova za izradu je kvarcni pijesak, velika količina olovnoga oksida te manja količina željeznoga oksida (na 26% SiO2 dolazi 24% PbO i 4% Fe2O3).

## GLASS PASTE

The situation with objects made of glass paste is similar to that with amber. We learn from Ljubić that »*strings and strings of such objects, in no smaller quantities than amber, have been excavated at Prozor, and many have been destroyed by excavation or by other means*«. Objects made of glass paste are a typically Iapodian local product, with an original style of decoration. Objects very similar to those made of amber were produced in local workshops. They are both larger and heavier due to the greater specific weight of glass paste.

In terms of chemical composition, glass paste contains all the essential ingredients needed for the production of lead glass – the fundamental element is quartz sand, along with a large quantity of lead oxide, and a smaller quantity of iron oxide (26% $SiO_2$, 24% PbO, and 4% $Fe_2O_3$). All these components are crushed, placed in a vessel, and smelted in a furnace. A smelting temperature of ca. 650° C is sufficient for the production of the substance we call glass paste, which can easily be reached and maintained in a primitive glazier furnace. The granular structure of the substance meant it was not suitable for fine working. The Iapodes produced truly exquisite jewellery from this very coarse grey-blue substance, which they decorated with yellow paint, creating various decorations directly on the surface. Massive necklaces made of glass paste beads must have been very heavy to wear, but were a very popular form of jewellery. Beads of glass paste were also placed on fibulae, in the same manner as beads made of amber or glass.

**Zrna staklene paste, Prozor, željezno doba**
Glass paste beads, Prozor, Iron Age

## GLASS

For all the beads made from glass, Ljubić offered data only about two glass beads with three faces. We do not know how the third example arrived in the museum. No records are available for other finds of objects made from glass. Glass was definitely much less present in the Iapodian lifestyle, unlike amber and glass paste artifacts. It seems that the Iapodes imported previously produced glass beads, and used them in combinations in necklaces, pectorals, various pendants, and fibulae decorations. Local glass production did not exist.

Based on the above, the following can be concluded: the Iapodes imported raw amber for further processing. They imported smaller amounts of fin-

**Zrna stakla, Prozor, željezno doba**
Glass beads, Prozor, Iron Age

Svi ti elementi se drobe, stavljaju u posudu, te se tale u peći. Za izradu mase koja se zove staklena pasta dovoljna je temperatura tališta cca 650°C, koju je lako postići i održavati u primitivnoj staklarskoj peći. Sama struktura mase je zrnata, pa nije pogodna za finiju obradu. Od te vrlo grube sivo-plave mase Japodi su izrađivali doista prekrasan nakit, koji su inkrustrirali žutom bojom, te pravili razne ukrase na samoj masi. Masivne ogrlice sastavljene od zrna načinjenih od staklene paste bile su vrlo teške za nošenje, ali i omiljena vrsta nakita. Zrna su stavljana i na fibule, na isti način kao i zrna načinjena od jantara ili stakla.

## STAKLO

O zrnima izrađenima od staklene mase Š. Ljubić nam daje podatke samo o dvije perle s tri lica. Kako je treća dospjela u Muzej, nemamo podataka. O ostalim nalazima predmeta izrađenima od stakla nemamo podataka. Staklo je svakako manje zastupljeno u japodskoj ostavštini, za razliku od predmeta izrađenih od jantara i staklene paste. Čini se da su Japodi uvozili gotova izrađena zrna te ih slagali u kombinacije ogrlica, pektorala, raznih privjesaka ili kao ukras fibula. Vlastitu proizvodnju sirovine nisu imali.

ished or half-finished products. They produced glass paste objects, but they imported finished glass beads, which they made into jewellery.

In the prehistoric period, in contrast to the present, amber and glass were highly valued. The Roman historian Pliny the Elder (23–79 AD), wrote that a small amber figurine was worth more than several human beings (slaves) on the market. Sizeable imports of raw amber confirm the wealth of the Iapodes, but at the same time testify to their beliefs in its magical, apotropaic, or healing powers, and it was also believed to increase fertility. Amber represented a luxury, without any practical benefits to society, as it merely indicated the wealth of an individual or clan. The question arises as to why so valuable a substance was placed in graves together with its owner instead of being inherited. If amber was exchanged for other goods, which was the usual prehistoric form of trade, then the community's economic status would decline with each burial of amber, and the clan involved would become impoverished. Each generation was required to prove its social status by again purchasing amber objects, which meant they had to produce goods for exchange. In this manner the members of the community were taught to be hard-working and obedient. Had the amber goods been inherited, they would have lost both their social and particularly their magical power. It is hypothesized that objects made of amber represented the personal possessions of an individual, and that the perceived protective power of the material was only effective personally and could not be transferred. For this very reason, such precious items were buried with the deceased to protect the dead during their afterlife. The newly impoverished members of the family of the deceased would then have been forced to turn their attention to acquiring new amounts of amber for their own protection.

**Zrno s tri lica, staklo, Prozor, 3–2. st. pr. n. e.**
Bead with three faces, Glass, Prozor, 3rd–2nd century BC

## THE ATTIRE

Classification of the finds excavated in 1881 at the Prozor site is only possible through typological analysis of the objects. As the amber, glass paste, and glass beads were separated from the other finds, it is difficult to determine their purpose. Tiny, round, perforated amber beads were already present in the Lika region in the 15th century BC, as were glass beads (Bezdanjača Cave). The culture that is recognizably Iapodian began around the 8th century BC. An original Iapodian element comes from this time – a cap made from tiny dome-shaped buttons sewn onto leather or fabric. Unfortunately, only the numerous small buttons have been preserved. It is known that the caps were additionally dec-

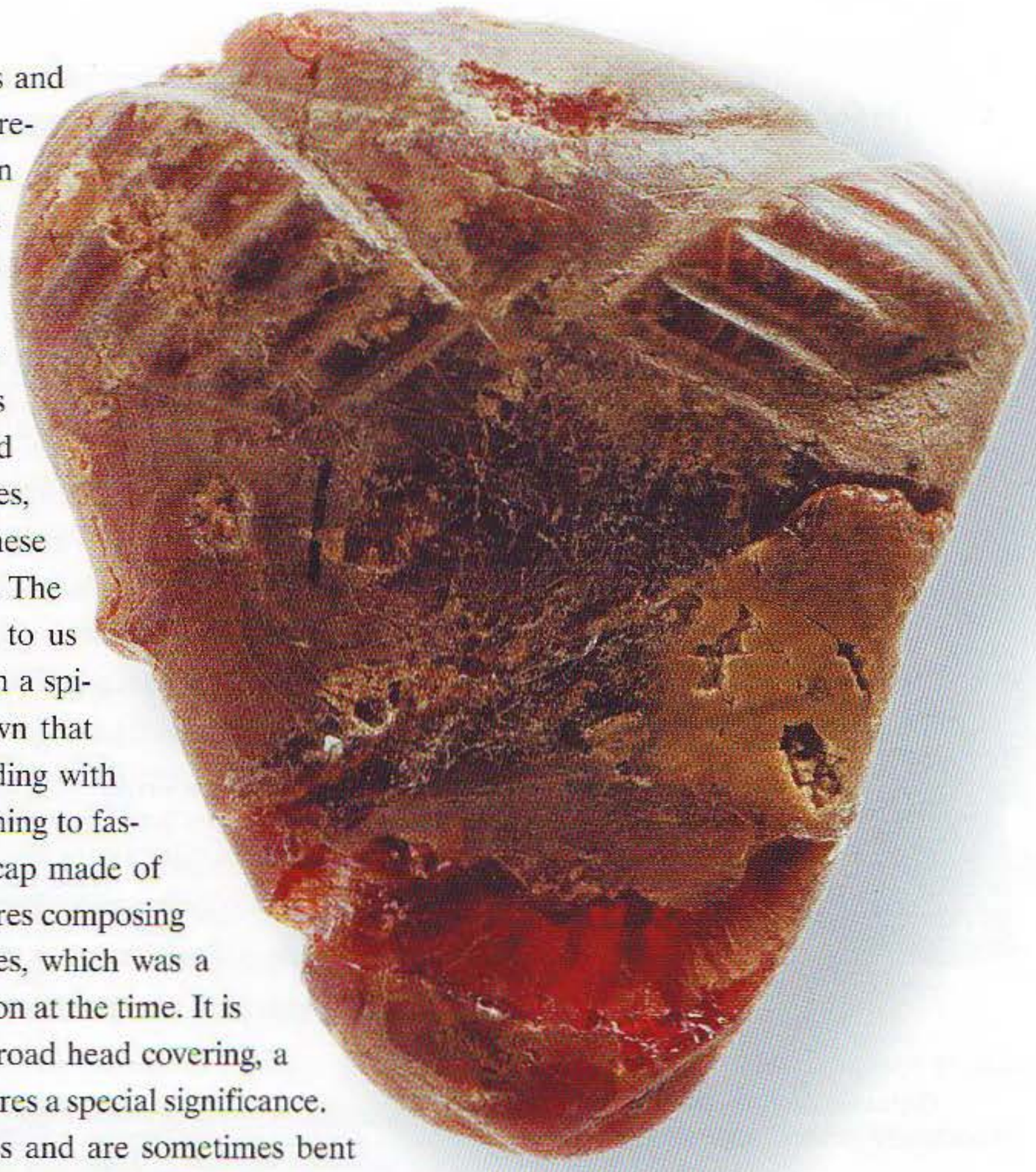
Na osnovi ovih podataka možemo zaključiti sljedeće: Japodi su uvozili sirovinu jantara te ga sami obrađivali. U manjoj mjeri uvozili su gotove proizvode ili poluproizvode. Staklenu pastu su sami proizvodili i oblikovali. Staklena zrna su uvozili kao gotovi proizvod te ih umetali u nakit.

Jantar i staklo su u pretpovijesno doba, za razliku od današnjega, imali visoku materijalnu vrijednost. Rimski povjesničar Plinije Stariji (23.–79. godina naše ere) piše da je jedna mala figurica od jantara vrijedila više od nekoliko ljudskih stvorenja – robova na tržnici. Veliki uvoz jantarne sirovine govori o materijalnome bogatstvu Japoda, ali i o njihovom vjerovanju u njegovu magijsku, apotropejsku ili ozdravljujuću moć, a vjerovalo se i da pospješuje plodnost. Jantar ima obilježje luksuza, bez osobite koristi za zajednicu, osim za iskazivanje bogatstva pojedinca ili roda. Postavlja se pitanje zašto je tako vrijedna sirovina pokapana u grob zajedno s vlasnikom, a nije zadobila običaj nasljeđivanja. Ako je jantar razmjenjivan za neku drugu robu, što je uobičajeni pretpovijesni način trgovine, zajednica pokapanjem toga materijala gubi na ekonomskoj moći, a rod se osiromašuje. Svaka generacija dužna je, za dokazivanje svog socijalnog statusa, ponovno nabavljati predmete od jantara, a to znači i privrijediti robu za razmjenu. Na taj način se stvara radišnost i poslušnost članova zajednice. Kada bi jantarni predmeti prelazili u nasljedstvo, gubila bi se njegova materijalna, a i osobna magična moć. Pretpostavka je da su predmeti izrađeni od jantara bili osobna svojina pojedinaca, te da su zaštitna svojstva materije djelovala osobno i nisu bila prijelazna. Upravo iz tog razloga su takvi dragocjeni predmeti sahranjivani s pokojnikom, te su čuvali osobu i u njegovom zagrobnom životu. A osiromašeni rod je morao prionuti na privrjedivanje, ne bi li mogao nabaviti nove količine jantara za vlastitu zaštitu.

## DIJELOVI NOŠNJE

Sistematizacija nalaza s lokaliteta Prozor, iskopanih 1881. godine, moguća je jedino tipološkom analizom predmeta. Kako su zrna jantara, staklene paste i stakla izdvajana od ostalih nalaza, teško je određivati njihovu funkciju. U Lici su već u 5. stoljeću pr. n. e. prisutna sitna okrugla probušena zrna jantara, a također i stakla (Bezdanjača). Prepoznatljiva japodska kultura počinje oko 8. st. pr. n. e. Iz toga vremena potječe izvorni japodski ukras – kapa, načinjena od sitnih kalotastih dugmeta, koja su našivena na kožu ili tkaninu. Takve kape na žalost nisu sačuvane u cjelini, sačuvano je samo mnoštvo sitnih kalotastih dugmeta. Znamo da su kape dodatno ukrašavane zrnima jantara. U izvornome obliku sačuvana su limena oglavlja i kape, načinjene od brončanoga lima, ukrašene imitacijom prethodnoga oblika – iskucavanjem većih i manjih udubljenja složenih u geometrijski oblik. Takva konična kapa

orated with amber beads. Head coverings and caps made of sheet metal were, however, preserved in their original form, decorated in an imitation of the composite caps – with large and small embossed depressions arranged in geometric forms. Such conical caps were open on the top, so that the hair could be seen, or fabric or fur was placed as an additional decoration. Some caps had rod-shaped pendants hanging off their edges, which chimed in movement. Some ten of these from the Prozor site have been preserved. The only reconstruction that has come down to us from Š. Ljubić shows a cap decorated with a spiral spectacle-shaped ornament. It is known that sometimes a bronze pin, occasionally ending with amber beads, was placed through the opening to fasten the cap. Ljubić also reconstructed a cap made of anthropomorphic female figures. The figures composing the cap are wearing wedge-shaped dresses, which was a common item of clothing in the wider region at the time. It is characteristic that all the figures have a broad head covering, a cap or a scarf, which probably gave the figures a special significance. The arms are shaped like rods or spheres and are sometimes bent downwards. Male figures also exist, wearing trousers or naked, but always with emphasized sexual organs. The male figures also have a wide head covering.



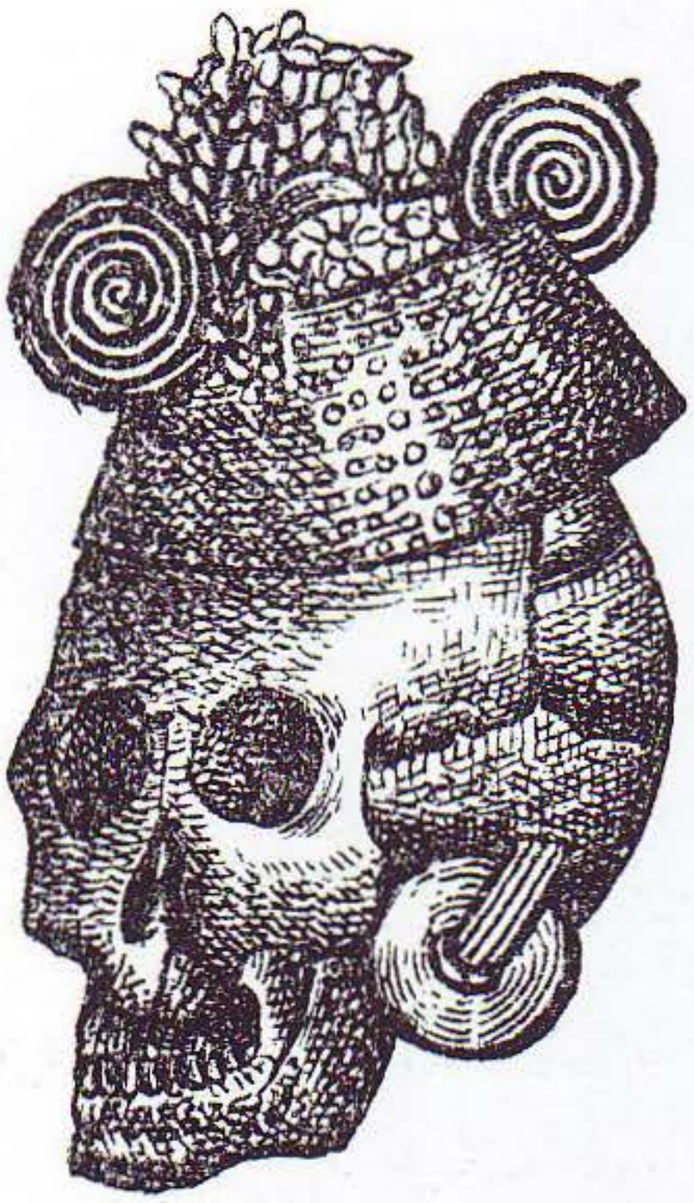
**Privjesak u obliku ovnove glave, jantar Prozor, 6–5 st. pr. n. e.**
Ram's head pendant, amber, Prozor, 6th–5th century BC

The purpose of the figures is not entirely clear. They were made as pendants and were either sewn onto fabric formed into a cap, or used as decorative additions to caps, belts, or hung on fibulae or some other decorative object. Like the metal caps, they were in use in the 7th and 6th centuries BC. A theory exist that such human figures, particularly female, most often symbolize the goddess of fertility in the broader sense, the Lady of Beasts (*potnia theron*), meaning the goddess and mistress of life and death.

A special type of cap was made from tiny rows of chains linked in the shape of a cap. The chains covered the top of the head, and the tassels hung down the neck. Only two examples have been preserved. They were in use in the 7th–6th centuries BC.

## NECKLACES

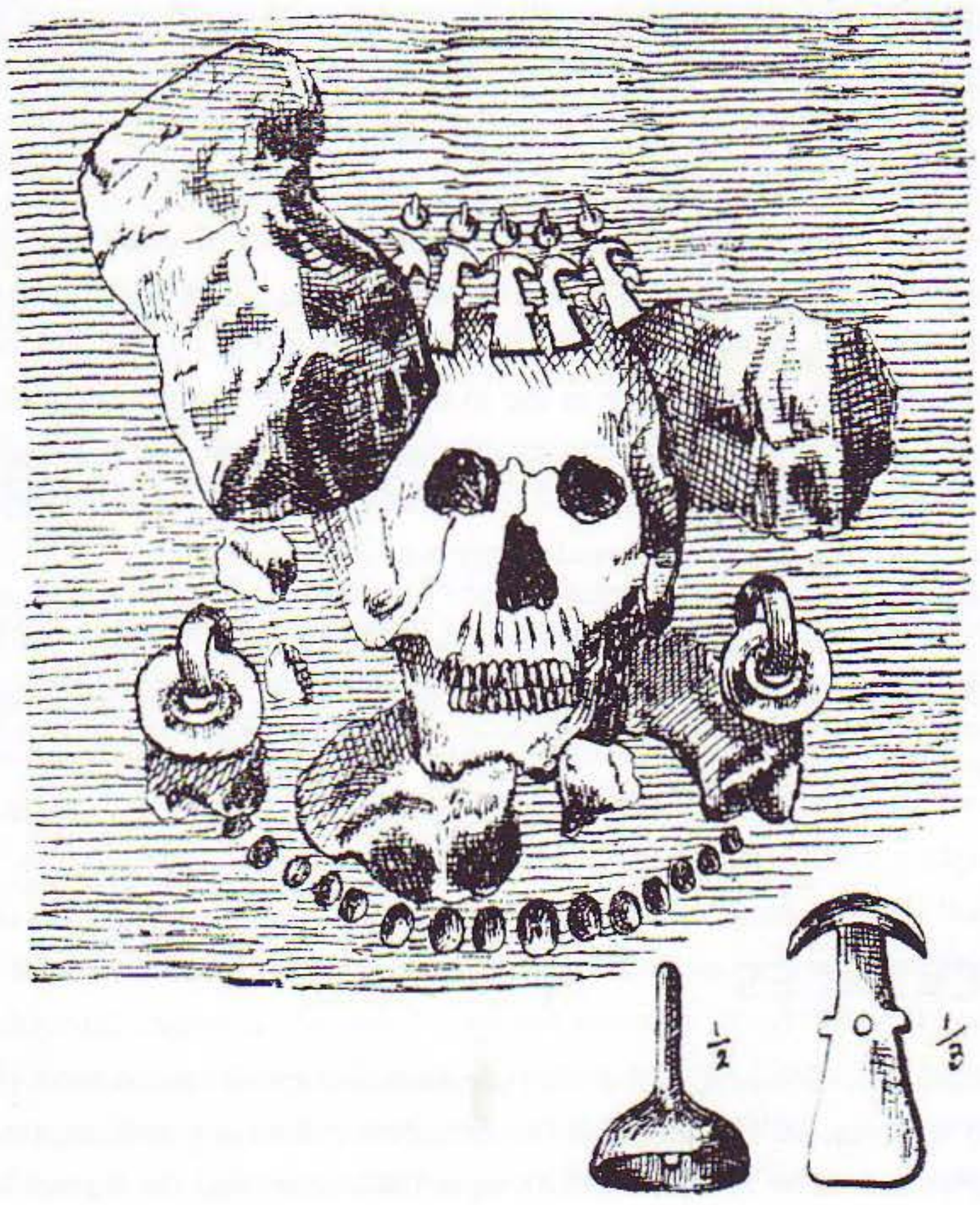
Necklaces have always been the most common decorative objects from prehistory to the present. The Iapodian inventiveness in creating necklaces in various styles cannot be shown in full as some data is missing. We know that the



**Oglavlje ukrašeno spiralno naočalastim ukrasom, Š. Ljubić, 1889. godine**
Conical cap decorated with a spiral spectacle-shaped ornament, Š. Ljubić 1889

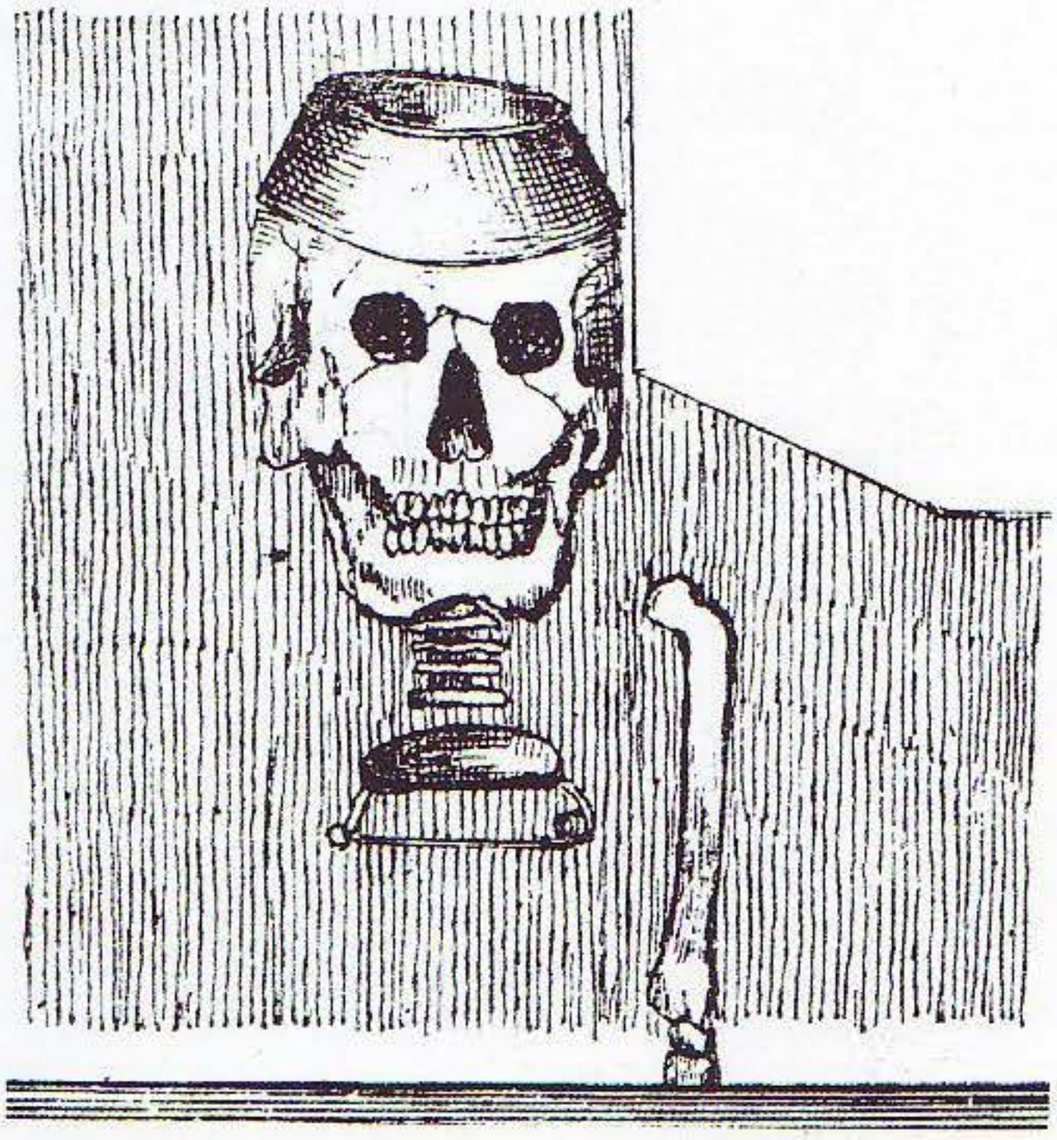
s gornje strane bila je otvorena, te se mogla vidjeti kosa, ili je bila umetnuta tkanina ili krzno kao ukrasni dodatak. Pojedine kape su po rubovima imale ovješene štapićaste privjeske koji su zveckali u pokretu. Sačuvano ih je desetak, s lokaliteta Prozor, a jedina rekonstrukcija, koju nam je istraživač Šime Ljubić ostavio, prikazuje kapu ukrašenu spiralno naočalastim ukrasom. Znamo da se ponekad kroz gornji otvor provlačila brončana igla koja je pridržavala kapu. Ponekad je igla završavala zrnima jantara. Ljubić nam je ostavio i rekonstrukciju kape načinjene od antropomorfnih ženskih figura. Likovi od kojih je sastavljena kapa odjeveni su u zvonoliku ili tzv. klinastu haljinu, koja je bila uobičajeni odjevni predmet na širem prostoru toga doba. Karakteristično je da sve figure imaju široko pokrivalo za glavu, kapu ili maramu, što je vjerojatno davalo posebno značenje samim figuricama. Ruke su u obliku štapića ili kuglica, a ponekad su svinute prema dolje. Postoje i figure muškaraca odjevenih u hlače ili su nagi, ali uvijek s naznačenim spolnim organom. I muške figure imaju široko pokrivalo za glavu.

Namjena tih figura nije sasvim jasna. Rađene su kao privjesci, a bile su ili prišivane na tkaninu oblikovanu u kapu, ili ukrasni dodatak kapi, pojasevima, ili su bili ovješeni o fibulu ili kakav drugi ukrasni predmet. U uporabi su u 7. i 6. stoljeću prije naše ere, kao i limene kape. Postoje mišljenja da takva ljud-




**Kapa načinjena od antropomorfnih figura, Š. Ljubić, 1885. godine**
Cap made of anthropomorphic figures, Š. Ljubić 1885

necklaces consisted of one or several rows of spherical, elongated, lenticular, and other beads perforated in the center, while some beads served as spacing bars that divided rows of beads, and rows of beads were also arranged in pectoral decorations, and some rows were added to belts, fibulae, temple rings, caps, and other ornamental objects. Similar bead shapes have continued in usage to the present. The amber beads that look like buttons are quite interesting, circular in form, with one convex and one flat side, the latter decorated with incised concentric circles. The perforations for attachment were made in the form of the letter V. This type of bead has been known since the late Stone Age in Scandinavian lands, the homeland of amber. This form is known even today as a button for fastening. It is reliably known that amber beads of this shape were threaded onto necklaces, head ornaments, and so forth. They may also have been sewn onto cloth as decorative clothing elements. As the flat side of the button was decorated with concentric incisions, but was not visible since it faced the body or fabric, it can be concluded that the incised decoration had a personal meaning, in terms of healing, magic, or something else, but only for the individual wearing this jewellery.



**Oglavlje, Š. Ljubić, 1885. godine**
Conical cap, Š. Ljubić 1885

**Antropomorfni privjesci, Prozor, 7–6 st. pr. n. e.**
Anthropomorphic pendants, Prozor, 7th–6th century BC

Necklaces also contained pouch-shaped beads or beads in the shape of a bulla. A bulla, among other meanings, could be a small container made of any mate-

ska figura, posebno ženska, najčešće označava božicu plodnosti u širem smislu, tzv. gospodaricu zvijeri (*potnia theron)*, odnosno božicu i gospodaricu života i smrti.

Posebna vrsta je kapa načinjena od sitnih redova lančića spojenih u oblik kape. Lančići su prekrivali kalotu glave, a rese su se spuštale niz vrat. Sačuvana su svega dva primjerka, a u uporabi su u 7.–6. stoljeću prije nove ere.

## OGRLICE

Ogrlica je najčešći ukrasni predmet od pretpovijesti do danas. Japodsku maštovitost u načinima nizanja ogrlica ne možemo u cijelosti prikazati, zbog nedostatka podataka. Znamo da su nosili jedno ili nekoliko okruglih, duguljastih, lećastih i sl. zrna probušenih po sredini, da su pojedina zrna služila kao razdjelnici nizova zrna, te da su nizovi slagani u pektoralne ukrase, a pojedini nizovi bili su dodatak pojasevima, fibulama, sljepoočničarkama, kapama i ostalim ukrasnim predmetima. Slični oblici zrna su i do danas u uporabi. Zanimljiva su zrna jantara koja izgledom podsjećaju na puce, okrugloga su oblika, jedna strana je ovalna a druga zaravnjena. Zaravnjena strana je ukrašena urezanim koncentričnim krugovima. Ušica za nizanje je u obliku slova »v«. Takav tip zrna poznat je još iz mlađega kamenoga doba skandinavskih zemalja, domovine jantara. Danas je taj oblik poznat kao dugme za zakapčanje. Pouzdano se zna da su tako oblikovana jantarna zrna slagana u ogrlice,

**Zrna jantara s ušicom u obliku slova v, Prozor, željezno doba**
Amber beads perforated like letter v, Prozor, Iron Age

**Zrna jantara, Prozor, željezno doba**
Amber beads, Prozor, Iron Age

**Ogrlica s okruglim zrnima i bulama, Prozor, željezno doba**
Necklace with round beads and bullas, Prozor, Iron Age

ukrase za glavu i sl. Nije isključeno i da su slagana kao ukras odjeći u neki osebujni oblik prišivanjem za tkaninu. Kako je zaravnjena strana dugmeta ukrašena urezivanjem, a upravo ta strana je prislonjena na tijelo ili tkaninu, dakle nevidljiva drugim ljudima, možemo zaključiti da je taj urezani ukras imao osobno značenje, ljekovito, magijsko ili neko drugo, ali samo za osobu koja je taj nakit nosila.

U ogrlice su se umetala i tzv. vrećasta zrna ili zrna u obliku bule. Bula je obično kutijica, načinjena od bilo kojega materijala u koju se stavljala tvar za zaštitu od uroka. Zrna jantara izrađena u obliku bule sama su po sebi trebala pružati zaštitu. Nije isključena mogućnost da su Japodi pojedina zrna jantara stavljali u vrećicu koju su vješali o pojas ili ušivali u odjeću, kao sredstvo zaštite.

## FIBULE

Fibule ili spone služe za zakapčanje odjeće. Najjednostavnije su brončane jednopetljaste lučne fibule, iz kojih su se razvile jednopetljaste, dvopetljaste i tropetljaste lučne fibule sa zrnom jantara na luku. Njihov razvoj možemo pratiti od 8. st. pr. n.e., pa sve do 4. stoljeća pr. n. e. Najviše nalaza ima iz 6. i 5. stoljeća pr. n. e., kada je došlo do gospodarskoga procvata japodske kulture. Najčešće su fibule s duguljastim zaobljenim zrnom jantara koje prati dužinu luka. Rjeđa su plosnata zaobljena zrna, kojima je jedna strana zaravnjena te ukrašena utisnutim koncentričnim krugovima. Ukrašena strana je prislonjena uz tijelo, tako da ukras ima osobno značenje. Osim jednog zrna jantara, fibule su ukrašavane i nekolicinom zrna od jantara, stakla ili stakle-

rial in which items for warding off spells were kept. An amber bead in the shape of a bulla would have been protective in and of itself. The possibility is not excluded that the Iapodes placed single amber beads into pouches that they hung from belts or sewed onto clothes as means of protection.

## FIBULAE

Fibulae or brooches were used to fasten clothes. The simplest are bronze single-looped bow fibulae, which evolved into one-looped, two-looped, and three-looped bow fibulae with an amber bead on the bow. Their development can be followed from the 8th century all the way to the 4th century BC. Most finds are from the 6th and 5th centuries when the Iapodian culture flourished economically. Fibulae with an elongated rounded bead of amber along the length of the bow are the most common. Slab-shaped rounded beads with one flat side decorated with impressed concentric circles are rarer. The decorated side faced the body, so the decoration must have had a personal significance. In addition to those decorated with a single amber bead, fibulae were also decorated with several amber, glass, or glass paste beads, as well as combinations of them. Such beads did not have impressed decoration. When the bead was smaller, bronze wire was coiled around the fibula bow as an additional decoration. The shape of fibulae only changed from the



**Fibule sa zrnima jantara, Prozor, 8–4. st. pr. n. e.**
Fibulae with amber beads, Prozor
8th–4th century BC

**Fibula s dvije spirale i dijelom slomljene staklene narukvice, Prozor, 2–1. st. pr. n. e.**
Fibulae with two spirals and part of broken glass bracelet, Prozor, 2nd–1st century BC

ne paste, kao i kombinacijom zrna od tih materijala. Takva zrna nemaju utisnuti ukras. Kada je zrno bilo manje, luk fibule bi omatali brončanom žicom, te ga na taj način ukrašavali. Tek od mlađega željeznoga doba, oblik fibula se mijenja. Od 3. st. pr. nove ere nalazimo fibule s dvije spirale te zrnima stakla i jantara na luku. Od 2. stoljeća prije naše ere broj zrna na luku se smanjuje, najčešće nalazimo po jedno zrno posebno ukrašeno urezima, ali i dodatnim rupicama kroz koje su najvjerojatnije provlačili dodatne ukrase. Na takve fibule dodaju se i staklena zrna u koja je umetnuta zlatna folija. Japodi su također koristili i ulomke polomljenih staklenih predmeta, kao npr. narukvice, te ih stavljali kao ukras na fibule. Takve fibule su zasigurno proizvod domaćih radionica, jer pripadaju skoro isključivo japodskoj kulturi.

## ZRNA

Zrna koja se svojom obradom razlikuju od ostalih izdvojena su kao zasebna cjelina. Većina njih sastavni su dio ogrlica ili ukrasnih predmeta s ne baš sasvim jasnim značenjem. Općenito, označavala su materijalno bogatstvo vlasnika, jer je posebno izrađeno zrno jantara ili stakla imalo znatno veću vrijednost od običnog. Japodi su prvenstveno bili stočari, a ovčarstvo je i danas raširenije od govedarstva u toj regiji. Ovca prehranjuje stanovništvo putem me-

**Jantarna zrna u obliku astragala, Prozor, 5–4. st. pr. n. e.**
Amber beads in the shape of astragal, Prozor, 5th–4th century BC

late Iron Age. From the 3rd century BC, fibulae with two spirals and glass and amber beads on the bow are found. From the 2nd century BC, the number of beads on the bow is reduced, and usually there was only one bead specially decorated with incisions and additional holes, probably used to attach other decorations. Glass beads with inserted gold leaf were added to such fibulae. The Iapodes also used fragments of broken glass objects, such as bracelets, to decorate fibulae. Such fibulae are definitely the products of local workshops, since they belong almost exclusively to the Iapodian culture.

## BEADS

Beads that differ from the others in terms of their workmanship have been classified as a separate group. Most of them are a component part of necklaces or decorative objects with a not entirely clear significance. Generally, they indicated the wealth of the owner because specially worked amber or glass beads had considerably higher value than the usual ones. The Iapodes primarily raised stock, and even today sheep farming is more widespread in this region than cattle breeding. Sheep can feed a population with meat and milk. Clothing can be made from wool. The ram is a symbol of male fertility and strength. Fertility symbols do not refer merely to the reproduction of the human race, but also the reproduction of the animal species that feed and serve people, as well as the fertility of Mother Earth, who feeds everyone. In stock-raising lands, the fertility of animals is important, as larger herds enabled a better life. The astragal is a bone in the ankle of stock animals, and sheep or goat astragals had a special significance in prehistoric cultures. The astragal is a small cubic bone without marrow. In ancient Greece and Rome it served as a die for gaming, and it was the predecessor of modern dice with six marked sides. Astragals were also thrown to predict the future. Astragals have been found as grave goods in prehistory, Antiquity, and the Middle Ages. A large number of astragals can mark the quantity of killed animals, or the wealth of an individual. They had other meanings too, particularly in terms of religion. Imitation astragals made of amber are quite rare, only 4 were found at Prozor, which were perforated on the top and worn on a necklace or some other attire element. As amber was believed to increase fertility, the owner of the amber astragals probably wanted to improve the fertility of his or her herd. Not a single astragal bone has been found as a grave good among the Iapodes.

Finds of objects made of amber, glass, and glass paste are frequent at the cemetery in Prozor. According to the field records, many were destroyed during the excavations, and some have decayed in the 120 years they been stored in the Archaeological Museum. Only in the past twenty years have

sa i mlijeka. Od vune se izrađuje odjeća. Ovan je simbol muške plodnosti i snage. Kada se govori o simbolima plodnosti ne misli se samo na obnovu ljudske vrste, već i na obnovu životinjskih vrsta koje nas prehranjuju i koje nam služe, kao i na plodnost Majke Zemlje koja nas hrani. U stočarskoj zemlji važna je plodnost životinja, jer veće stado omogućuje bolji život. Astragal je kost u gležnju stoke, a u pretpovijesnim kulturama posebno značenje je imao astragal ovce ili koze. To je mala kost bez moždine, oblika kocke. U antičkoj Grčkoj i Rimu služila je kao kocka za igru, te je bila preteča današnje kocke sa šest označenih stranica. Bacanje astragala služilo je i za proricanje ili gatanje. U pretpovijesno, antičko i srednjovjekovno doba astragali su nalaženi kao prilozi u grobovima. Veliki broj astragala označuje količinu ubijenih životinja, odnosno značaj pojedinca. Astragal ima i drugih značenja, osobito u vjerskoj domeni. Imitacije astragala načinjene od jantara su rijetke, u Prozoru su nađena samo 4 komada, koja su probušena pri vrhu te nošena na ogrlici ili nekom drugom ukrasu. Kako za jantar postoji vjerovanje da pospješuje plodnost, pretpostavka je da vlasnik jantarnih astragala želi poboljšati plodnost svojega stada. Kod Japoda nije nađena niti jedna kost astragala kao prilog grobu.

Nalazi predmeta izrađenih od jantara, stakla i staklene paste u nekropoli u Prozoru su česti. Prema zapisima istraživača, mnogi su uništeni tijekom samih istraživanja, a dio je propao u Muzeju tijekom 120 godina čuvanja. Tek unatrag dvadesetak godina stečeni su uvjeti za njihovu pravilnu pohranu. Anorganske tvari, kao što su to staklo i staklena pasta, ne zahtijevaju posebne uvjete pohrane. Organska tvar, kao što je to jantar, tijekom godina gubi vlažnost pa se raspada. Uslijed toga potrebno je svakih nekoliko godina ovlaživati predmete te ih ponovno konzervirati. A takvih predmeta ima mnogo.

suitable conditions been arranged for their proper storage. Inorganic material like glass and glass paste does not require any special conditions. Organic material like amber, however, loses moisture over time and disintegrates. Hence it is necessary to moisturize amber artifacts every few years and repeat the conservation process. And the museum has many objects of this kind....

**Privjesak u obliku ovnove glave, Prozor, 6. st. pr. n. e.**
Ram's head pendant, Prozor, 6th century BC

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GZM – Glasnik Zemaljskog muzeja u Sarajevu

VAMZ – Vjesnik Arheološkog muzeja u Zagrebu

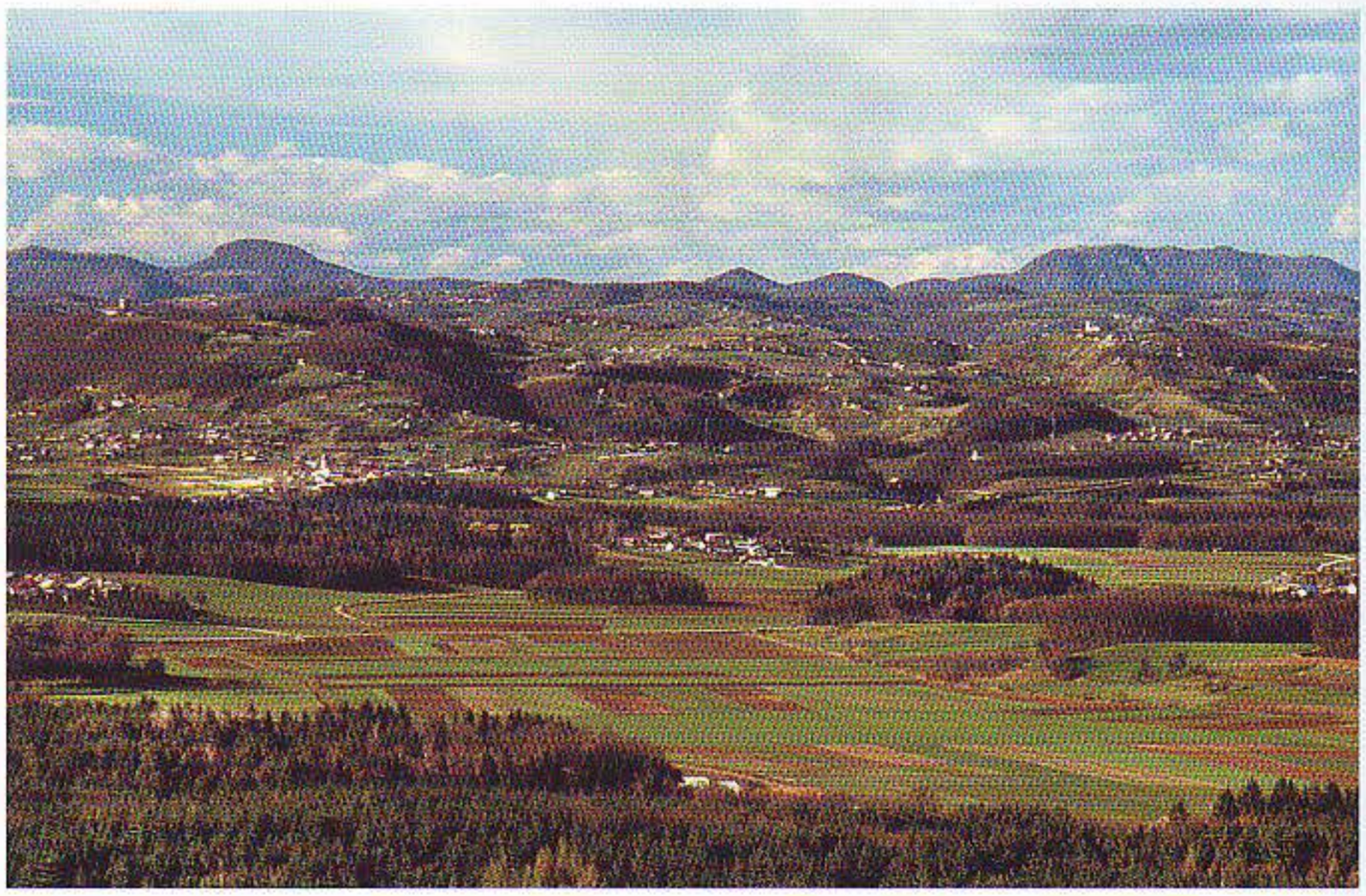
# DOLENJSKA

Dolenjska se nalazi u porječju rijeke Krke, između planinskoga lanca Gorjanci na jugu te rijeke Save na sjeveru, te između Ljubljane na zapadu i Brežica, odnosno kod utoka Krke u Savu na istoku. Dolenjskoj možemo pripisati i Belu krajinu koja se nalazi južno od Gorjanaca i koju na jugu zatvara rijeka Kupa.

To je brežuljkasta pokrajina s mnoštvom planinskih grebena između kojih su doline i ravnice, s brojnim potocima, a kamena osnova je pretežito vapnenačka. Zemlja je rodna, pokrivena lisnatom šumom i travom, te pogodna za zemljoradnju i uzgoj stoke.

Od prirodnih osobina prostora možemo navesti rudna bogatstva. U Dolenjskoj, u okolici Mokronoga, nalazišta su olova i cinka, a značajnija su nalazišta željeza, koje se u središnjoj Dolenjskoj nalazi u obliku limonitne, pretežito gomoljaste rudače. Ruda se nalazi na površini zemlje, te stoga kopanje ili rudnici nisu potrebni. Na području istočno od Novoga Mesta bogata su ležišta kremenoga pijeska koji je osnovna sirovina za proizvodnju stakla. Na cijelome području Dolenjske ležišta su različitih glina pogodnih za jednu od osnovnih gospodarskih djelatnosti – lončarstva.

Povoljni prirodni uvjeti omogućili su zarana ljudsku prisutnost. Nalaze musterijenskoga kamenoga oruđa bilježimo već iz paleolitika, starijega kamenoga doba. Naseljavanje kraja se nastavlja kroz mlađe kameno i bakreno doba, sve do brončanoga doba kada se, u njegovomu kasnijemu razdoblju, broj arheoloških nalazišta znatno povećava. To je vrijeme u kojem u Dolenjskoj bilježimo i prve izrađevine od stakla i jantara. Prvi jantar iz Dolenjske poznat nam je iz depoa s Debeloga vrha kod Kočevja, a vremenski ga smještamo u



**Brežuljkasta pokrajina Dolenjska s ravnicom uz rijeku Krku**
The hilly Dolenjska region and the Krka river valley

# DOLENJSKA/LOWER CARNIOLA

The region of Dolenjska (known as Lower Carniola in English) is situated in the Krka River basin, between the Gorjanci mountain range in the south and the Sava River in the north, and between Ljubljana in the west and Brežice in the east (where the Krka joins the Sava). The Bela Krajina (or White Carniola) district, to the south to the Gorjanci range and enclosed on the south by the Kupa River, can also be considered a part of the Dolenjska region geographically.

It is a hilly area of numerous mountain ridges interrupted by valleys and lowlands with numerous streams. The underlying rock formations are mainly limestone. The soil is fertile, covered with leafy forests and grass, suitable for farming and stock breeding.

The natural resources include an abundance of ore. Lead and zinc deposits can be found in the vicinity of Mokronog, while more significant finds of iron are located in central Dolenjska, in the form of clumps of limonite. As the ore deposits are located on the surface, no mining is necessary. The region east of Novo Mesto has rich deposits of quartz sand, the basic ingredient for the production of glass. The entire Dolenjska region is rich in various sorts of clay, essential for one of the basic economic activities – making pottery.

The favourable natural conditions ensured the early presence of humans. Finds of Mousterian stone tools have been dated as early as the Paleolithic (the early Stone Age). Settlement of the area continued during the Neolithic and Eneolithic (late Stone Age and Copper Age), and on into the Bronze

**Novo Mesto, Mestne njive, grob 524, ukrašena glinena žara sa zdjelom na otvoru, prigodom otkrića (9.–8. st. pr. n. e.)**
Novo mesto, Mestne njive, grave 524. A decorated clay urn with a bowl at the opening, during excavations (9–8th century BC)

stupanj Ha A1 (12. st. pr. n. e.). Nalaze zrna stakla bilježimo nešto kasnije u paljevinskim grobovima Novoga Mesta a vremenski ih smještamo u Ha B-2 (9. st. pr. n.e.). Analiza jantara iz Debeloga vrha, kao i kasnije izrađevine od jantara koje su nađene u Novom Mestu iz vremena starijega željeznoga doba, pokazuju da je jantar baltičkoga podrijetla.

U brončano doba stanovnici su izgradili visinska naselja, koja su u početku bila skromno, a poslije i dodatno utvrđena drvenim palisadama i zemljanim nasipima. O građevinama i kulturi stanovanja malo znamo. Građevine su bile drvene, namazane ilovačom, a žitelji su se pretežito bavili poljodjelstvom i stočarstvom te su, i pokraj poznavanja bakra i bronce, još uvijek upotrebljavali i kameno oruđe. Uz visinska naselja iz toga razdoblja znamo i za nizinska. Način pokopa tih bezimenih žitelja isti je kao i kod široko rasprostranjene europske kulture polja sa žarama. Velika ravna groblja sastojala su se od paljevinskih grobova, koji su bili relativno plitki. Ostaci kremiranih pokojnika bili su pohranjeni u velike keramičke žare, na koje je bila postavljena plitka keramička zdjela na koju je još bila položena kamena ploča. Keramičke žare su većinom ukrašene plastično raščlanjenim rebrom koje se spaja na trbuhu posude. Manji prilozi su zajedno s pepelom pohranjeni u žaru. U grobovima muškaraca to su brončane igle s različito oblikovanim glavicama, rjeđe brončane britve i vrhovi strjelica. U grobovima žena nalazimo brončane narukvice okrugloga ili trakastoga presjeka, koje su šuplje ili masivne, različite brončane obruče, keramička vretena i zrna stakla. U najmlađim grobovima nalazimo željezne narukvice. Dolenjska zajedno s Belom krajinom u vrijeme brončanoga doba pripada tvz. ljubljanskoj grupi, koja se još prostire i na Gorenjsku i Ljubljanu. U Dolenjskoj su registrirana istovremena groblja: Mokronog – Slepšek i Ostrožnik, Novo Mesto – Mestne njive i Kapiteljska njiva, Črnomelj – Sadež, Metlika – Borštek i Špitalska draga.

U 8. stoljeću pr. n. e. povećava se broj doseljenika. Pokraj nizinskih zaselaka i pojedinačnih seoskih imanja u starijemu željeznomu dobu vodeći tip naselja postaje visinska utvrđena gradina, koja predstavlja centar pojedinih grupacija oko kojeg rastu manji pripadajući zaseoci, groblja, seoske površine i cijela (proizvodno-prerađivačka) prerađivalačka područja.

Dolenjska u okviru jugozapadne predalpske halštatske kulture tvori značajnu skupinu, koja je geografski identična sadašnjim pokrajinskim granicama Dolenjske. Utvrđena naselja bila su građena na dominantnim uzvišenjima koja su kontrolirala okolicu i pripadajuće ceste. Ispod gradina rasprostirala su se velika groblja s humcima i prostori za prerađivanje željeza. Naselja su opasivali do 3 m široki kameni bedemi, građeni u tehnici suhog zidanja te pojačani drvenim gredama, koji su često popravljani ili ponovno građeni na istom mjestu. Do ulaza u naselje vodili su kamenom obzidani vijugavi pu-

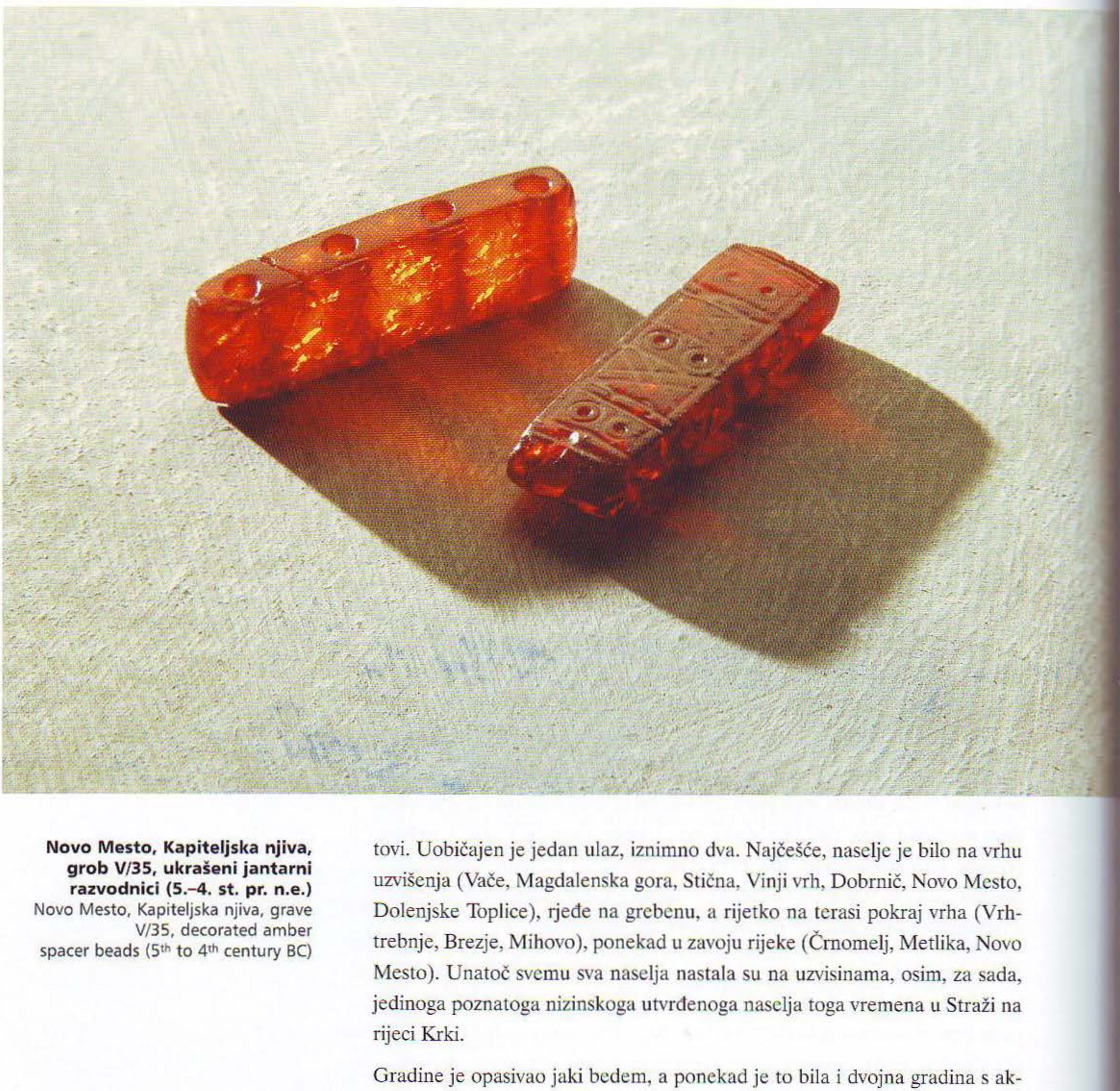
**Vinji vrh iznad Bele Cerkve, pretpovijesno visinsko utvrđeno naselje**
Vinji vrh above Bela cerkev, the prehistoric fortified hillfort settlement

Age. The number of archaeological sites greatly increases in the later period of the Bronze Age. The first recorded glass and amber products in Dolenjska are dated to that time. The first amber from Dolenjska was found in a hoard at Debeli vrh near Kočevje, dated to the Ha A1 phase (12th century BC). Glass beads were found somewhat later in the cremation graves of Novo Mesto and are dated to Ha B2 (9th century BC). Analysis of the amber from Debeli vrh and the later amber products found at Novo Mesto from the early Iron Age proved that the amber was of Baltic origin.

During the Bronze Age the inhabitants built hillfort settlements. Initially they were lightly fortified, but later the fortifications were strengthened with wooden palisades and earthen ramparts. Little is known about the buildings and the lifestyle. The buildings were wooden, coated with loam. The inhabitants primarily lived from agriculture and stock-breeding, and still used stone tools although they were familiar with copper and bronze. Lowland settlements are also known from this period. The burial rituals of these unnamed people were the same as the widespread European Urnfield Culture. The large flat cemeteries contained relatively shallow cremation graves. The cremated remains of the deceased were placed in a large clay urn covered with a shallow clay bowl on which a stone slabs was laid. The clay urns were mostly decorated with raised divided ribs that joined on the bellies. Small funerary goods were placed in the urn together with the ashes. Male graves were furnished with bronze pins with various heads, and rarely with bronze razors and arrowheads. Female graves contained circular or banded hollow or solid bronze bracelets, various bronze circlets, clay spindles, and glass beads. Iron bracelets were found in the latest graves. Dolenjska and Bela Krajina belonged in the Bronze Age to what is known as the Ljubljana Group, which also extended into the Gorenjska (or Upper Carniola) and Ljubljana regions. Cemeteries from this period in Dolenjska include: Mokronog – Slepšek and Ostrožnik, Novo Mesto – Mestne njive and Kapiteljska njiva, Črnomelj – Sadež, Metlika – Borštek and Špitalska draga.

The amount of settlers increased in the 8th century BC. In addition to lowland hamlets and individual homesteads, hillfort settlements became the main type of settlement in the early Iron Age. They represented the centres of individual groups, around which developed villages, cemeteries, farmland, and even industrial production areas.

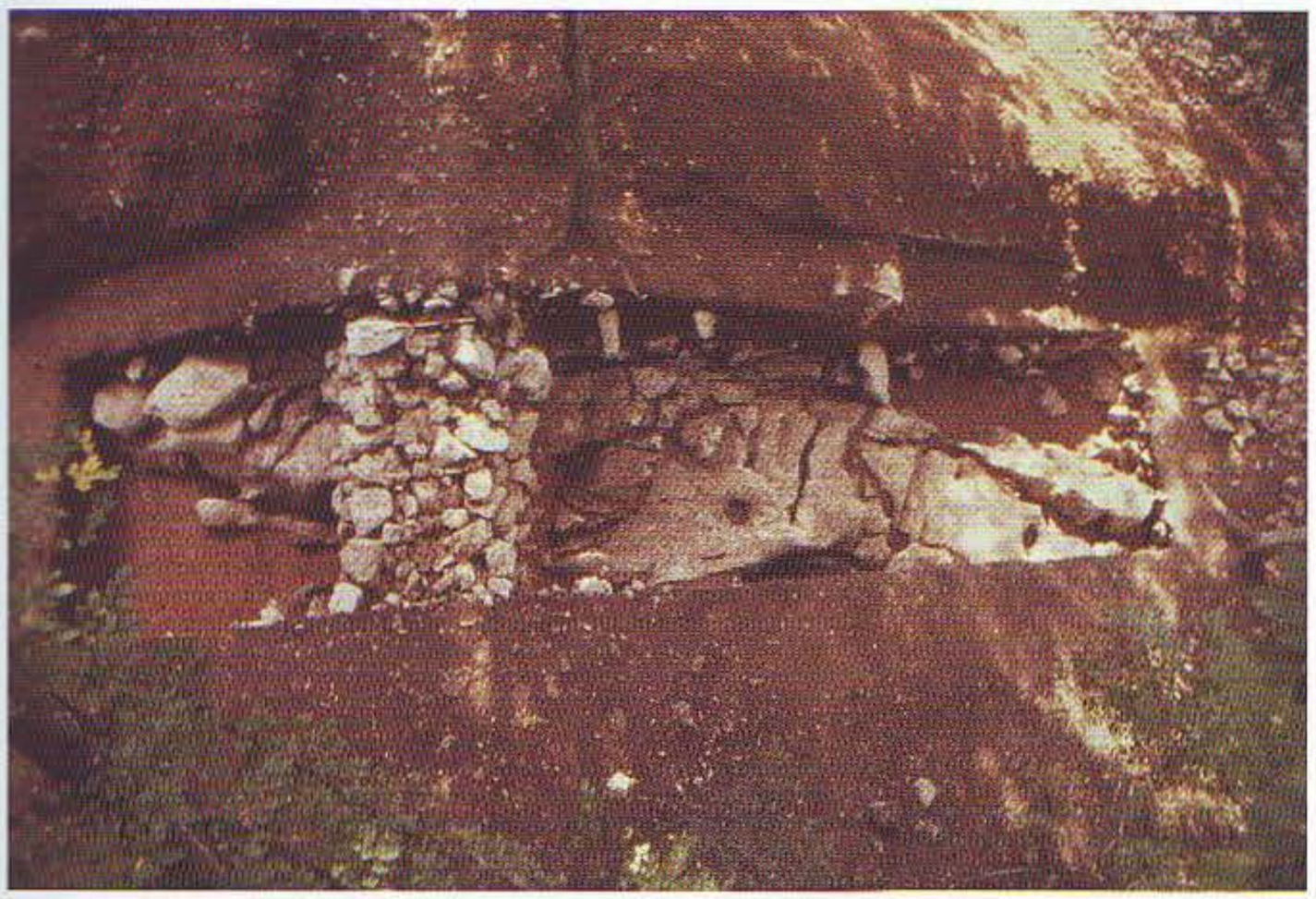
In the framework of the southwestern pre-Alpine Hallstatt Culture, Dolenjska formed an important group, geographically corresponding to the boundaries of modern Dolenjska. Fortified settlements were built on dominant elevations that controlled the surrounding countryside and roads. Large cemeteries with burial mounds and iron production areas extended below the hillforts. The settlements were enclosed by ramparts up to 3 m wide, built in the dry-stone technique and reinforced with wooden posts, which were



**Novo Mesto, Kapiteljska njiva, grob V/35, ukrašeni jantarni razvodnici (5.–4. st. pr. n.e.)**
Novo Mesto, Kapiteljska njiva, grave V/35, decorated amber spacer beads (5th to 4th century BC)

tovi. Uobičajen je jedan ulaz, iznimno dva. Najčešće, naselje je bilo na vrhu uzvišenja (Vače, Magdalenska gora, Stična, Vinji vrh, Dobrnič, Novo Mesto, Dolenjske Toplice), rjeđe na grebenu, a rijetko na terasi pokraj vrha (Vrhtrebnje, Brezje, Mihovo), ponekad u zavoju rijeke (Črnomelj, Metlika, Novo Mesto). Unatoč svemu sva naselja nastala su na uzvisinama, osim, za sada, jedinoga poznatoga nizinskoga utvrđenoga naselja toga vremena u Straži na rijeci Krki.

Gradine je opasivao jaki bedem, a ponekad je to bila i dvojna gradina s akropolom i podgrađem (Libna, Novo Mesto, Magdalenska gora). Naselja starijega željeznoga doba bila su građena odjedanput, kao uobičajeno manja, površine do 2 ha, tako i velika naselja kao što je to u Stični (23 ha) ili na Magdalenskoj gori (18 ha). Izgradnja cijeloga bedema bio je ogroman posao, a mogla ga je obaviti snažna i organizirana zajednica, hijerarhijski uređena, s jedinstvenim vodstvom. Nastambe u naselju bile su građene od drveta, najčešće naslonjene na veće prirodno kamenje ili na bedem naselja. Bile su građene kao brvnare, ili je konstrukcija bila nasađena na u zemlju ukopane gre-



**Cvinger kod Dolenjskih Toplica, pretpovijesni kameni bedem naselja u sondi I. (8.–4. st. pr. n.e.)**
Cvinger near Dolenjske Toplice, the prehistoric stone rampart of a settlement, during excavations, 8–4th century BC

often repaired or reinstalled in the same place. Walled, winding roads led to the entrance to the settlement. There was usually only one, and rarely two. The settlement was most often placed on the top of the elevation (Vače, Magdalenska gora, Stična, Vinji vrh, Dobrnič, Novo Mesto, Dolenjske Toplice), more rarely on a crest, and rarely on a terrace near the top (Vrhtrebnje, Brezje, Mihovo). It was sometimes located in a river bend (Črnomelj, Metlika, Novo Mesto). Despite this variety, all settlements were built on elevated points, except for the as yet only known lowland fortified settlement of the time, Straža on the Krka River.

The hillforts were enclosed by strong ramparts, and sometimes double hillforts were built with an upper acropolis and a lower fortified settlement (Libna, Novo Mesto, Magdalenska gora). These settlements from the early Iron Age were built at all at once, whether small in size (up to 5 acres), or

**Cvinger kod Dolenjskih Toplica, peći za taljenje željeza starijega željeznoga doba**
Cvinger near Dolenjske Toplice, the Early Iron Age melting furnaces

**Brusnice, humak iz starijega željeznoga doba (8. 4. st. pr.n.e.)**
Brusnice, the Early Iron Age burial barrow (8th to 4th century BC)

de. Zidovi su bili oblijepljeni zemljanim kućnim lijepom, ognjište postavljeno uza zid, u tlo su bile ukopane, ili u stijenu uklesane jame za otpad.

Osnova gospodarstva zasnivala se na stočarstvu. Prevladavala je sitna stoka (koze, ovce), uzgajali su svinje, krave i konje, koji su bili jahaće životinje. Od ostataka kosti koje nalazimo u naselju, oko 97 posto pripada domaćim, uzgojenim životinjama, a manji dio ulovljenim, divljim životinjama.

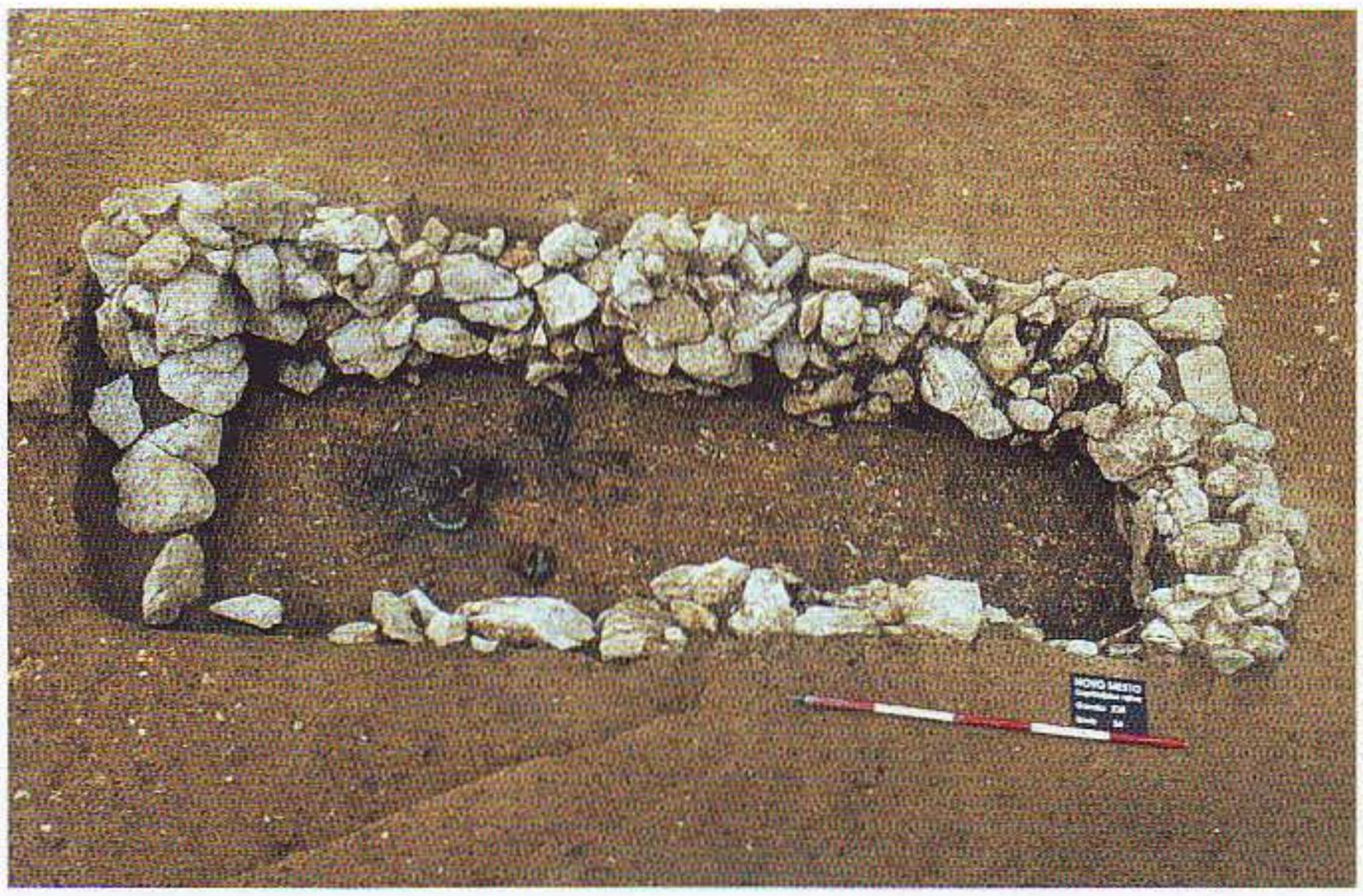
Među poljodjelske prinose treba spomenuti različite žitarice, zelje, repu, korabu, bob i grah. Iznenađuje velika količina ostataka slačice. Željezna troska kao ostatak taljenja i kovanja nalazi se u velikoj količini u unutrašnjosti svih gradina, dok se ostaci talioničkih peći nalaze na obroncima ispod gradina. Na Cvingeru, kod Dolenjskih Toplica arheološkim iskapanjima i mjerenjem istražilo se područje veličine 150 x 50 m, na kojem leži više stotina okruglih ili ovalnih peći za taljenje željeza. Slični ostaci peći nađeni su još u Novome mestu, u Straži, na Vinkovem vrhu, na Kučarju kod Podzemelja i na Brezju kod Trebalnog. Proizvodnja željeza je usko specijalizirana djelatnost koja uključuje traženje i sabiranje, kao i pripremu rudače, sječu drva i kuhanje ugljena, izgradnju peći, pravljenje mjehova te svladavanje tehnike taljenja. Ta djelatnost s velikim brojem talioničkih peći zahtijeva profesionalizaciju i usku usmjerenost, koja nedvojbeno ukazuje na raslojenost i profilaciju zajednice. Željezo kao strateška sirovina halštatskoga doba, te proizvodnja stakla i izrada staklenoga nakita prouzročili su gospodarski uspon i procvat dolenjske zajednice starijega željeznoga doba te socijalnu raslojenost, koja se lijepo ocrtava u duhovnome svijetu i u grobnome ritualu. Način pokopa u starijem u željeznomu dobu u Dolenjskoj se znatno razlikuje od onoga sa žarnim ukopom u brončanome dobu. U željezno doba skeletni grobovi su ukopani u zemljane humke, koje su u tlocrtu okrugloga oblika, promjera od 6 do 30 m, te dosežu nekoliko metara visine. Pokojnici su bili na zadnji počinak polože-

large like Stična (57.5 acres) or Magdalenska gora (45 acres). The enormous task of constructing the entire rampart could be only carried out by a strong and well-organised, hierarchical community under united leadership. The dwellings in the settlements were built of timber and usually were supported on large outcroppings or the ramparts. They were either built like log cabins or their structure was erected on posts dug into the ground. The walls were plastered with earthen daub, the hearth was placed by the wall, and refuse pits were dug into the ground or carved into the bedrock.

The economy was mainly based on stockbreeding. Small stock (goats, sheep) was dominant, while pigs and cows were also raised, along with horses for riding. Around 97% of the bone remains found in the settlements belonged to domesticated animals, and the rest to hunted wild animals.

The crops grown included various cereals, cabbage, turnips, kohlrabi, broad beans, and peas. Surprisingly large amounts of mustard seeds have been discovered. Iron slag resulting from smelting and iron-working is found in large quantities inside all the settlements, while remains of smelting furnaces were located on the slopes below the hillforts. At Cvinger near Dolenjske Toplice an area of 150 x 50 meters was investigated and several hundred circular or oval furnaces for smelting iron were discovered. Similar furnace remains were found at Novo Mesto, Straža, Vinkov vrh, at Kučar near Podzemelj, and at Brezje near Trebelno. Iron production is a highly specialised activity. It involves seeking, collecting, and preparing the ore, felling trees and producing charcoal, building furnaces, making bellows, and developing smelting techniques. This activity involving such a large number of smelting furnaces requires specialization to the extent that it represents a profession, which definitely indicates that the community in question was stratified and specialised. Iron as the strategic raw material of the Hallstatt period, along with the production of glass and glass jewellery, caused the economic advance and flourishing of the Dolenjska group during the early Iron Age, along with the social stratification that is so well mirrored in the spiritual beliefs and funerary rituals. The burial customs in the early Iron Age in Dolenjska were quite different from the urn burials of the Bronze Age. In the Iron Age, the inhumation graves were dug into earthen mounds called *tumuli*, circular in plan, from 6 to 30 metres in diameter, and with a height of several meters. The deceased were laid to rest in wooden coffins, and sometimes in a wooden structure dug into the ground. Vessels with travelling provisions for the afterlife were placed inside or on top of the coffin, and objects the deceased had used during his or her lifetime were placed by the body, for further use in the afterlife.

Weapons were placed in male graves, while female graves contained iron, bronze, glass, amber, bone, and rarely golden jewellery. The barrows were used for several centuries, and generations of members of individual families



**Novo Mesto, Kapiteljska njiva, grob XVI/34, centralni grob humka s kamenom konstrukcijom i nalazima prigodom otkrića (7. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave XVI/34. A central grave in the barrow mound with a stone structure and the finds during excavations (7th century BC)

ni u drveni kovčeg, a ponekad i u drvenu konstrukciju ukopanu u zemlju. U kovčeg ili na njega bile su položene posude s popudbinom za onostrani svijet, a uz pokojnika su bili priloženi predmeti koje je upotrebljavao za života, da bi ih upotrebljavao i u zagrobnom životu.

U grobove muškaraca prilagano je oružje, a u grobove žena nakit napravljen od željeza, bronce, stakla, jantara, kosti, a rjeđe i od zlata. Humci su bili u uporabi nekoliko stoljeća, a u njih su vjerojatno bili pokapani članovi pojedine obitelji kroz generacije. U humcima nalazimo grobove muškaraca, žena i djece, s bogatim ili skromnim prilozima. Grobovi su ukapani u krug po obodu humka, rijetko se (u sredini) nalazi središnji grob koji je, u pravilu, obzidan kamenjem i u njemu je sahranjen najznačajniji član ili osnivač obitelji. Broj i kvaliteta priloga označava socijalni položaj pokojnika.

Zemlja u Dolenjskoj je kisela i agresivna, pa se osteološki ostaci pokojnika nisu sačuvali, tako da grobove razvrstavamo po spolu na osnovu priloga. Poseban bogati sloj žitelja, kojima u grobove muškaraca stavljaju mnoštvo metalnih priloga, te u grobove žena mnoštvo staklenih, jantarnih i metalnih priloga, u arheološkoj terminologiji nazivamo kneževski sloj. Halštatski knezovi su za zagrobni život bili bogato opremljeni bojnom opremom: kaciga, oklop, štit, štitnici nogu te metalno posuđe, od kojega posebno mjesto zauzimaju brončana vjedra – situle, koje su figuralno ukrašene. Među značajnije priloge pripadaju i uvezeni predmeti iz grčkoga ili etrurskoga svijeta, kao na primjer metalne posude, oslikane keramičke posude, oružje, cjedila, tronošci...

U grobove bogatih kneginja obično su priložene ogrlice od uvezenoga jantara ili od raznobojnih staklenih zrna domaće proizvodnje, nakit za glavu ili prsa načinjen od zlata, mnoštvo brončanih narukvica, nanogvica i spona te metalno posuđe.

**Novo Mesto, Kandija, grob IV/3, brončana, figuralno ukrašena situla (4. st. pr. n.e.)**
Novo mesto, Kandija, grave IV/3. Bronze figural decorated situla (4th century BC)

were probably buried there. The barrows contained the graves of men, women, and children, with rich or modest grave goods. The graves were dug in a circle along the edge of the mound. In rare cases, a central grave was noted, as a rule in a stone grave chamber, containing the burial of the most prominent member or founder of a clan. The number and quality of the grave goods indicated the social position of the deceased.

As the soil in Dolenjska is aggressive and acidic and the osteological remains of the deceased have not been preserved, the gender of the deceased can only be determined by the grave goods. A special wealthy class of inhabitants with many metal goods in the graves of men and masses of glass, amber, and metal items in the graves of the females is called »princely« in archaeological terminology. The Hallstatt princes were richly equipped for the afterlife with weaponry, such as a helmet, armour, a shield, and greaves, and also metal vessels, particularly the figurally decorated bronze pails or situlae. Other important grave goods were imported items from the Greek or Etruscan worlds, such as metal vessels, painted pottery, weapons, sieves, trivets, and so forth....

Halštatski knezovi pod svojom kontrolom držali su političko, vojno, gospodarsko i duhovno vodstvo, sve do nemirnoga doba koje počinje u 3. stoljeću prije naše ere, kada Dolenjsku vojno okupiraju keltska plemena prodrla s istoka. Mijenja se način pokapanja kao i grobni prilozi. Naselja toga vremena u cijeloj Europi pretežito su nizinska, a u Dolenjskoj se i dalje živi na starim, utvrđenim gradinama. Ekonomija zajednice mlađega željeznoga doba slična je ranijem razdoblju, s time da Kelti dostižu višu tehnološku razinu obrade željeza, koju do danas nismo nadmašili. Značajnijim nalazištima pripadaju Dobova, Brežice, Mihovo, Vinji vrh, Mokronog, Novo Mesto, Metlika. Groblja su ravna, a grobovi paljevinski. U materijalnome pogledu Kelti su donijeli novo naoružanje – dugački željezni mač, pohranjen u ukrašene željezne korice, drveni štit sa željeznim zaštitnim umbom, nove oblike narukvica, ogrlica i spona, keramičke posude izrađene na lončarskom kolu, željezne noževe, kao i lančane pojaseve…

Pojedina groblja doista odražavaju keltski značaj pokojnika, s prilozima koji označuju novopridošle Kelte, a neka groblja, kao na primjer Novo Mesto – Kapiteljska njiva ukazuju na većinsko starosjedilačko stanovništvo koje je doduše pokoreno, ali je sačuvalo običaje. Do novih razmirica dolazi u 1. stoljeću prije naše ere, kada osvajački interesi velike imperijalne sile – Rima dovode do ponovne okupacije Dolenjske, što rezultira bitnim i dugoročnim promjenama.

The graves of the rich princesses usually contained necklaces made of imported amber or locally produced multicoloured glass beads, golden jewellery for the head or chest, numerous bronze bracelets, anklets, and brooches, as well as metal vessels.

The Hallstatt princes retained their political, military, economic, and spiritual control until the restless period that began in the 3rd century BC, when Dolenjska was occupied by Celtic tribes arriving from the east. The burial ritual and the goods placed in the grave changed. Throughout Europe the majority of settlements were in the lowlands at this time, but in Dolenjska the inhabitants still lived in the old fortified hillforts. The economy of the late Iron Age was similar to the earlier period, while the Celts achieved a higher technological level of iron working, which has not been surpassed even until the present day. Important sites are located at Dobova, Brežice, Mihovo, Vinji vrh, Mokronog, Novo Mesto, and Metlika. Their cemeteries were flat, with cremation graves. Many new elements were introduced by the Celts, such as the long iron sword with a decorated iron sheath, the wooden shield with a protective iron umbo, new forms of bracelets, necklaces, and fibulae, pottery vessels made on the fast potter's wheel, iron daggers, belt chains, and many other items...

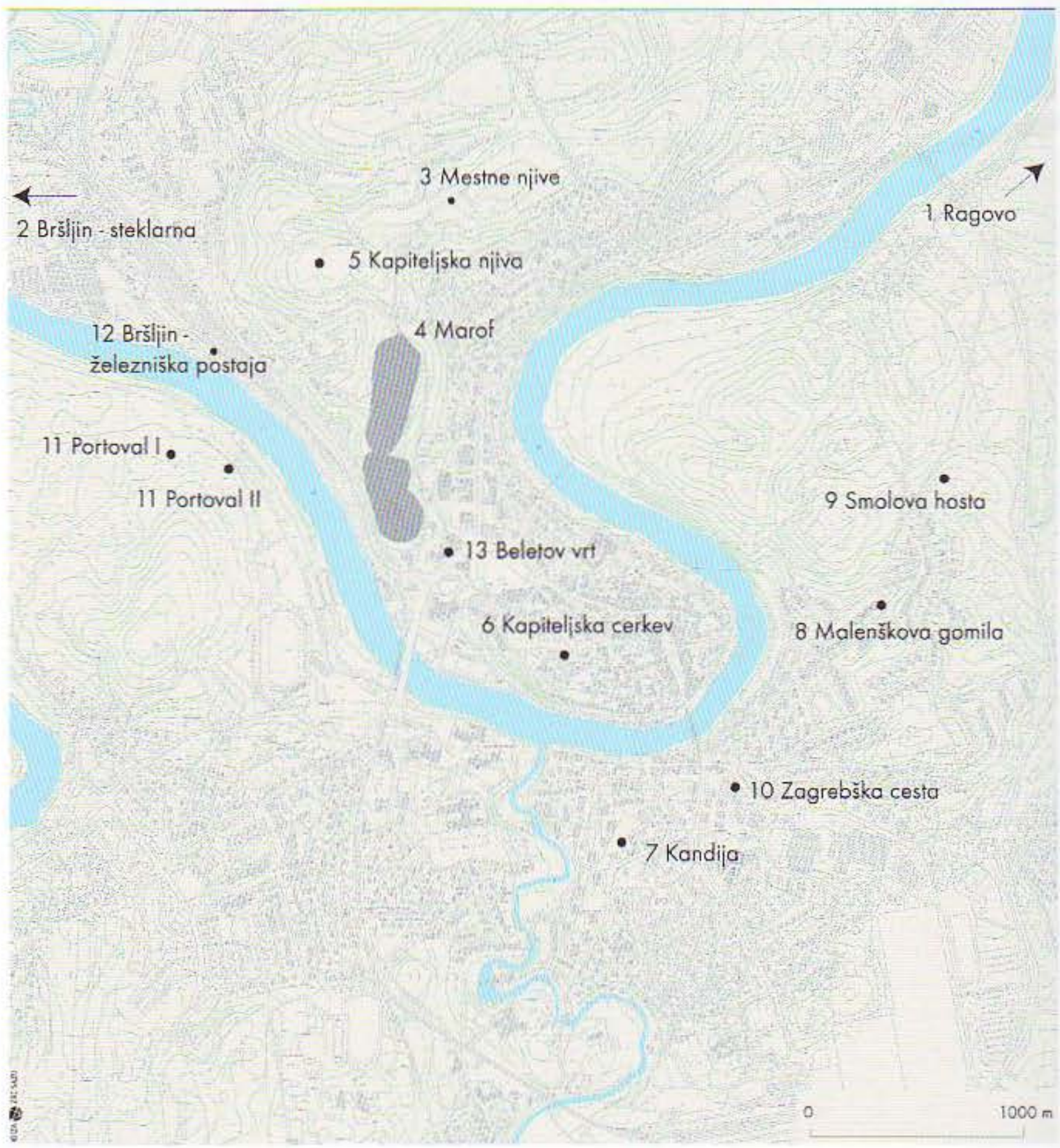
Individual cemeteries reflect Celtic characteristics of the deceased, with grave goods marking newly arrived Celts, and some cemeteries, such as Novo Mesto – Kapiteljska njiva, indicate the presence of a mostly indigenous population, who, although conquered, still retained their own customs. New disputes started in the 1st century BC, when the imperialist interest of a new power – Rome – led to another occupation of Dolenjska, which resulted in fundamental and long-term changes.

# JANTARNI I STAKLENI NAKIT NOVOGA MESTA

## NOVO MESTO U ARHEOLOGIJI

Područje Novoga mesta smješteno je u središnjoj Dolenjskoj, na rijeci Krki koja svojim srednjim tokom pravi oštar dvojni zavoj čineći prirodni poluotok, a na najužem dijelu okružuje utvrđeno pretpovijesno naselje.

Brežuljkasti, blago valoviti kraj u okolici toka rijeke Krke na južnoj strani zatvara gorje Gorjanci, na zapadu masiv Kočevski Rog, prema istoku se otvara prema Panonskoj nizini, na sjeveru graniči s visokom brežuljkastom pokrajinom koja dopire do rijeke Save. Današnji grad, koji je osnovan u 14. stoljeću, gospodarski je i kulturni centar pokrajine Dolenjske smješten jugozapadno od glavnoga grada Slovenije – Ljubljane.



# THE AMBER AND GLASS JEWELLERY OF NOVO MESTO

## NOVO MESTO IN ARCHAEOLOGY

The city and corresponding region of Novo Mesto is located in central Dolenjska (also known as Lower Carniola), on the Krka River, at the point where the river makes a sharp double bend and creates a natural peninsula, encircling in this manner a fortified prehistoric settlement formed at the narrowest section.

The hilly, gently rolling landscape along the Krka River is closed off by the Gorjanci mountain range to the south and the massif of Kočevski Rog to the west, while it opens up towards the Pannonian plain in the east, and is bordered in the north by an elevated hilly plateau extending to the Sava River. The present-day city, founded in the 14th century, is the economic and cultural centre of the Dolenjska province, which is located southwest of the Slovenian capital, Ljubljana.

**Novo Mesto, Breg s kućama kod srednjevjekovnoga bedema grada**
Novo Mesto, Breg with houses by the medieval town ramparts

Prirodno zaštićeni prostor, plodna zemlja, obilje vode, prometno čvorište kao i bogata površinska nalazišta željezne, limonitne rude od kasnoga brončanoga doba omogućuju intenzivnu naseljenost, koja je trajala od brončanoga, starijega i mlađega željeznoga doba do antičkih vremena i, kao što pokazuju najnovija istraživanja, prostor Novoga Mesta naseljen je i u vrijeme kasne antike kao i srednjega vijeka, odnosno do osnutka naselja. Na užem području Novoga Mesta poznato nam je 13 arheoloških nalazišta, koja se datiraju od mlađega kamenoga doba pa do srednjega vijeka.

## 1. Ragovo

Najstariji nalazi s područja Novoga Mesta poznati su nam iz Ragova, gdje je na njivama uz rijeku Krku nađeno nekoliko kamenih sjekira, te na osnovu toga slučajnoga nalaza početak naseljavanja toga područja stavljamo u mlađe kameno doba.

## 2. Bršljin

Prigodom gradnje tvornice stakla šezdesetih godina 20. stoljeća, pronađena su četiri brončanodobna žarna groba, koji se datiraju na prijelaz iz 2. u 1. tisućljeće pr. n. e. Sadržavali su keramičke posude i brončanu križnu pojasnu kopču, torques, narukvice, karike i naočalastu fibulu. Zanimljiva je bila njihova kamena arhitektura, jer su svi predmeti bili položeni na kamene ploče, a grob 3 bio je njima i obzidan.

## 3. Mestne Njive

Prvi žarni grobovi pronađeni su 1954. godine na stožastom brežuljku sjeverno od gradske jezgre. Dokumentirano je i iskopano 559 žarnih grobova iz vremena kulture polja sa žarama, odnosno iz prva dva stoljeća 1. tisućljeća pr. n.e., te tri groba iz starijega željeznoga doba, odnosno iz 8.–4. st. pr. n.e. Zaštitna iskapanja ponavljaju se svake godine, jer groblje ugrožava redovita obrada njiva.

U grobove su polagane velike keramičke žare promjera do 60 cm, napunjene pepelom i kostima te s manjim prilozima (vretena, staklo, bronca, fibule, narukvice, prstenje). Iznad žare položena je keramička posudica koja je obično bila pokrivena kamenom pločom. Grobovi su jednostavno ukopani u zemlji, a u rijetkim slučajevima je ispod žare položena kamena ploča. Većina grobova datira se u mlađi period kulture polja sa žarama, u 9. ili češće 8. st. pr. n.e.

## 4. Marof

Na stožastome brežuljku, koji se uzdiže sjeverozapadno iznad srednjovjekovne jezgre Novoga Mesta, ležalo je pretpovijesno utvrđeno naselje. Gradina, koja

The naturally protected position, fertile soil, abundant water, nearby transportation routes, as well as the rich surface deposits of iron limonite ore all but guaranteed intensive settlement, which lasted from the late Bronze Age and throughout the early and late Iron Age to the Roman period. According to the latest research, the Novo Mesto area was also settled in the period of late Antiquity and in the early medieval period, and this inhabitation continued to the recorded foundation of the modern settlement. A total of 13 archaeological sites dating from the late Neolithic to the Middle Ages have been documented in the Novo Mesto area.

## 1. Ragovo

The earliest finds from Novo Mesto are known from Ragovo, where several stone axes were found on meadows along the Krka River, and the beginnings of settlement in this area are dated to the late Stone Age on the basis of this chance find.

## 2. Bršljin

Four Bronze Age cremation graves, dated to the period around 1000 BC, were discovered during the construction of a glass factory in the 1960s. They contained pottery vessels, a bronze cross-shaped belt buckle, torcs, bracelets, chains, and a spectacle fibula. Their stone architecture was interesting, as all the objects were placed on stone slabs and grave 3 was lined with them.

## 3. Mestne Njive

The first urn graves were found in 1954 on a conical hill north of the city centre. At this site 559 cremation graves have been excavated and documented from the Urnfield Culture period, from the first two centuries of the 1st millennium BC, along with three graves from the early Iron Age period, dated to the 8th–4th centuries BC. Rescue excavations are performed every year as the cemetery is permanently endangered by cultivation.

Large pottery cinerary urns, up to 60 cm in diameter, were placed in the graves. They were filled with the ashes and bones of the deceased, as well as with small funerary goods (spindle-whorls, glassware, bronze, fibulae, bracelets, rings). A pottery vessel was placed over the urn, which was usually covered with a stone slab. The graves were simply dug into the ground, and in rare cases a stone slab was placed below the urn. Most graves are dated to the late period of the Urnfield Culture, i.e. to the 9th or more often to the 8th century BC.


**Novo mesto, Mestne njive, grob 319 s glinenom žarom i paljevinom prigodom otkrića (9.–8. st. pr.n.e.)**
Novo mesto, Mestne njive, grave 319 with a pottery urn and an incineration grave during excavations (9th to 8th century BC)

je dvojna, ima višu, snažno utvrđenu akropolu i donji dio. Ulaz u gradinu sačuvan je na sjevernoj strani akropole. Gradina je bila naseljena cijelo prvo tisućljeće prije n. e., a nalazi datiraju od brončanoga doba preko starijega željeznoga do mlađega željeznoga doba. Manja istraživanja osamdesetih godina 20. stoljeća pokazala su da je bedem bio graden od zemljano-drvene građe.

## 5. Kapiteljska njiva

Nas zapadnoj strani i na vrhu zaravnjenoga brežuljka, u neposrednoj blizini pretpovijesnog naselja, nalazi se Kapiteljska njiva. To je najveća nekropola na području Novoga mesta, koja opseže 180 žarnih grobova iz kasnoga brončanoga doba, 21 do sada istražena humka iz starijega željeznoga doba te preko 500 skeletnih grobova iz razdoblja od 8.–4. st. pr. n. e., kao i više od 700 paljevinskih latenskih grobova iz razdoblja od 3.–1. st. pr. n. e.

Područje arheološkoga lokaliteta prostire se na više od 30.000 m$^2$. Danas su to travnjaci i polja. Intenzivna obrada zemljišta u posljednjem stoljeću je područje u kojem su prevladavali veliki zemljani tumuli potpuno izravnala s okolišem, te su oni, tako sniženi, danas jedva vidljivi. Prvo iskapanje na tome mjestu započelo je 1894. godine, a od 1985. godine istraživanja se vrše svake godine.

Osim grobova na središnjemu dijelu toga nalazišta, otkriveni su i ostaci naselja iz kasnoga brončanoga doba. Među nalazima ističu se grčko-ilirski šljemovi, uvozna keramika, figuralno ukrašene situle i brončani pojas, mahaira te mnoštvo staklenoga i jantarnoga nakita.

## 6. Kapiteljska cerkev

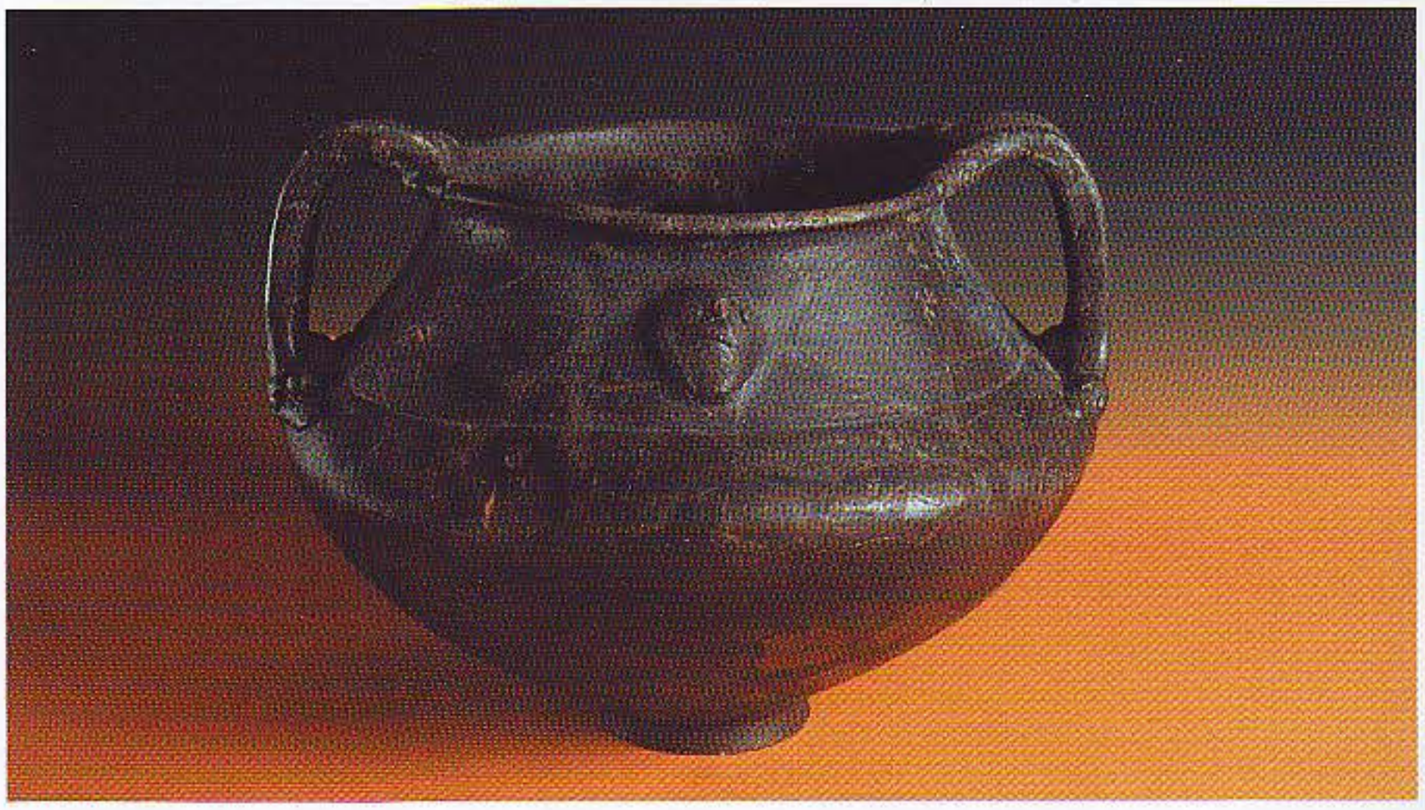
Na najvišemu dijelu poluotoka, na kojem je nastalo srednjovjekovno naselje sa središnjom crkvom, nađeni su ostaci naselja iz kasnoga brončanoga doba

**Novo Mesto, Kapiteljska njiva, grob 54, ogrlica od staklenih zrna (9.–8. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave 54, a necklace of glass beads (9th to 8th century BC)

(10–9. st. pr. n. e.), iz mlađega željeznog doba (1. st. pr. n. e.), iz doba antike i srednjega vijeka. Na zapadnoj strani toga brežuljka nađeni su ostaci naselja s ognjištem i ulomcima keramike iz kasnoga brončanoga doba, i lončarska peć malđega željeznogadoba, a na južnoj strani, kod Kapiteljske crkve, nađeni su ostaci kasnolatenske kaldrme te ostaci kuća s ognjištem, a u neposrednoj blizini nalaze se kameni zidovi iz perioda antike.

## 7. Kandija

Arheološka iskapanja te nekropole vršila su se redovito od četrdesetih godina 20. stoljeća. Nekropola je imala najmanje pet pretpovijesnih tumula sa skeletnim ukopima iz starijega željeznoga doba (8.–4. st. pr. n. e.), te 64 žarna groba iz mlađega željeznoga doba (3.–1. st. pr. n. e.). Godine 1939. otkriven je grob s brončanim halštatskim oklopom te istovremeni grob s uvoznim kotlićem na tri noge. Opsežnije istraživanje, koje je trajalo od 1967.–1970., obuhvatilo je četiri bogata halštatska tumula, te je otkriveno mnoštvo staklenoga i jantarnoga nakita, četiri figuralno ukrašene situle, brončani šljemovi te bogato i raznoliko ukrašene keramičke posude. Među nalazima iz mlađega željeznoga doba ističe se kantaros, ukrašen maskama lica i glavama zmija.



**Novo Mesto, Kandija, grob 44, glineni kantaros s dvije ručke, ukrašen (3. st. pr. n.e.)**
Novo mesto, Kandija, grob 44, a decorated pottery cantharos with two handles (3rd century BC)

## 8. Malenškova gomila

Početkom 20. stoljeća seljaci su razorili grobni humak koji je sadržavao četiri groba iz perioda starijega željeznoga doba, a grob 1 sadržavao je i bogatu konjsku opremu.

## 9. Smolova hosta

Pretpovijesni grobni humak djelomično je iskopan početkom 20. stoljeća, a nađena su dva groba iz perioda starijega željeznoga doba.

## 4. Marof

A prehistoric fortified settlement was located on a conical hill that rises to the northwest above the medieval nucleus of Novo Mesto. The double hillfort consists of an elevated, strongly fortified acropolis and a lower part. The entrance to the hillfort is preserved on the northern side of the acropolis. The hillfort was settled throughout the 1st millennium BC, and the finds are dated from the Bronze Age, the early Iron Age, and the late Iron Age. Limited excavations in the 1980s showed that the ramparts were built of soil and timber.

## 5. Kapiteljska njiva

Kapiteljska njiva is situated at the western end and on the top of a level hill in the immediate vicinity of the prehistoric settlement. This is the largest cemetery in the Novo Mesto area, containing 180 urn graves from the late Bronze Age, 21 grave mounds from the early Iron Age investigated so far, and more than 500 inhumation graves from the period of the 8th–4th centuries BC, along with more than 700 La Tène period cremation graves from the 3rd to 1st centuries BC.

The archaeological site extends across more than 30,000 square metres, today fields and pasture ground. Intensive ploughing of the land in the last century has completely flattened an area dominated by large earthen tumuli, so that today they are reduced and barely visible. The first excavations in this area began in 1894, and from 1985 excavations have been conducted annually.

In addition to the graves in the central part of this site, remains of a settlement from the late Bronze Age have also been found. Prominent finds include Graeco-Illyrian helmets, imported pottery, a figurally decorated bronze belt and situlae, a machaira-dagger, and much glass and amber jewellery.

## 6. Kapiteljska cerkev/Chapter church

At the highest point of the peninsula, where the medieval settlement with a central church evolved, remains have been found of settlements from the late Bronze Age (10th–9th centuries BC), the late Iron Age (1st century BC), and the Roman and medieval periods. Remains of a settlement with hearths and pottery fragments from the late Bronze Age and a pottery kiln from the La Tène period were found on the western side of the hill, while on the southern side, by the chapter church, remains were found of a late La Tène cobble pavement and the remains of houses with hearths were found. Roman stone walls are also located in the immediate vicinity.

## 10. Zagrebška cesta

Slučajni nalazi iz grobova starijega željeznoga doba pokazala su da se između stambenih blokova i ceste nalazio grobni humak, koji do danas nije istražen.

## 11. Portoval

U šumarku Portoval, koji se nalazi na desnoj obali Krke, krajem 19. stoljeća iskapan je grobni humak iz starijega željeznoga doba. Nalazi su pohranjeni u Narodnome muzeju Slovenije.

## 12. Bršljin – željeznička postaja

Prigodom gradnje vodoopskrbne stanice za željeznicu 1893. g. nađeni su vidljivi ostaci okruglih talioničkih peći iz perioda starijega željeznoga doba.

## 13. Beletov vrt

Nalazi se u nizinskome dijelu između pretpovijesnoga naselja Marof i srednjovjekovne jezgre. Ta nekropola, koja se sastojala od nekoliko stotina žarnih grobova, koji su većinom bili uništeni u 19. stoljeću, te blizu 300 grobova istraženih sedamdesetih godina 20. stoljeća, bila je najviše korištena u zadnjem stoljeću pr. n. e. te u prvih dva stoljeća naše ere. Ondje su pokapani autohtoni stanovnici s predmetima kasnolatenske kulture te provincijalnoga rimskoga perioda.

# ŽELJEZNO DOBA

Područje Novoga Mesta bilo je intenzivno naseljeno nekoliko tisućljeća, a 1. tisućljeće pr. n. e. povijesni je period koji mu je utisnuo najjači pečat. U starije i mlađe željezno doba Novo Mesto predstavljalo je jedan od važnih centara, kako u jugozapadnoj alpskoj halštatskoj kulturi tako i u latensko doba, kada su došli keltski Taurisci u 3. st. pr. n. e.

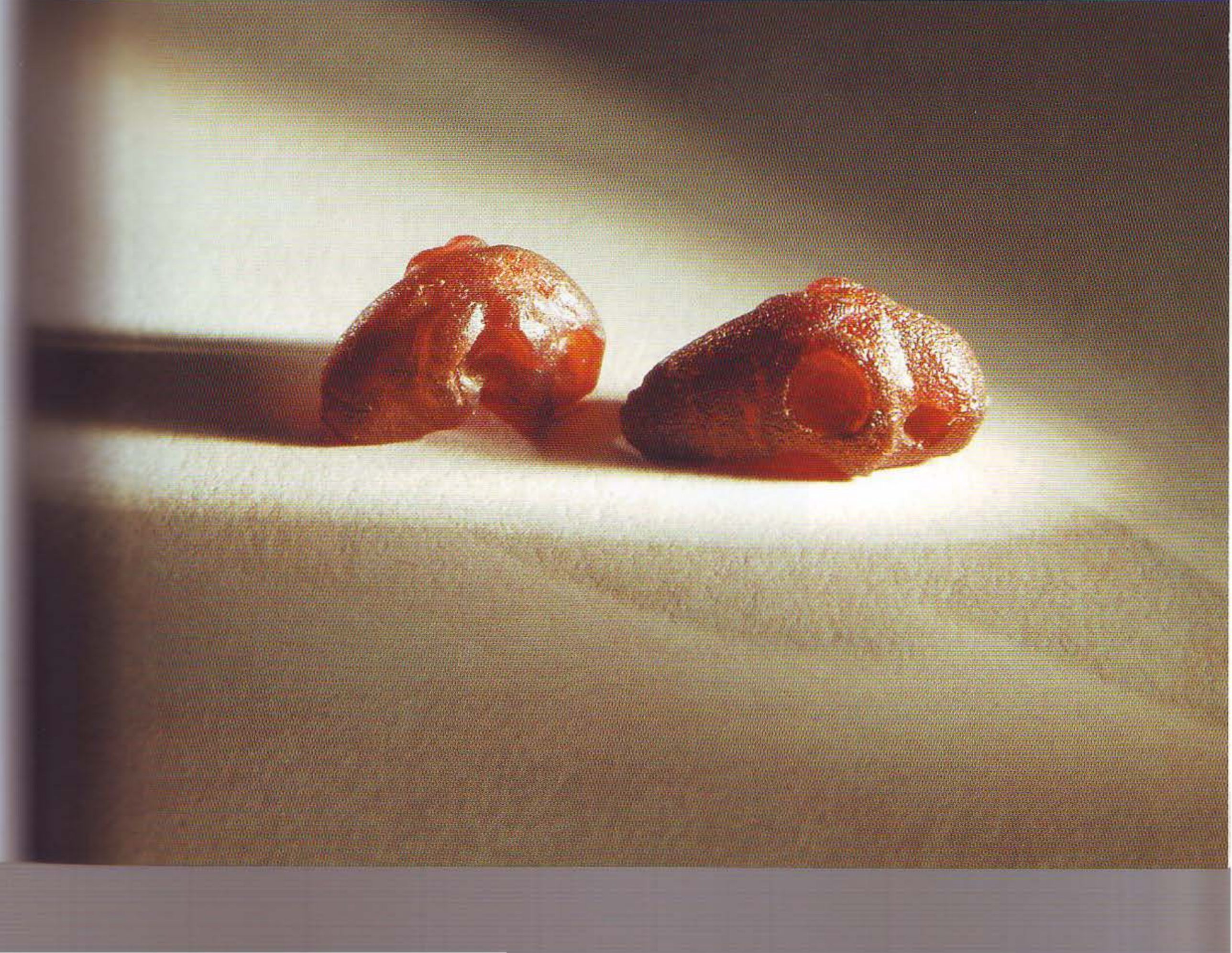
Snažno i prostrano utvrđeno naselje – gradina, okruženje prerađivača željeza te više od 700 do sada istraženih skeletnih grobova iz peroda halštata pronađenih u više od 30 zemljana humka, rezultati su vrijedni pažnje. Bogati grobni prilozi, koji pokazuju da je Novo Mesto povezano s mediteranskim (grčko-etrurskim) svijetom, s panonskim skupinama te s alpskim prostorom, ukazuju na snažnu ekonomsku bazu te imućnost lokalnoga stanovništva, ko-

## 7. Kandija

The cemetery has been excavated regularly since the 1940s. The cemetery consisted of at least five prehistoric tumuli with skeleton burials from the early Iron Age (8th–4th centuries BC), as well as the cemetery of 64 cremation graves from the period of the late Iron Age (3rd–1st centuries BC). A grave with bronze Hallstatt period armour and a contemporary grave with an imported tripod cauldron were discovered in 1939. Extensive excavations carried out from 1967 to 1970 uncovered four rich Hallstatt tumuli, which contained an abundance of glass and amber jewellery, four figurally decorated situlae, bronze helmets, and variously decorated pottery vessels. One prominent find from the late Iron Age is a kantaros, decorated with masks depicting faces and snake heads.

## 8. Malenškova gomila

At the beginning of the 20th century, farmers destroyed a grave mound that contained four graves from the early Iron Age. Grave 1 contained luxurious horse equipment.



**Novo Mesto, Kapiteljska njiva, grob VI/4, zrna jantara u obliku ovnovih glava (4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave VI/4, amber beads in the shape of ram's heads (4th century BC)

ji su, osim poljoprivrede i obrta, imali razvijenu i metaluršku proizvodnju. Kako potvrđuju noviji nalazi, na tom prostoru razvila se intenzivna proizvodnja stakla i obrada stakla u nakit.

Novo Mesto bilo je sjedište halštatskih knezova, a nekoliko grobova ističe se svojim iznimnim prilozima među prilično bogatim grobovima. Kneževski grobovi nisu posebno obilježeni u humku, ravnopravno su položeni s drugima, a izdvajaju se brojem vrijednih priloga. U muškim kneževskim grobovima Novoga Mesta nalazi se brončana ili željezna oprema za jahaćeg konja, obrambeno oružje (oklop, šljem, štit), metalno posuđe, među kojim posebno mjesto zauzimaju figuralno ukrašene situle te izuzetni uvozni predmeti. U ženskim kneževskim grobovima, osim metalnih posuda i uvoznih predmeta, pojavljuju se predmeti izrađeni od plemenitih kovina, prije svega od zlata te mnoštvo brončanih, staklenih i jantarnih ukrasnih predmeta.

U Novome Mestu poznato je dvanaest grobova koje pripisujemo sloju kneževa. To su grob s oklopom i šljemom iz Kandije, grob s tronošcem i situlom, grob IV/3 s negovskim šljemom, s dvije situle i cistom te s bogatim prilozima u nakitu, zatim grob s konjskom opremom, cistom i situlom iz Malenškova humka. Iz Kapiteljske njive su grobovi 1/16 s mahairom i zdjelastom kacigom te centralna grobna komora građena od kamenja i zemlje, koja je većim dijelom bila uništena; grob III/12 s figuralno ukrašenom situlom i jednakim brončanim pojasom; grob III/22 je sadržavao brončanu cjediljku s dugom ručkom te drveni štit s centralnom željeznom pločom; grob V/35 s dijelovima zlatne dijademe te mnoštvom staklenoga i jantarnoga nakita. Grob VII/19 sadržavao je brončanu ukrašenu situlu, cistu, dijelove oklopa, konjsku

**Novo Mesto, Kandija, grob II/8, zlatna dijadema (6. st. pr. n.e.)**
Novo mesto, Kandija, grave II/8, a golden diadem (6th century BC)

## 9. Smolova hosta

A prehistoric tumulus was partly excavated at the beginning of the 20th century, and two graves from the early Iron Age were found.

## 10. Zagrebška cesta/Zagreb road

Chance finds from early Iron Age graves indicate that a tumulus was located between the road and residential buildings. It has not yet been excavated.

## 11. Portoval

In the grove of Portoval, located on the right bank of the Krka River, a grave mound from the early Iron Age was excavated at the end of the 19th century. The finds are in the National Museum of Slovenia.

## 12. Bršljin – railway station

Visible remains of circular smelting furnaces from the early Iron Age were discovered while building a water pumping station for the railroad in 1893.

## 13. Beletov vrt

This section is located in the low-lying area between the prehistoric settlement at Marof and the medieval town nucleus. The cemetery, which consisted of several hundred cremation graves, which were mostly destroyed during the 19th century, as well as almost 300 graves excavated in the 1970s, was most intensively used in the 1st century BC and in the first two centuries AD. Deceased individuals of the indigenous population were buried here with objects from the late La Tène Culture and the provincial Roman period.

# THE IRON AGE

The Novo Mesto region was intensively settled for several thousand years, but the period of the first millennium BC is the historical period that left the strongest mark on it. In the early and late Iron Age, Novo Mesto represented one of the more important centres, both of the southeastern Alpine Hallstatt Culture, and also in the La Tène period, with the arrival of the Celtic tribe of the Taurisci in the 3rd century BC.

**Novo Mesto, Kandija, grob IV/3, negovska kaciga (4. st. pr. n.e.)**
Novo mesto, Kandija, grave IV/3, a helmet of Negova type (4th century BC)

opremu te dva grčko-ilirska šljema, u grobu VII/35 nađene su dvije brončane, do danas nerestaurirane, posude. Grob XVI/34 sadržavao je mnoštvo metalnoga i jantarnoga nakita.

Među do sada nađenim materijalom iz perioda halštata treba istaknuti:

devet spomenika situlske umjetnosti, primjerke svih tipova brončanih šljemova koji su bili u uporabi u tom periodu na jugozapadnome alpskome području te dva grčko-ilirska šljema, brončani prsni oklop, zlatni nakit, uvozno keramičko posuđe, napravljeno na grčkome i etruščanskome području, uvozne brončane predmete, tronožac i cjedilo s dugom ručkom, množinu jantarnih i staklenih zrna, koja svojim oblikom i ukrašenošću, veličinom i brojnošću odstupaju od preostalog dijela onovremene Europe.

## STAKLO I JANTAR U NOVOME MESTU

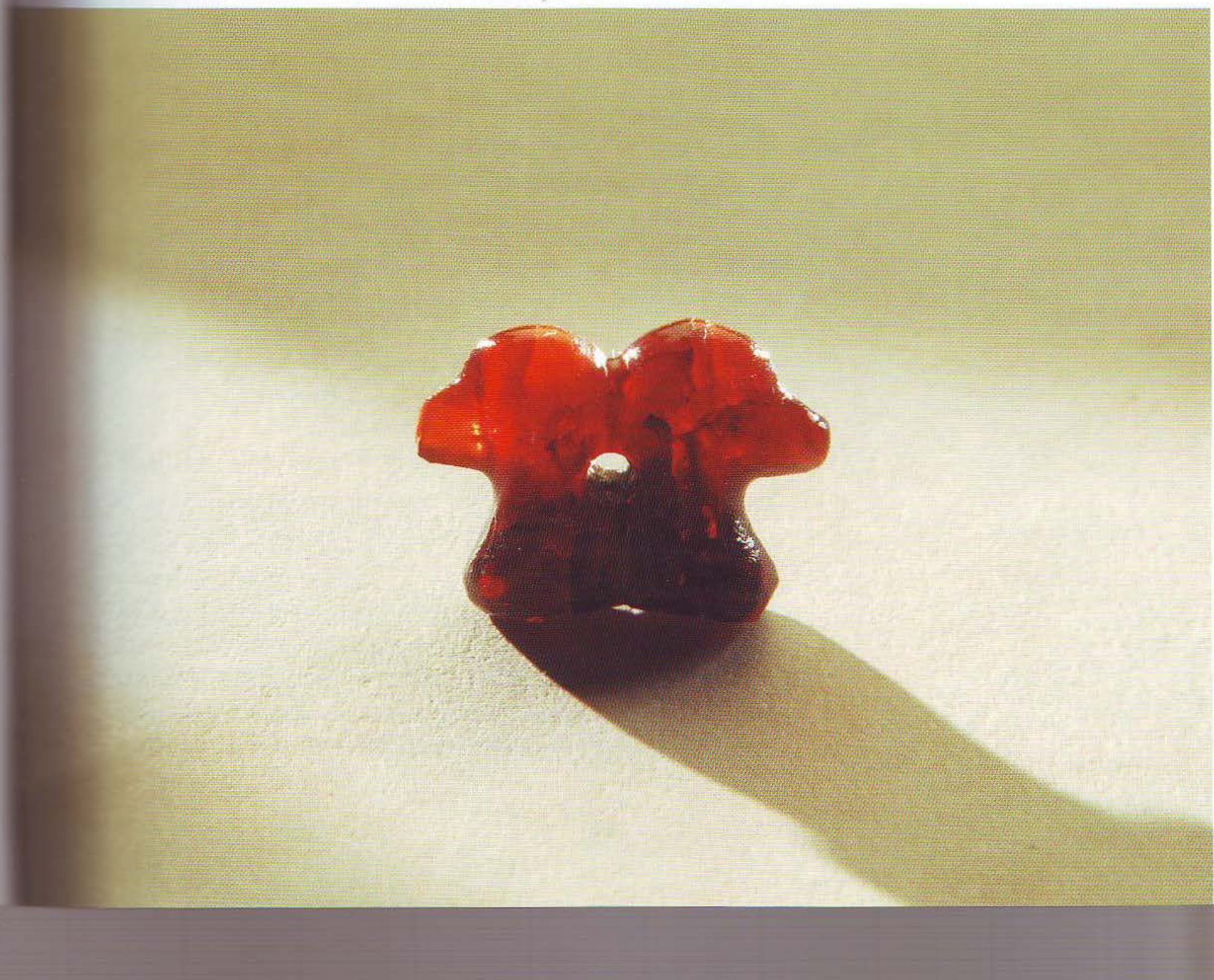
### Brončano doba

Najstariji primjerci predmeta izrađenih od stakla u Novome Mestu potječu iz paljevinskih, kasnobrončanodobnih grobova, koji su nađeni na lokalitetu Mestne njive, a poslije i na Kapiteljskoj njivi.

The powerful and extensive fortified settlement – hillfort, surrounded by facilities for working iron, and over 700 skeleton graves discovered in more than 30 earthen mounds excavated to date from the Hallstatt period, are all elements that deserve attention. The rich grave goods show that Novo Mesto was not merely connected with the Mediterranean world (Greece and Etruria), but also with groups in the Pannonian area and the Alpine region. The finds also indicate the strong economy and wealth of the local inhabitants. Other than agriculture and crafts, metallurgical production was also highly developed, and the recent finds show that intensive production of glass took place in this area, along with the manufacture of glass jewellery.

Novo Mesto was a seat of the Hallstatt princes, and a number of the graves found here stand out in terms of the exceptional goods found among relatively rich graves. Princely graves were not marked specifically in the tumulus, instead they were placed together with the other graves but were outstanding in terms of the number of valuable goods. The male princely graves of Novo Mesto contain bronze or iron equestrian equipment, defensive weaponry (armour, helmets, shields), metal vessels, particularly figurally decorated pails (situlae), and extraordinary imported objects. The rich

**Novo Mesto, Kapiteljska njiva, grob VI/44, zrno jantara u obliku dvojne životinjske glave (4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave VI/44, an amber bead in the shape of a double animal head (4th century BC)



Predmeti izrađeni od stakla su nakit, isključivo u obliku zrna, a većinom su načinjena od raznih nijansi plavoga stakla. Staklena zrna su različite veličine, s većom rupicom za pričvršćivanje. Manja zrna uglavnom nisu prozirna, a veća su većinom prozirna i napravljena iz svjetlijega plavoga stakla. U vrijeme brončanoga doba pojavljuju se plava staklena zrna s očicama načinjenim od bijeloga ili žutoga stakla, koja često ispadaju, a u zrnima ostanu utori u obliku sastavljenih krugova – očica. Dosta rijetko, ali ipak, pojavljuju se i zrna s izbočinama, najčešće u grobovima zajedno s vretenima, koja su atributi ženskih grobova. Grobovi sa staklom u to doba su razmjerno rijetki, a staklena zrna u pojedinim grobovima su malobrojna. Česta oštećenost zrna govori nam da su paljena na lomači zajedno s pokojnikom.

Od ukupno 615 grobova, iz perioda kasne bronce, samo u 9 nalazimo staklene priloge, a ukupno je nađeno više od stotinu staklenih zrna. To su ujedno i najbogatiji grobovi toga perioda. Brojnošću i vrstom priloga prilično odstupaju od drugih, a bez iznimke radi se o ženskim grobovima. Iz toga vremena nemamo niti jedan bogati grob kojega bi pripisali muškarcu, kojima su karakteristični prilog brončane igle s različitim glavicama, a oružja u to doba po pravilu nema u grobovima.

Nasuprot velikome broju staklenih zrna u grobovima kulture polja sa žarama Novoga Mesta, u tom periodu nemamo niti jedno jantarno zrno. Jedan od razloga mogao bi biti da je jantar izgorio u grobnom ritualu s paljenjem pokojnika zajedno s odjećom, opremom i ukrasima.

## Starije željezno doba

S promjenom načina pokapanja i možda s novim pridošlicama u Dolenjsku, količina staklene i jantarne građe u grobovima drastično je porasla, od 8. st. pr. n. e. pa do sredine 4. st. pr. n. e., kada se s keltskom okupacijom opet promijenio način pokapanja. U starije željezno doba uobičajen je skeletni pokop u velike zemljane humke. To je svakako vrijeme najvećega procvata i moći dolenjske halštatske grupe. U to doba znatno se povećava broj nekropola, kao i grobova u Novome Mestu. Broj grobnih priloga i njihova vrijednost u očima njihovih suvremenika govori o ekonomskoj moći žitelja.

Skeletni grobovi u tlocrtu imaju pravokutni oblik prosječne veličine 250 x 90 cm, a najveći grobovi čak 400 x 200 cm. Dubine ukopa su različite, od nekoliko desetaka do 150 cm.

U većini grobova, unatoč prilično agresivnoj zemlji i uvjetima koji su u potpunosti razgradili sve organske, danas nepostojeće, ostatke, ipak opažamo tragove drvenih sanduka ili drvenih konstrukcija u koje su bili položeni pokojnici.

Svi grobovi kružno su položeni u humku te je središnje mjesto u njoj ostalo prazno. Svaki humak širok je 10 do 35 metara te sadrži 10–80 grobova. Izme-

female graves, besides metal vessels and imported items, contain objects made of precious metals, primarily gold, and many bronze, glass, and amber decorative attire items.

Twelve graves attributed to the princely class are known from Novo Mesto. They include: a grave with armour and a helmet from Kandija, a grave with a tripod and a situla, grave IV/3 with a Negova-type helmet, two situlae, a cist, and rich jewellery finds, and the grave with horse equipment, a cist, and a situla from the Malenškova gomila site. The following graves were from Kapiteljska njiva: grave I/16 with a machaira-dagger, a bowl-shaped helmet, and a mostly destroyed central grave chamber built of stone and earth; grave III/12 with a figurally decorated situla and bronze belt; grave III/22 with a bronze sieve with a long handle and a wooden shield with a central iron boss; and grave V/35 with parts of a golden diadem and much glass and amber jewellery. Grave VII/19 contained a decorated bronze situla, a cist, armour components, horse equipment, and two Graeco-Illyrian helmets, while grave VII/35 contained two bronze vessels, still not restored. Grave XVI/34 contained abundant metal and amber jewellery.

The following should be emphasized from the material discovered to date from the Hallstatt period: nine examples of Situla Art, specimens of all types of bronze helmets used during this period in the southeastern Alpine region along with two Graeco-Illyrian helmets, a bronze cuirass, golden jewellery, imported pottery vessels produced in the Greek and Etruscan regions, imported bronze objects, a tripod and a sieve with a long handle, numerous amber and glass beads, which in terms of their shape, decoration, size, and number differ from those from the other parts of Europe at that time.

# THE GLASS AND AMBER OF NOVO MESTO

## The Bronze Age

The earliest examples of glass objects from Novo Mesto come from late Bronze Age cremation graves, first found at the Mestne njive site and subsequently at Kapiteljska njiva.

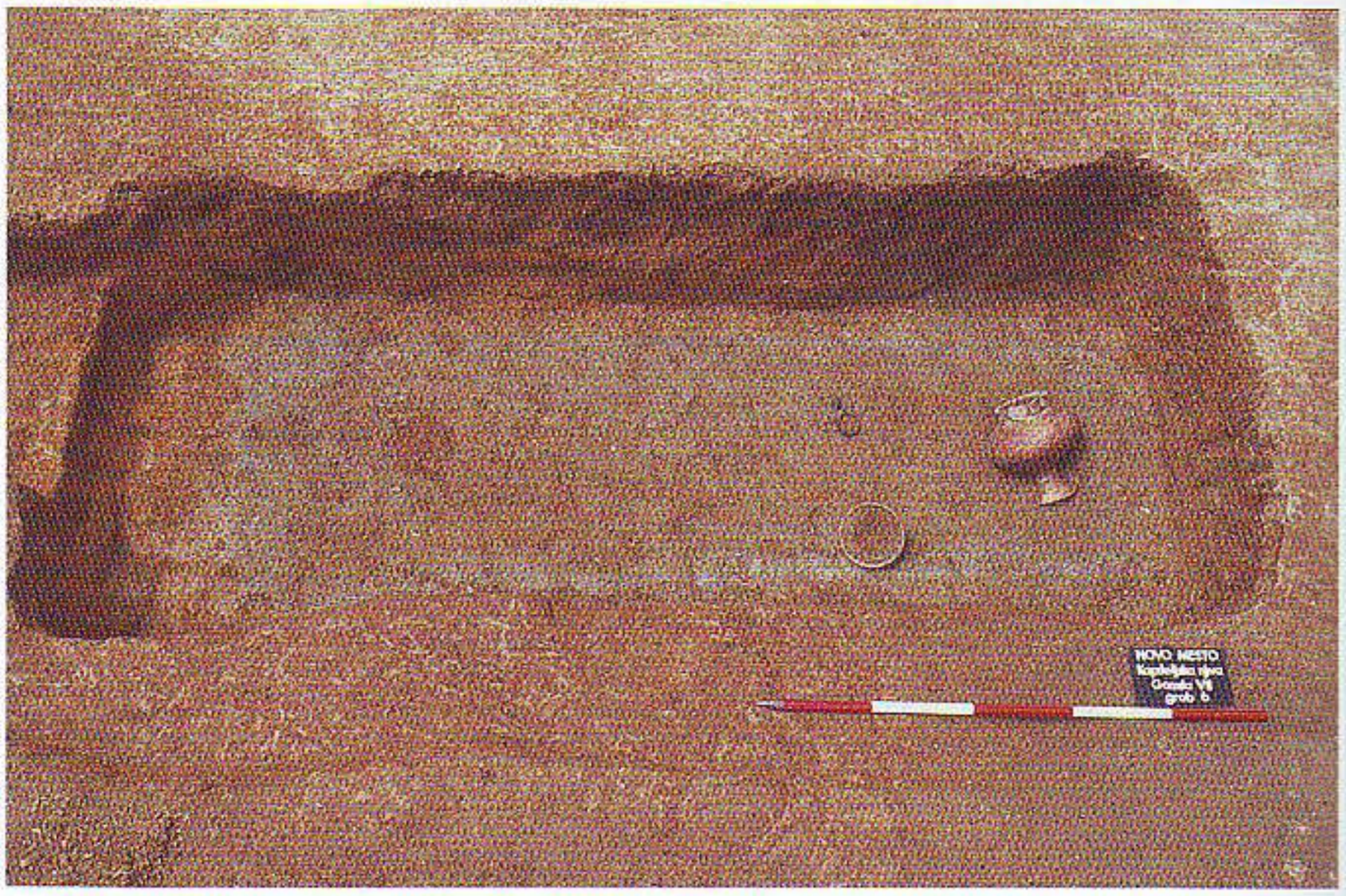
The glass items are all jewellery, exclusively beads, and mostly made in different shades of blue glass. The glass beads are of various sizes, with a large hole for attachment. Most small beads are not transparent, in contrast to larger examples, which also tend to be made of paler blue glass. Blue glass beads with »eyes« made of white or yellow glass first appeared in the Bronze

**Novo Mesto, Kapiteljska njiva, humak XIV. Grobovi i centralni grob (8.–4. st. pr. n.e.)**
Novo Mesto, Kapiteljska njiva, barrow XIV. Graves and the central grave (8th to 4th century BC)

đu 23 humaka, koji su iskapani u drugoj polovici 20. stoljeća te početkom 21. stoljeća u Novome Mestu, humak I na Kapiteljskoj njivi sadržavao je centralni grob, odnosno grobnu komoru; humak IX, XIV i XVI sadržavali su po jedan centralni grob, dok je humak X sadržavao dva centralna groba. U svim spomenutim humkama centralni grobovi su najstariji, odnosno to su prvi grobovi ukopani u te humke.

Grobna arhitektura u humku I je posebna, jer je unutarnja komora imala veličinu 200 x 200 cm, a vanjske dimenzije komore, koja je građena od drveta i kamenja, su 550 x 570 cm. Ti veliki, zemljani, u tlocrtu okrugli humci bili su u uporabi dulje vrijeme. Tako je humak I na Kapiteljskoj njivi nasut početkom starijega željeznoga doba, u stupnju Ha C1, odnosno u 8. st. pr. n. e., a bio je u uporabi cijelo starije željezno doba sve do vremena Ha D3, u 4. st. pr.n.e.

**Novo Mesto, Kapiteljska njiva, grob VII/6, grobna raka s ostacima kovčega i grobnim prilozima prigodom otkrića (5.–4. st. pr.n.e.)**
Novo mesto, Kapiteljska njiva, grave VII/6, a grave pit with the coffin remains and grave goods during excavations (5th to 4th century BC)



Age. The applied elements often fall out and grooves composed of concentric circles remain – the »eyes«. Beads with protrusions are quite rare, most often found in graves together with spindle-whorls, which are attributes of female graves. Graves with glass are relatively rare at that time, and the number of glass beads in individual graves is limited. The high frequency of damaged beads indicates that they were cremated at the funeral pyre together with the deceased.

Only 9 out of the total of 615 graves from the late Bronze Age in Novo Mesto contained glass, but each had more than 100 glass beads. These are also the richest graves of the cemeteries of this period. They stand out from the other graves in the amount and type of grave goods and are all, without exception, female graves. Not a single rich grave from this period that could be classified as male has been found. The male graves were characterized by bronze pins with various heads, while as a rule weaponry was absent from the graves in this period.

Unlike the large number of glass beads found in the Urnfield Culture graves from Novo Mesto, not a single amber bead is known from this period. One of the reasons could be that amber, as an easily combustible material, would have been burnt during the funerary ritual of cremating the deceased together with their clothes, equipment, and decorations.

## The Early Iron Age

The change in burial rituals and perhaps the arrival of newcomers in Dolenjska led to a dramatic rise in the amount of glass and amber material in graves from the 8th century BC until the mid 4th century AD, when the funerary customs changed again after the Celtic occupation. The tradition of inhumation burials under large earthen mounds in the early Iron Age was replaced in the late Iron Age by flat cemeteries with cremation burials.

This was certainly the period of the greatest expansion and power of the Lower Carniola Hallstatt group. The number of cemeteries and graves at Novo Mesto increased sharply in this period. The multitude of grave goods and their value in the eyes of their contemporaries also signifies the economic power of the inhabitants.

The inhumation graves had a rectangular plan with an average size of 250 x 90 cm, with the largest graves measuring up to 400 x 200 cm. Burials vary in depth from around 10 to 150 cm.

Despite the highly aggressive soil and conditions that completely disintegrated all organic remains, it is still possible to perceive traces of wooden coffins or wooden structures into which the deceased were placed.

All the graves were placed radially in the tumulus. The diameter of the

Slična situacija je i s ostalim humcima iz Novoga Mesta. Time možemo potvrditi pretpostavku da su to rodovski humci u koje su se stoljećima pokapali pripadnici jednoga roda ili skupine.

Kneževski grobovi bili su, s jednom iznimkom (humak I na Kapiteljskoj njivi), svi ukopani u krug između drugih grobova te svojim položajem nisu predstavljali iznimku. To nas navodi na zaključak da su »kneževi« u Novome Mestu, kao i drugdje u dolenjskoj grupi jugozapadne alpske halštatske grupe, prvi među jednakima, nasuprot zapadnome halštatskome krugu, gdje kneževski pokop ima značajnu grobnu komoru u humku, koja je bila nasuta za jednoga odabranoga, kojemu bi bolje pristajao naziv kralja a ne kneza, a najljepše ga ocrtavaju izuzetno bogati grobovi u Hochdorfu ili u Vixu.

## Grobovi muškaraca

U grobove muškaraca prilagano je oružje, koje u kasnome brončanome dobu ne nalazimo. Uobičajeno naoružanje je sjekira s tuljcem ili sjekira sa zaliscima te jedno ili dva koplja. Rijedak prilog je zakrivljeni mač – mahaira, koji je jedini mač u halštatskome naoružanju Novoga Mesta i više predstavlja statusni simbol nego obično oružje. Nađena su dva primjerka, u grobu I/16 te u grobu IX/77 na Kapiteljskoj njivi.

**Novo Mesto, Kapiteljska njiva, grob I/16, željezni zakrivljeni mač – mahaira u drvenim koricama (8. st. pr.n.e.)**
Novo Mesto, Kapiteljska njiva, grave I/16, an iron curved sword - mahaira, in a wooden scabbard (8th century BC)

mounds measured 10 to 35 metres and each contained 10 to 80 graves. Among the 23 grave mounds excavated in the second half of the 20th and at the beginning of the 21st centuries at Novo Mesto, tumulus I at Kapiteljska njiva contained a central grave, or rather a grave chamber, tumuli IX, XIV, and XVI each contained one central grave, while tumulus X contained two central graves. In all of these tumuli, the central graves were the earliest, meaning they were the first graves dug into these mounds.

The grave architecture of tumulus I is specific, as the inner chamber measured 200 x 200 cm, and the outer dimensions of the chamber, built of wood and stone, are 550 x 570 cm. These large earthen circular mounds were in use for a long time. Tumulus I at Kapiteljska njiva was created at the beginning of the early Iron Age, in the Ha C1 phase, in the 8th century BC, and continued in use throughout the entire early Iron Age to the Ha D3 phase, or the 4th century BC.

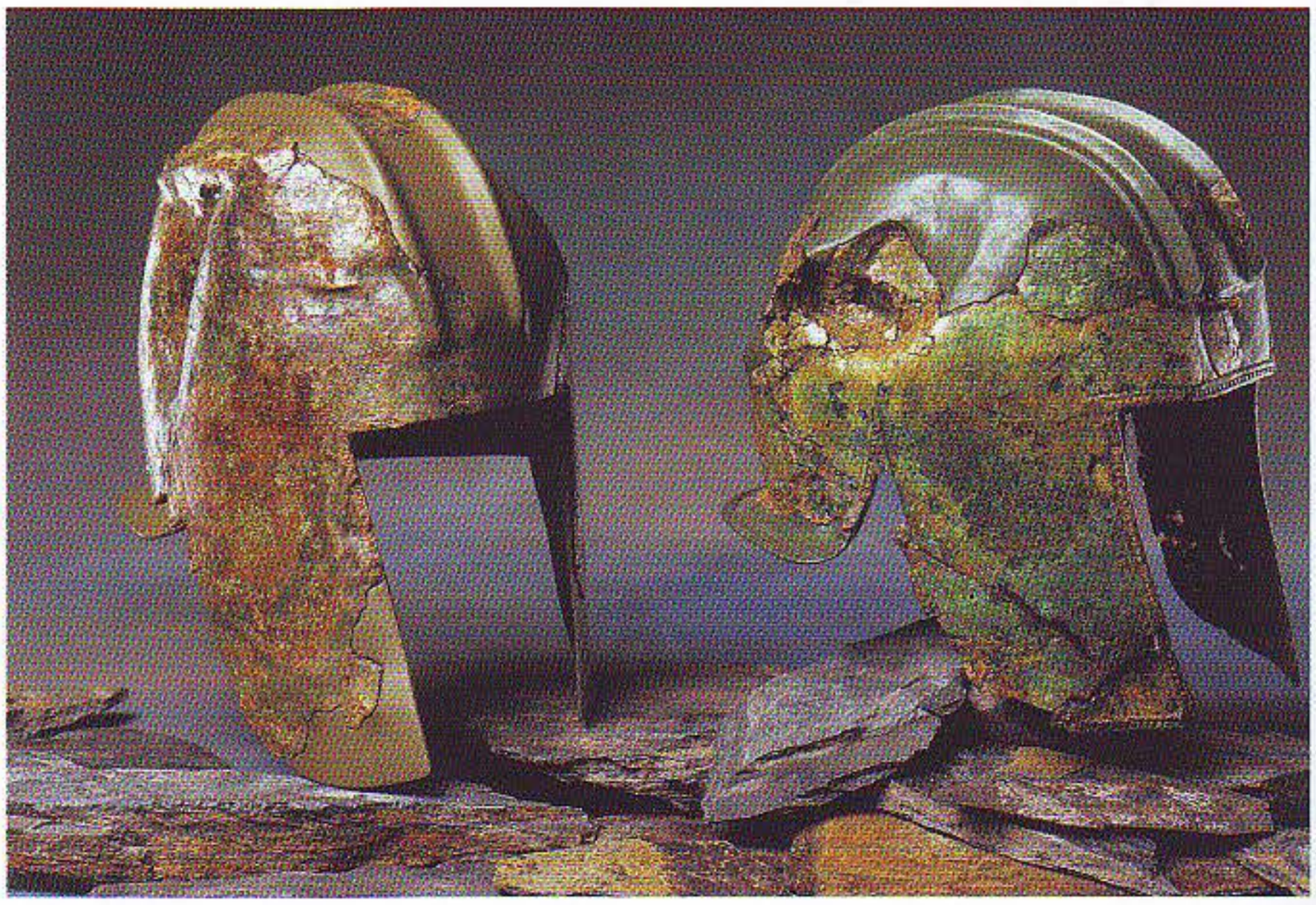
The same is true of the other tumuli at Novo Mesto. This confirms the hypothesis that these were clan mounds, in which the members of a single clan or family were buried over the centuries.

This also applies to the so-called princely graves. They were all, with one exception (tumulus I at Kapiteljska njiva), buried in the circle among the other graves and hence did not represent exceptions in terms of their position. This leads to the conclusion that the »princes« in Novo Mesto, like everywhere else in the Dolenjska group of the southeastern Alpine Hallstatt Culture, were merely »first among equals«, in contrast to the western Hallstatt circle, where a princely burial meant a burial chamber in a mound that was created for a single chosen individual, better compared to a king and not prince. The extremely rich graves at Hochdorf and Vix are the best examples of this practice.

## Male graves

Weapons appear in the male graves, which are not found in late Bronze Age graves. The usual weapons were a socketed or winged axe and one or two spears. A rare grave good is a curved sword – machaira, which is the only sword among the Hallstatt weapons from Novo Mesto, and represents more of a status symbol than an ordinary weapon. Two examples were found, in grave I/16 and in grave IX/77 in Kapiteljska njiva.

Defensive arms have also been found in the graves of these magnates, such as a cuirass, a wooden shield with a central iron boss, and various types of helmets. All the helmet types of the southeastern Alpine circle are represented in Novo Mesto. The earliest is the bowl-shaped helmet, followed by the composite type, the double-crested helmet, the Negova type helmet, and two examples of Graeco-Illyrian helmets were also found, the only examples



**Novo Mesto, Kapiteljska njiva, grob VII/19, dvije brončane grčko-ilirske kacige (5. st. pr.n.e.)**
Novo mesto, Kapiteljska njiva, grave VII/19, two bronze Greek-Illyrian helmets (5th century BC)

Među oružjem u grobovima odličnika nalaze se obrambeni dijelovi opreme, kao što su to prsni oklop, drveni štit sa središnjom željeznom pločom te različiti tipovi šljemova. U Novome mestu zastupljeni su svi tipovi šljemova jugozapadnoga alpskoga kruga. Najstariji šljem je zdjelastoga tipa, zatim sastavljenoga tipa, dvogrebenastoga, negovskoga, a nađena su i dva primjerka grčko-ilirskih šljemova, koji su jedini primjerci u Sloveniji. Osim brončanoga prsnoga oklopa iz Kandije, koji je dvodijelan i zvonastoga oblika, poznata su nam još dva slična oklopa iz Stične, a u jugozapadnome alpskome krugu nalazimo slične oklope u Kleingleinu u Austriji. Smatramo da je izvorište takvih oklopa između Karpata i sjevernog Balkana, a datiramo ih u 7. st. pr. n.e.

Među nalazima u grobovima muškaraca iz Novoga Mesta značajne su željezne ili brončane pojasne garniture, željezni obruči, noževi i brusovi, fibule i posuđe izrađeno od keramike ili metala.

Posebnost predstavljaju pojedinačna, većinom plava, staklena zrna, koja se pojavljuju u 14 skeletnih grobova u Novome Mestu, što je svakako preveliki broj da bi vjerovali u slučajnost, ili da vjerujemo da je s naknadnim ukopima neko zrno dospjelo u donji grob, odnosno da bi te nalaze mogli pripisati nekom drugom grobu. Iz toga možemo zaključiti da su ta zrna namjerno priložena pokojniku muškoga spola kao apotropejski dodatak ili uspomena.

## Grobovi žena

Prilozi u grobovima žena starijega željeznoga doba su posuđe i, naravno, nakit. Najčešći prilog halštatskih grobova u Novome Mestu je keramika. To su vretena za predenje i tkanje, piramidalni utezi za razboj, te različiti oblici keramičkoga posuđa. U halštatsko doba keramičke posude su upotrebljavane isključivo kao prilog za popudbinu za onostrano, a ne kao žare.

known from Slovenia. In addition to the bronze cuirass from Kandija, which is two-part and bell-shaped, two similar pieces of armour are known from Stična. Similar cuirasses can be found in the southeastern Alpine circle, at Kleinglein in Austria. The source of this armour is considered to be between the Carpathians and the northern Balkans, and such cuirasses are dated to the 7th century BC.

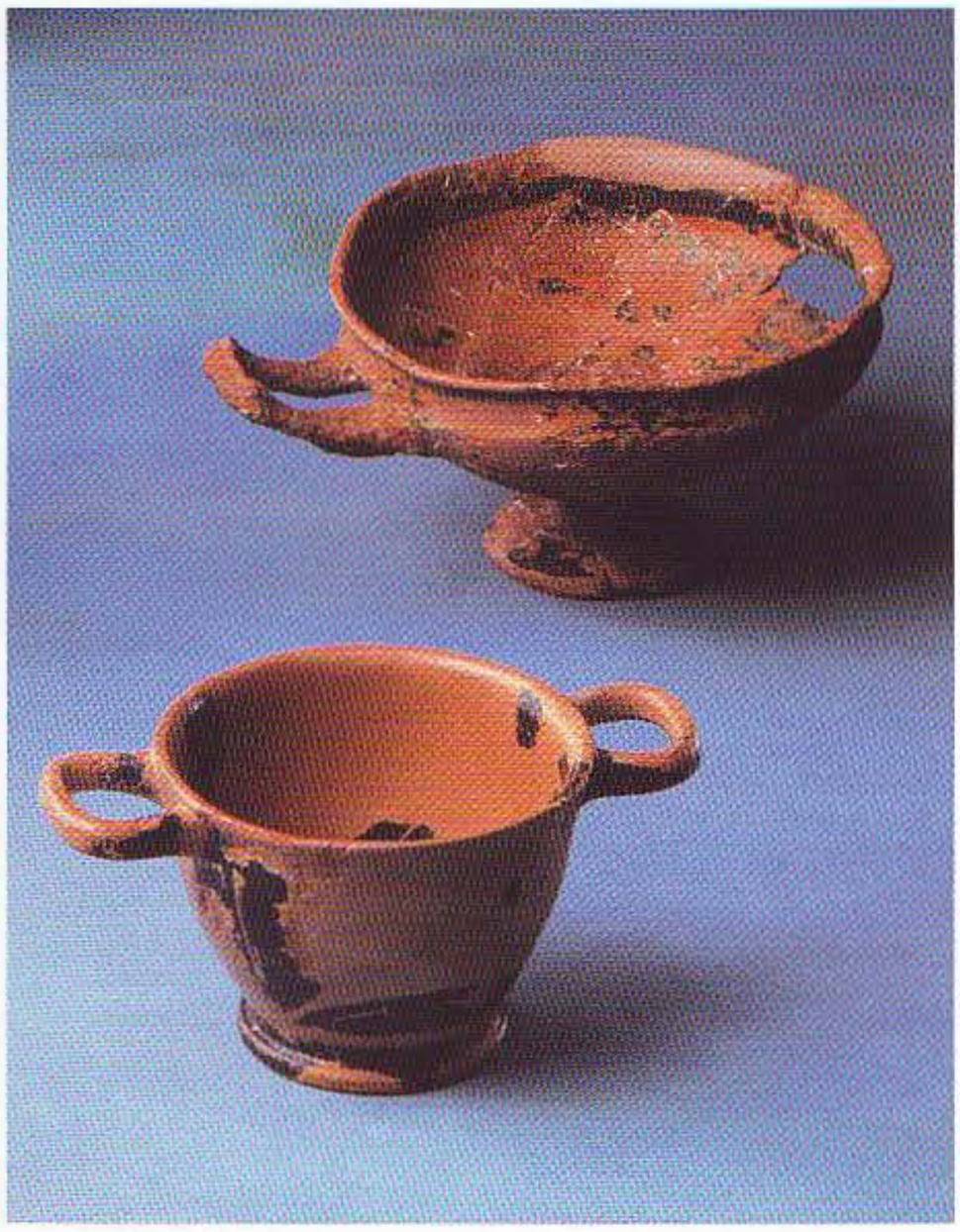
Characteristic finds in male graves from Novo Mesto include iron or bronze belt sets, iron circlets, knives, and whetstones, fibulae, and pottery and metal vessels.

Individual glass beads, usually blue, represent a special element that appears in 14 inhumation graves in Novo Mesto. This is too large a number to believe that their presence is coincidental, or that some bead from a later grave could make its way into a lower one or be attributed to some other grave. It can only be concluded that such a bead was intentionally placed with a deceased male individual as a warding element or a remembrance.

## Female graves

The grave goods in early Iron Age female graves were pottery vessels and, of course, jewellery. The most common grave good in Hallstatt graves in Novo Mesto is pottery. This includes spindles-whorls for spinning and weaving, pyramidal weights for looms, and various forms of pottery vessels. In the Hallstatt period, pottery vessels were used exclusively to store provisions for the journey to the other world and not as urns.

**Novo Mesto, Kapiteljska njiva, grob VI/44 i VII/20, uvozne glinene posude – skyfos i kyliks (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave VI/44 i VII/20, imported pottery vessels – skyphos and kylix (5th to 4th century BC)



## Domestic and imported pottery

Individual pottery vessels were made on the potter's wheel. Pots and bowls predominate, while smaller vessels were rare. They were fired in brown, black, grey, orange, and red colours. Most were decorated, and differ in this manner from the local kitchen ware. The decoration included painting, incision, burnishing, or relief application.

The vessels were mostly coloured in red with a black geometric decoration. The most commonly applied decorations were vertical or horizontal ribs and various protrusions. Decorations also included stylized animal heads on the ends of handles, or applied to the vessel walls. The surfaces of the vessels were sometimes lightly ribbed or grooved, and only a few vessels have applied metal platelets.

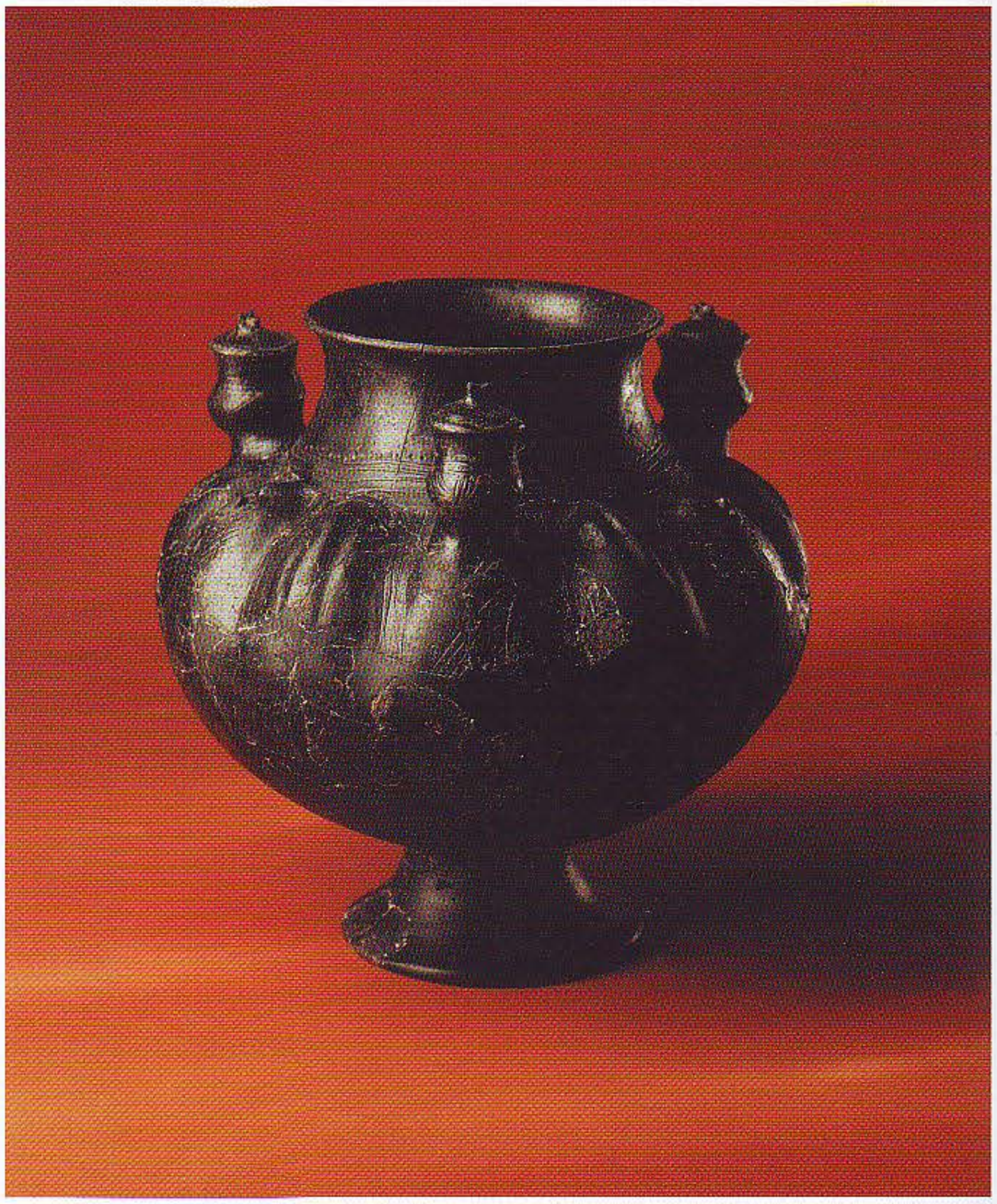
The most common vessel types include a shallow bowl, a footed ciborium with a cover, and a footed bowl. Ritual vessels are rep-

## Domaće i uvozno posuđe

Pojedine keramičke posude bile su dorađene na lončarskome kolu. Prevladavaju lonci i zdjele, manje zdjele su rjeđe. Pečene su u smeđoj, crnoj, sivoj, narančastoj i crvenoj boji. Većinom su ukrašene te se tako razlikuju od domaćega kuhinjskoga posuđa. Ukras je izveden bojanjem, urezivanjem, zaglađivanjem ili je plastično nanesen.

Posude su najčešće obojane crveno i imaju crni geometrijski ukras. Najčešći je plastični ukras okomitih ili vodoravnih rebara i različitih bradavica. Među ukrasima pojavljuju se stilizirane životinjske glave, koje su na krajevima drški, ili su prilijepljene za stijenku posude. Površina posuda ponekad je lagano naborana ili nažljebljena, a samo neke posude imaju nalijepljene metalne listiće.

Najčešći tipovi posuda su plitke zdjele s grlićem, ciboriji na nozi s poklopcem te zdjele na nozi. Posebni oblik predstavljaju obredne posude – kernosi, koji su napravljeni tako da su na glavnu posudu pričvršćene manje posudice kanalima povezane s glavnom posudom.



**Novo Mesto, Kapiteljska njiva, grob VII/20, glinena posuda – kernos (5. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave VII/20, a pottery vessel – kernos (5th century BC)

**Novo Mesto, Kapiteljska njiva, grob VI/34, glinena rebrasta posuda na nozi s ukrašenom drškom (6.–5. st. pr.n.e.)**
Novo mesto, Kapiteljska njiva, grave VI/34, a wide ribbed pottery vessel on a leg with a decorated handle (6th to 5th century BC)

Načini pečenja su različiti, najčešće je to oksidacijsko pečenje. S redukcijskim postupkom u lončarskoj peći dobro su pečene crne posude, koje su najčešće zagladivane i ukrašavane plastičnim ukrasom rebara i bradavica.

Keramičke posude izradivane su u lokalnim radionicama, a samo neki primjerci posuda izrađeni su drugdje. Tu treba spomenuti atički skyfos u grobu VI/44 s Kapiteljske njive i kylix iz groba VII/20 s istoga lokaliteta. Obje posude povezuju dolenjski prostor s Mediteranom s kojim su stanovnici imali jake trgovačke veze.

Među uvoznim predmetima moramo spomenuti brončani tronožni kotlić, pronađen u Kandiji, s analogijama u etrurskoj Italiji. Ista je provenijencija i cjedila s dugačkom, tordiranom ručkom, nađenom u grobu III/22 na Kapiteljskoj njivi.

## Metalni nakit

Među ukrasnim predmetima nalazimo raznoliki kolutasti nakit: narukvice i nanogvice načinjene od bronce, olova i željeza, dok je prstenje rijetko. Narukvice i nanogvice najčešće su ukrašene urezima, točkama i rebrima. Nalaze se i kolutovi za kosu, naušnice, načinjene od bronce a rjeđe od zlata.

Brončane cilindrične naušnice većinom su ukrašene točkama i ispupčenjima (buklama), u situlskome stilu. Brojni prilozi u grobovima žena su fibule napravljene od bronce ili željeza. To su lučne, dvopetljaste ili jednopetljaste fibule, male čunjaste, fibule s tri kuglice na luku, trakaste, zmijolike i svi tipovi certoskih fibula, kao i jugozapadne alpske fibule sa životinjama.

## Stakleni nakit

Najčešći nakit su ogrlice od raznobojnoga stakla i jantara koje se javljaju u velikoj količini u bogatim, pa tako i u razmjerno siromašnim grobovima. Glavna razlika je u njihovu broju, veličini i obliku te u kombinacijama boja. Dosta česte su ogrlice načinjene od koštanih zrna, ali su zbog svoje strukture rijetko sačuvane. Stakleni nakit prati grobove žena kroz cijelo starije željezno doba, od njegovoga početka u 8. st. pr.n.e. do 3. st. pr.n.e.

Iz svih nalazišta starijega željeznoga doba Novoga Mesta do danas imamo stručno obrađena 404 skeletna groba. Od toga je 120 grobova koji sadrže staklena i jantarna zrna. U njih 58 javlja se stakleni, a u 18 grobova jantarni nakit.

Jantarni i stakleni nakit sadrži 44 groba. Osim pojedinačnih staklenih zrna, 14 grobova sadrži željezno ili brončano oružje, oznake muških grobova.

resented by a special form of vessel – a *kernos* – with miniature vessels attached by channels to the main vessel.

There were various manners of firing pottery, the most common being the oxidation process. The reduction process of firing pottery in kilns produced well-fired black vessels, which were most often burnished and decorated with ribs or lugs.

Pottery vessels were generally produced in local workshops, and only a few examples were made elsewhere. Among the latter are the following: an Attic skyphos in grave VI/44 and a kylix from grave VII/20, both at Kapiteljska njiva. These vessels prove that the Lower Carniola region and the Mediterranean had strong trade connections.

Other imported items include a bronze cauldron on a tripod, found at the Kandija site, with analogies to Etruscan Italy. A sieve with a long, spirally twisted handle from grave III/22 at Kapiteljska njiva has the same provenience.

## Metal jewellery

Personal decorative items included various types of circlet-shaped jewellery: bracelets and anklets made of bronze, lead, and iron, while rings are rare. The bracelets and anklets were most often decorated with notches, dots, and ribs. Finds also included hair rings and earrings, mostly made of bronze and more rarely of gold.

The bronze cylindrical earrings were mostly decorated with dots and bosses, and sometimes also in the Situla Art style. Fairly common grave goods in female graves were bronze or iron fibulae, in the following types: bow, single or double-looped, small boat-shaped, fibulae with lateral points on the bow, banded, serpentine and all types of Certosa fibulae, as well as southeastern Alpine zoomorphic fibulae.

## Glass jewellery

The most frequent jewellery elements are necklaces composed of multi-coloured glass and amber, which appear in large numbers in an entire series of wealthy, as well as poorer graves. The main difference is in the number, size, form, and combinations of colours. Necklaces made of bone beads are quite common, but they are rarely preserved because of their composition. Glass jewellery can be found in female graves throughout the early Iron Age, i.e. from its beginnings in the 8th century BC up to the 3rd century BC.

**Novo Mesto, Kandija, grob IV/20, masivne ukrašene brončane narukvice (5. st. pr. n.e.)**
Novo mesto, Kandija, grave IV/20, massive decorated bronze braceletes (5th century BC)

Ostaje nam dakle 106 grobova koji sadrže stakleni ili jantarni nakit i koje možemo nedvojbeno pripisati ženama.

Staklena ili jantarna zrna u grobnim jamama, u kojima osteoloških ostataka pokojnika u pravilu nema, leže na različitim mjestima, što dokazuje da su ogrlice bile priložene u grob vrlo različito.

Najčešći položaj ipak je funkcionalan, na vjerojatnom mjestu, oko vrata i prsiju pokojnika, iako su zrna pretežito rasuta i nemaju položaj nizova.

Ogrlice su bile položene na dno mrtvačkoga sanduka pri glavi pokojnika, ili ponekad kod nogu. Najčešće se staklena i jantarna zrna nalaze na dnu mrtvačkoga sanduka, ali ponekad leže poviše te ukazuju na mogućnost da su bile položene na pokrov mrtvačkoga sanduka. Staklena i jantarna zrna bila su nanizana u ogrlicu na trake načinjene od organskoga materijala, te se nisu sačuvale.

From all the early Iron Age sites of Novo Mesto, 404 inhumation graves have been analyzed to the present. Glass and amber beads were found in 120 of the graves. Glass jewellery was found in 58 graves and amber jewellery in 18 graves, while 44 graves contain both amber and glass jewellery. Fourteen graves, in addition to individual glass beads, contain iron or bronze weapons, characteristic male grave goods. A further 106 graves remain which contain glass or amber jewellery that can definitely be attributed to women.

Glass or amber beads found in grave pits where the osteological remains of the deceased were mainly lacking were discovered in varied positions, proving that necklaces had been placed in graves in different manners. The most usual position was the functional and logical position around the deceased's neck and chest, although the beads were mostly scattered around and were not arranged in strings.

Necklaces were placed at the base of the coffin by the head of the deceased, or sometimes by their legs. Amber and glass beads were most often found at

**Novo Mesto, Kapiteljska njiva, grob V/35, zlatni listići dijademe (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave V/35, golden leaves of a diadem (5th to 4th century BC)

**Novo Mesto, Kapiteljska njiva, staklena i jantarna zrna iz različitih grobova (6.–4. st. pr. n. e.)**
Novo mesto, Kapiteljska njiva, glass and amber beads from various graves (6th to 4th century BC)

Na nekim primjercima zrna su bila nanizana na brončanu žicu koja se sačuvala u unutrašnjosti zrna, odnosno u rupici pojedinih zrna. Zrna imaju po sredini rupicu, kroz koju je provučena vrpca, drugi način je pričvršćivanje na željeznu ili brončanu ušicu, koja je utaknuta u staklena zrna, a vrpca je provučena kroz ušicu. Staklena i jantarna zrna, oblikovana kao glave životinja, imaju ušice za nizanje načinjene od raznobojnoga stakla ili jantara, a samo na jednom primjeru je ovnova glavica imala ušicu od brončane žice (Kandija IV/3).

Staklena zrna su okrugloga oblika, valjkasta, u obliku diska, obručasta, ili su okrugla sa četiri odrezane stranice, ili su u obliku kvadra ili su oblikovane amforasto. Poneke imaju plastične izdanke kao bradavice, izbočine, pritaljene kolutove, ili su višedijelna ili valjkasta sa zadebljanim srednjim dijelom i izbočinama.

Ukrašena su valovnicom, s jednostrukim ili dvostrukim očicama, raznih boja i nijansi. Prevladava plava boja (kobalt) u svim mogućim nijansama, mliječnobijela, žuta, tirkiznozelena i crna, a smeđa je dosta rijetka.

Kombinacije oblika, nijansi boja i ukrasa su različite. Kod zrna s valovnicom prevladavaju plave s bijelom, žutom, zelenom ili svijetloplavom valovnicom.

the bottom of the coffin, but sometimes lay above it, which might indicate that they had been placed on the coffin cover. The glass and amber beads were threaded onto cords of an organic material that has not been preserved.

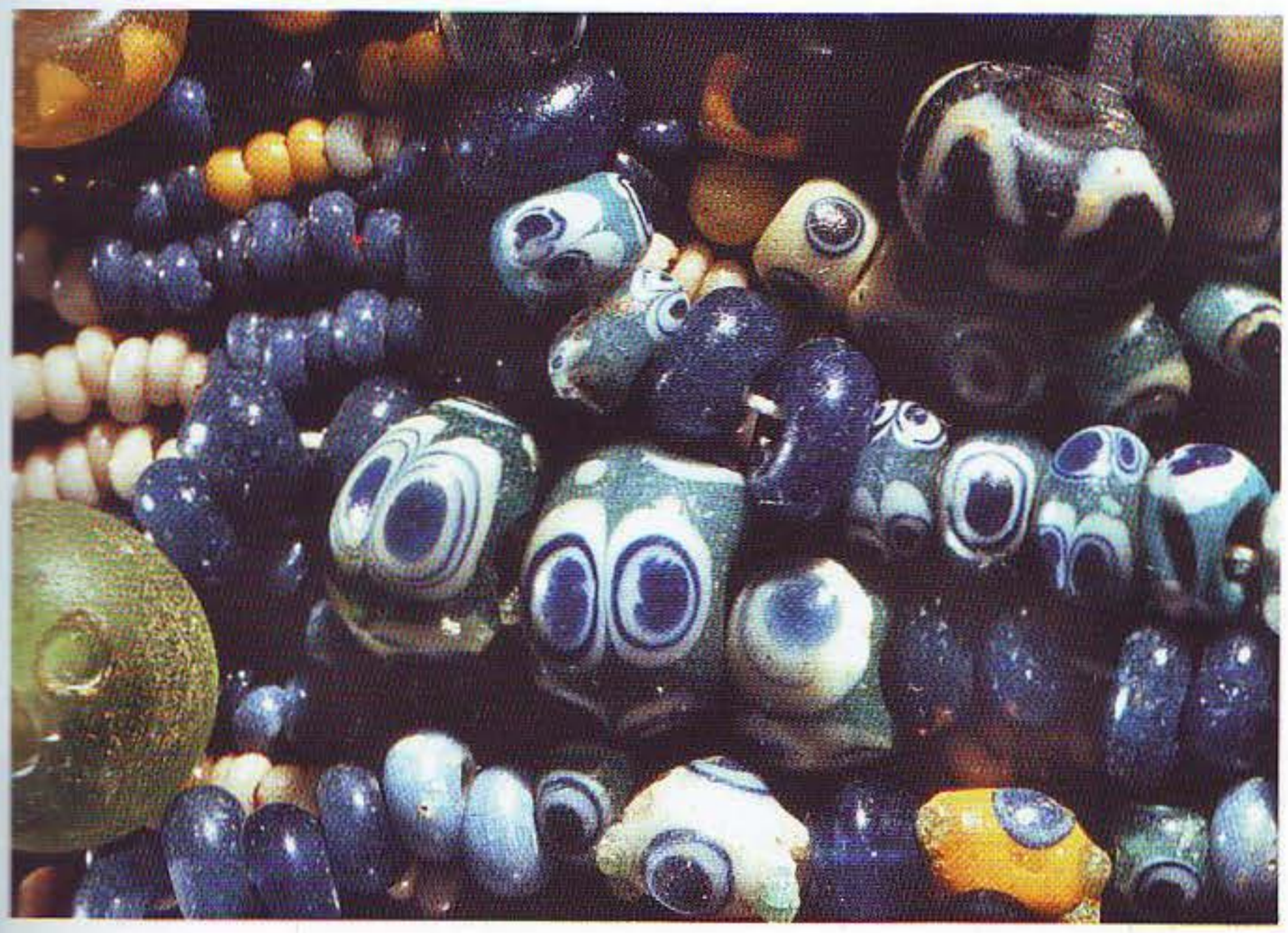
In some examples, the beads were threaded onto a bronze wire, which has been preserved inside the hole in individual beads. All the beads have a hole in the middle, usually for a cord to be threaded through it. In some cases, an iron or bronze eyelet was inserted into the glass bead, and a cord was threaded through the eyelet. Glass and amber zoomorphic beads have threading eyelets made of multicoloured glass or amber, with only one example of a ram head with a bronze wire loop (Kandija IV/3).

The glass beads were spherical, cylindrical, discoid, annular, spherical with four flat sides, square, or amphora shaped. Some had applied decorations such as lugs, protrusions, or circles, while some were made from several pieces or were cylindrical with a thickened central section and protrusions.

They were decorated with a wavy line, single or double »eyes«, in various colours and shades. Blue (cobalt) dominated in all possible nuances, as well as milk-white, yellow, turquoise, and black, while brown was quite rare.

The combinations of form, colour, and decoration vary. Beads with a wavy line are mostly blue with a white, yellow, green, or pale blue wavy line. White beads usually have a blue, green, turquoise, or yellow wavy line, while pale green transparent beads have a yellow or white wavy line.

Blue, yellow, white, and green round beads are usually combined with blue-white »eyes« in all shades of blue, followed by green, turquoise and yellow single or double »eyes«. Glass protrusions are sometimes found, mostly on cylindrical beads. The number of protrusions on each side of the bead ranges



**Novo Mesto, Kapiteljska njiva, staklena zrna iz različitih grobova ( 6.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, glass beads from various graves (6th to 4th century BC)

Bijelo zrno ima pretežito plavu, zelenu, tirkiznu ili žutu valovnicu, svijetlozeleno prozirno zrno ima žutu ili bijelu valovnicu.

Plava, žuta, bijela i zelena okrugla zrna imaju u većini kombinirana plavobijele očice u svim nijansama plave boje, zatim zelene, tirkizne i žute očice, koje su jednostruke ili dvostruke. Na zrnima se pojavljuju ponekad i staklene izbočine, koje se pojavljuju na većini zrna valjkastoga oblika. Broj izbočina na svakoj strani zrna se kreće između tri i šest, veći broj je rijedak, a sve su jednobojne.

Rijetka zrna imaju očice plastično izvučene u obliku jednobojnih izbočina.

Posebni oblik predstavljaju prozirna zrna u obliku amfore, koja se pojavljuju u najmlađemu periodu starijega željeznoga doba. Najosebujnija zrna iz staklenoga repertoara su zrna u obliku ovnovih glava. Takvi zoomorfni oblici zrna pojavljuju se u četiri osnovna oblika.

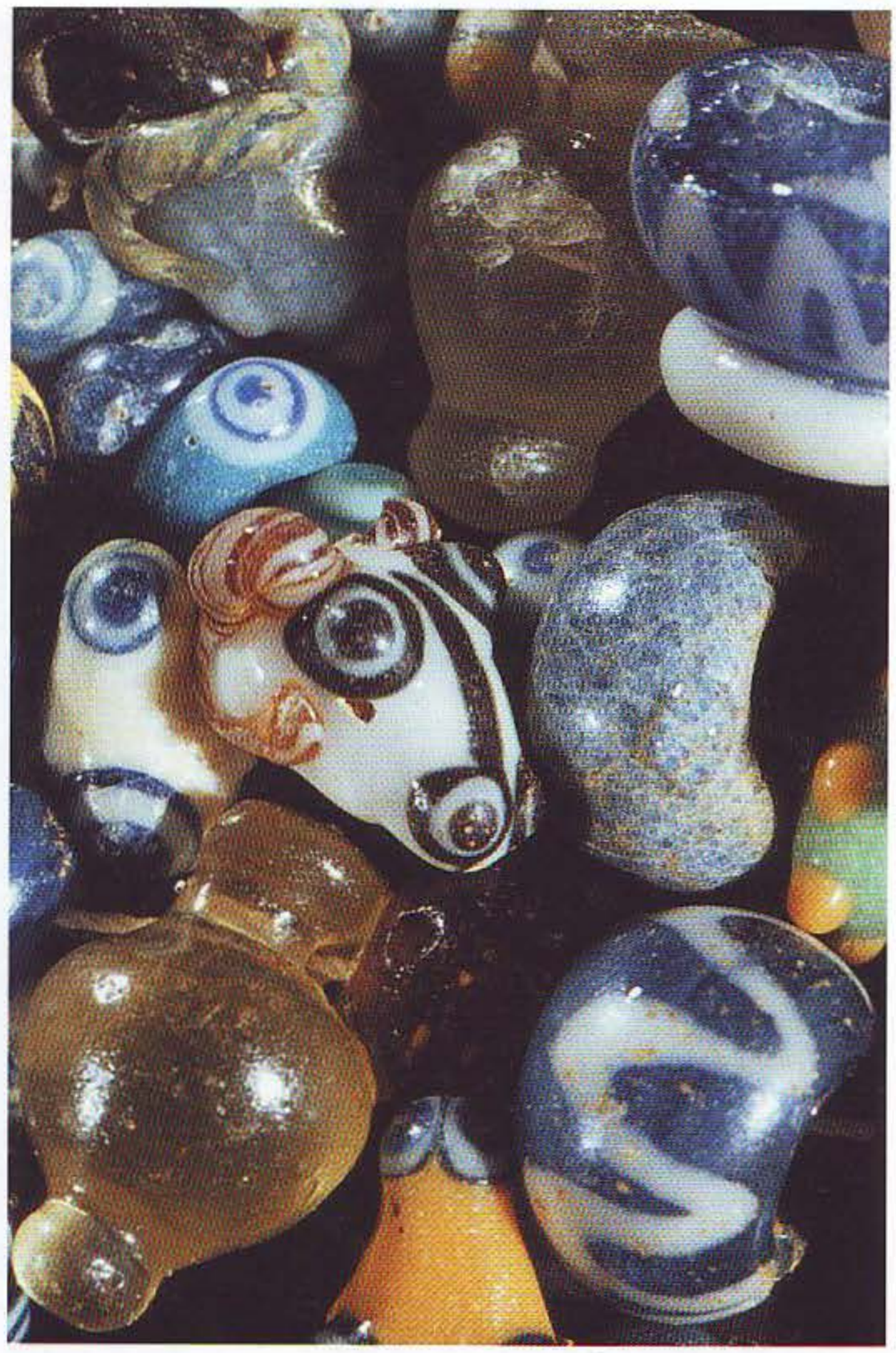
1. Prilično realistično načinjena zrna s brižljivo izrađenim višebojnim plastično izbočenim očima, realističnim višebojnim rogovima, brižljivo načinjenom višebojnom gubicom i linijom koja povezuje gubicu s tjemenom glave. Glavice su višebojne: mliječnobijele, žute i plave s plavobijelim očima. Dugačke su do 2 cm, omče za pričvršćivanje su načinjene od raznobojnoga stakla.
2. Realistično načinjene ovnove glave s plastično izrađenim višebojnim očima, s velikim višebojnim rogovima i raznobojnim staklenim ušicama za pričvršćivanje. Veličina prelazi 2 cm.
3. Stilizirane i shematizirano načinjene ovnove glave s plastično izrađenim očima, manjim rogovima, naznačenom gubicom i ušicom za pričvršćivanje načinjene od materijala od kojega je načinjena i glava. Pojedini primjerci su vrlo mali.
4. Stilizirane, ali masivne ovnove glave s raznobojnim rogovima, očima, gubicom i ušicom načinjenima od drugoga stakla. Sve ovnove glave imaju

**Novo Mesto, Kapiteljska njiva, grob XVI, višebojna staklena zrna s očima i izraslinama (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave XVI, polychromous glass beads with »eyes« and bosses (5th to 4th century BC)

from three to six, exceptionally more, and they are all in a single colour. Occasionally beads have protruding relief multicoloured »eyes«.

Special types of beads include transparent amphora-shaped beads, which appear in the latest period of the early Iron Age. The most distinctive glass beads are shaped like ram heads. These zoomorphic beads come in four basic forms:

1. Fairly realistic beads with carefully made relief multicoloured bulging eyes, realistic multicoloured horns, and a meticulously made multicoloured muzzle with a connecting line to the top of the head. The multicoloured heads were milk-white, yellow, and blue with blue and white eyes. They are up to 2 cm long. The loops for attachment are also made of multicoloured glass.
2. Realistic ram heads with multicoloured eyes in relief, large multicoloured horns, and different coloured glass loops for attachment. They are over 2 cm in size.
3. Stylized and schematic ram heads with relief eyes, poorly made horns, an emphasized muzzle, and a loop for attachment made of the same material as the head. Some are quite small.
4. Stylized but more massive ram heads with multicoloured horns, eyes, and muzzle, with a loop made of different glass. All the ram heads have glass loops for attachment specially fused onto the back of the head. Only one has a loop made of bronze, which replaced the original glass loop. The lower side is either hollow or has a circular impression from the manufacturing process.



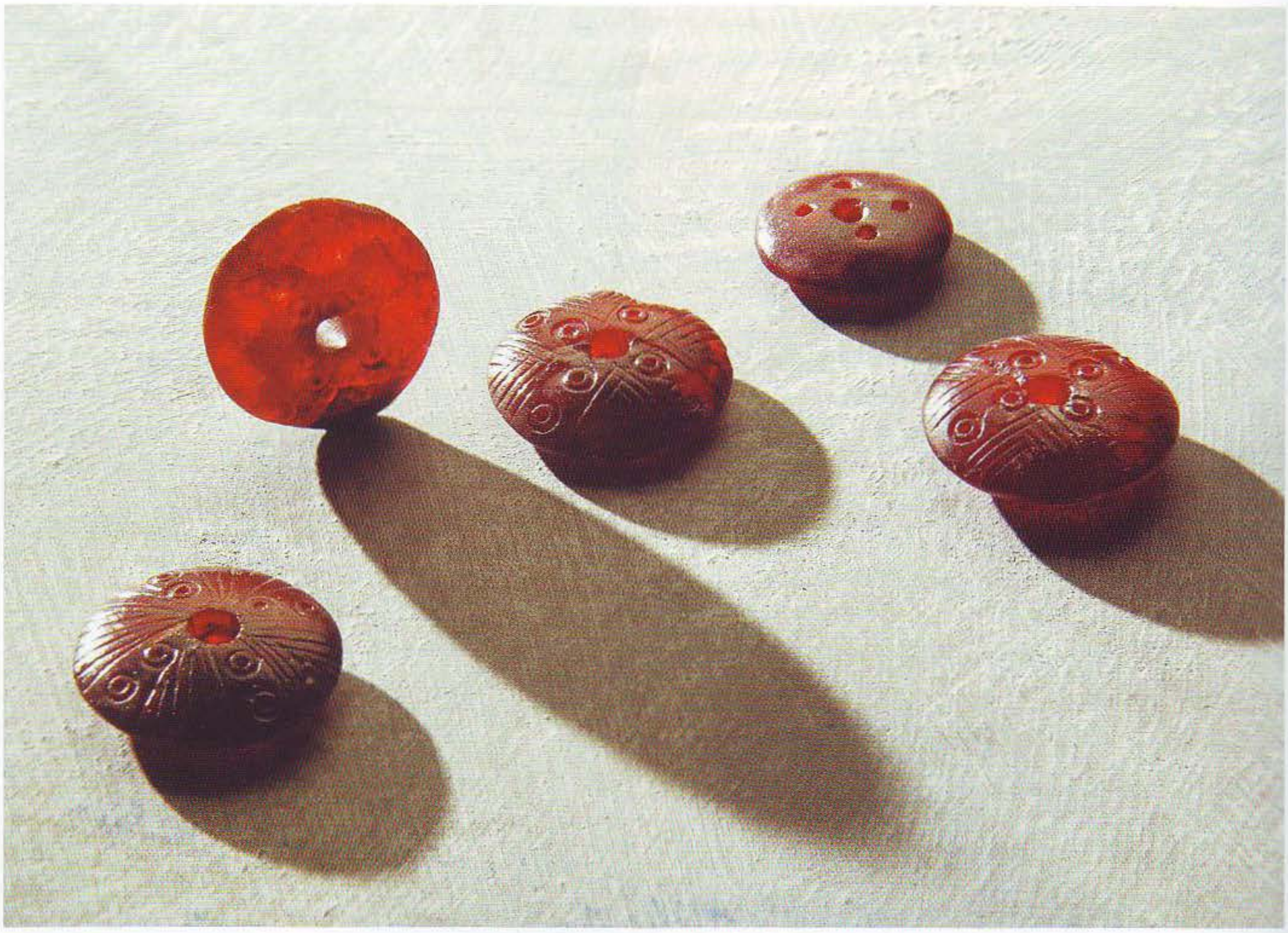
**Novo Mesto, Kapiteljska njiva, staklena zrna iz različitih grobova (6.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, glass beads from various graves
(6th to 4th century BC)

Glass ram heads were found at Novo Mesto in seven graves from the early Iron Age. Eleven sites with ram heads are known in Slovenia from the same period. All the ram heads made of glass appear in the later periods of the early Iron Age, in inhumation graves from the 5th to 4th centuries BC.

Only a single glass ram head was found in one cremation grave (Kandija 56) from the La T□ne period (4th century BC) at Novo Mesto.

The glass material from the Hallstatt period in Novo Mesto also includes a »porcupine« fibula, a bronze fibula with a glass coating, from grave III/5 at Kapiteljska njiva, unfortunately badly damaged.

Not a single glass vessel is known among the glass material from the early Iron Age found at Novo Mesto. Such vessels were manufactured in southern Mediterranean workshops and were not locally produced.



**Novo Mesto, Kapiteljska njiva, grob V/35, jantarna ornamentirana diskoidna zrna (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave V/35, decorated amber beads in the shape of discs (5th to 4th century BC)

ušicu za pričvršćivanje zasebno pritaljenu na zadnji dio glave, a samo na jednome primjerku načinjena je od bronce, iako je prvobitno bila načinjena od stakla. Na donjoj strani su šuplje ili imaju okruglu rupicu kao posljedicu izrade.

U Novome Mestu se ovnove glave pojavljuju u sedam grobova starijega željeznoga doba. U Sloveniji je poznato jedanaest nalazišta s ovnovim glavama iz istoga razdoblja. Sve ovnove glave načinjene od stakla pojavljuju se u mlađim razdobljima starijega željeznoga doba, u periodu 5.–4. st. pr. n. e. u skeletnim grobovima.

U Novome Mestu se u latenskom razdoblju, u 4. st. pr. n. e. u samo jednom paljevinskom grobu (Kandija 56) našla staklena ovnova glava.

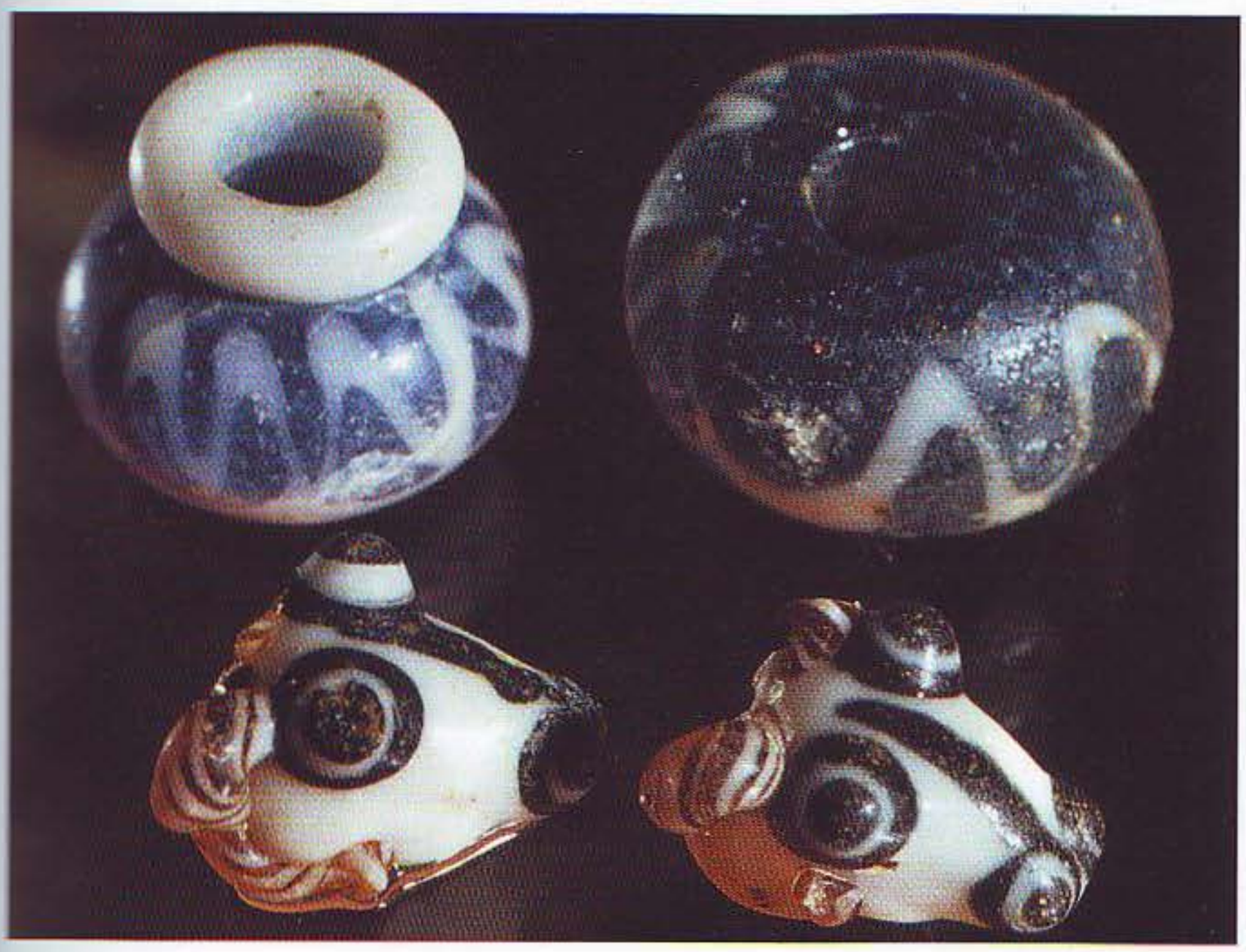
Među staklenim izrađevinama halštatskoga doba u Novome Mestu moramo spomenuti fibulu ježevku, kao i brončanu fibulu sa staklenom oblogom iz groba III/5 na Kapiteljskoj njivi, koja je na žalost jako oštećena.

Među stariježeljeznodobnom staklenom građom iz Novoga Mesta nema niti jedne staklene posude. One su proizvod južnomediteranskih radionica, a ne domaći proizvod.

Given so large a quantity of glass beads found in the graves from the early Iron Age at Novo Mesto and in other parts of Dolenjska/Lower Carniola, as well as the various decorations and colour combinations that appear on the glass beads, which are not known from anywhere else in Europe, the question of autochthonic glass production in Dolenjska arises. All indirect evidence confirms this theory, as does the fact that Dolenjska is rich in deposits of quartz sand, the basic ingredient in glass production.

**Novo Mesto, Kapiteljska njiva, grob VII/28, staklena zrna u obliku ovnovih glava (5.–4. st. pr. n. e.)**
Novo mesto, Kapiteljska njiva, grave VII/28, glass beads in the shape of ram's heads (5th to 4th century BC)

Most archaeological excavations to date have been concerned with the investigation of cemeteries, while the contemporary settlements and production centres have received less attention. This is one reason why no glassworking



**Novo Mesto, Kapiteljska njiva, grob VII/28, ukrašena staklena zrna (5. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave VII/28, decorated glass beads (5th century BC)

**Novo Mesto, Kapiteljska njiva, grob III/20, staklena ogrlica u grobu (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave III/20, a glass necklace in the grave (5th to 4th century BC)

Kada je riječ o toliko velikoj količini staklenih zrna nađenih u grobovima iz starijega željeznoga doba u Novome Mestu i drugim dijelovima Dolenjske, te o različitim ukrasima koji se javljaju na staklenim zrnima u obojanim kombinacijama, kakve se ne pojavljuju nigdje drugdje u Europi, postavlja se pitanje o autohtonoj proizvodnji stakla u Dolenjskoj. Svi posredni dokazi to potvrđuju, kao i činjenica da Dolenjska ima bogata ležišta kremenoga pijeska koji je osnovni sastojak za proizvodnju stakla.

Većina dosadašnjih arheoloških iskapanja bila je usmjerena na istraživanje groblja, a manje su istraživana istovremena naselja i proizvodni predjeli. To je razlog što do sada nismo našli staklarske ili prerađivačke objekte, koji bi zasigurno potvrdili našu pretpostavku o domaćoj proizvodnji stakla.

Kemijske analize koje bi povezale pretpovijesno staklo s domaćim kremenim pijeskom još su u tijeku.

Stoga možemo prihvatiti pretpostavku da je staklo starijega željeznoga doba najvjerojatnije nastalo u Dolenjskoj.

## JANTARNI NAKIT

Velika količina jantarnoga nakita u grobovima Novoga Mesta i Dolenjske svakako je iznenađujuća. Izrađevine se pojavljuju od početka starijega željeznoga doba, 8. st. pr. n. e., kroz cijelo starije željezno doba do 4. st. pr. n. e., a uporaba se nastavlja i u mlađemu željeznomu dobu sve do početka nove ere.

Analize pojedinih jantarnih izrađevina su potvrdile baltički izvor jantara, koji je u naše krajeve dospio po tzv. jantarnom putu koji je od Baltika vodio do sjevernoga dijela Jadrana.

or production facilities have yet been discovered, which would otherwise certainly confirm our hypothesis about the local production of glass.

Chemical analyses that would link prehistoric glass with local quartz sand are still underway.

Thus it can still be relatively reliably concluded that the glass of the early Iron Age was most probably created in Dolenjska.

## AMBER JEWELLERY

The large quantity of amber jewellery found in the graves at Novo Mesto (and in Dolenjska/Lower Carniola as a whole) is certainly surprising. Amber objects appeared from the beginning of the early Iron Age in the 8th century BC, and throughout the early Iron Age to the 4th century BC, and continued in use in the late Iron Age up to the end of the 1st millennium.

**Novo Mesto, Kapiteljska njiva, grob V/35, zrna jantara sa četiri ptičje glave (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave V/35, Amber beads with four bird's heads (5th to 4th century BC)

**Novo Mesto, Kapiteljska njiva, grob I/66, jantarna ogrlica u grobu (6. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave I/66, an amber necklace in the grave (6th century BC)

Jantarne izrađevine u grobovima starijega željeznoga doba u Novome Mestu pojavljuju se u obliku zrna okrugloga oblika s promjerom 0,2–3,1 cm. Sljedeći oblici zrna su lećasti, prizmasti, valjkasti, obručasti, polukružni, a posebni oblici su pravokutni ili zaobljeni razdjelnici s više rupica i s većim površinama, koji su dodatno ukrašeni urezima i rupicama. Samo na jednome primjerku jantar se pojavljuje kao obloga brončane igle (Kandija, grob s tronoščem), a moguće je da je zoomorfno oblikovan.

Svi predmeti su jednostavno obrađeni i zaglađeni, sa zaobljenim rubovima. Neobrađenoga jantara u grobovima Novog Mesta nema, iako u grobu V/35 jedno od tri zoomorfno oblikovana dugmeta nije bilo završeno i do kraja obrađeno.

Među građom izdvajamo masivnu ogrlicu sastavljenu od 57 prilično velikih zrna, a od njih su tri zrna još dodatno obrađena, tako da je u unutrašnjosti zrna, u otvoru za pričvršćivanje, lepezasto probušen cijeli sistem dodatnih kanala. Prozirnost zrna je na taj način različita, a zrno dodatno ukrašeno.

Diskoidna zrna su najčešće ukrašena urezanim linijama i punciranim krugovima, a tu možemo izdvojiti četiri dugmeta u grobu V/35 s Kapiteljske njive.

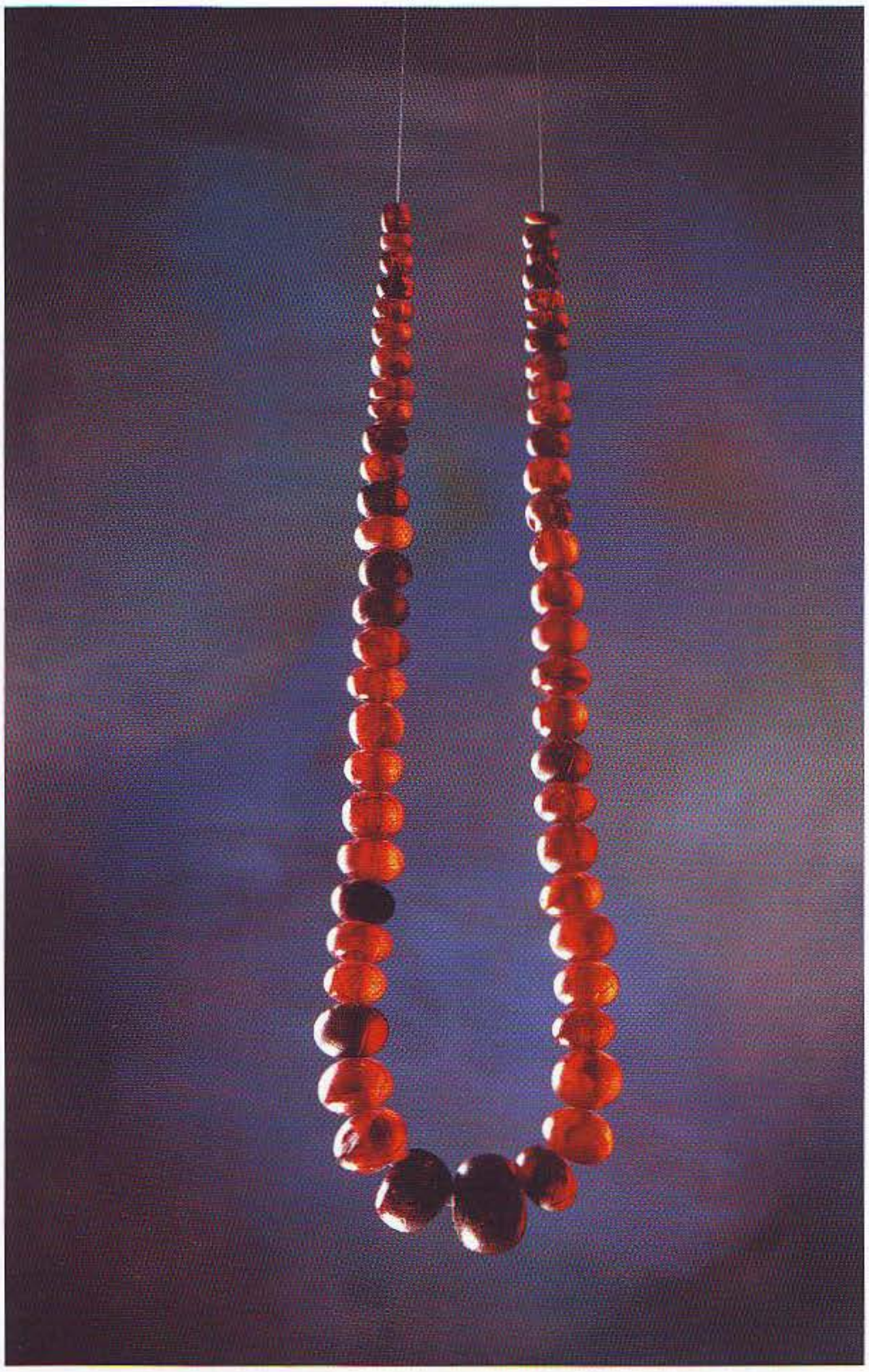
Majstorski su oblikovana tri zrna s po četiri ptičje glave iz istoga groba. U grobu VI/44 s Kapiteljske njive bila su položena dva zrna, koja su bila oblikovana u dvojne, antitetično postavljene životinjske glave, u grobu VI/4 iz istoga groblja i još dvije ovnove glave, koje podsjećaju na već spomenute staklene izrađevine.

The Baltic provenience of the amber has been proven by analysis of individual amber products. Amber arrived in these regions along what is known as the »Amber Route«, which led from the Baltic Sea to the northern Adriatic region.

Amber items in the early Iron Age graves of Novo Mesto appeared in the form of spherical beads, 0.2–3.1 cm in diameter, in the following shapes: lenticular, prismatic, cylindrical, ring-shaped, and semicircular. Special forms are rectangular or rounded spacer beads with several holes, additionally decorated with incisions and impressions. Only in one case did amber appear as a coating for a bronze pin (Kandija, grave with a tripod), and it could have been zoomorphic.

All the objects were simply made and polished, with rounded edges. No unworked amber has been found in the graves from Novo Mesto, although one of the three zoomorphic buttons in grave V/35 was not fully finished.

One massive necklace stands out among the material. It is composed of 57 quite large beads, three of which were additionally worked, so that an entire system of additional channels was perforated in a fan-shaped pattern inside the hole in the beads. The transparency of the bead is different in this manner, representing an additional decoration.



**Novo Mesto, Kapiteljska njiva, grob V/35, jantarna ogrlica (5.–4. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave V/35, an amber necklace
(5th to 4th century BC)

Disc-shaped beads were most frequently decorated with incised lines and stamped circles, and good examples would be four buttons from grave V/35 at Kapiteljska njiva.

Three beads from the same grave, each with four bird heads, were particularly well made. Two beads found in grave VI/44 at Kapiteljska njiva were shaped like double animal heads facing in opposite directions. Two amber ram heads from grave VI/4 at the same cemetery resemble the glass examples discussed above.

# MLAĐE ŽELJEZNO DOBA

Početkom 3. st. pr. n. e. keltski Taurisci zaposjeli su Dolenjsku. Gotovo 700 latenskih paljevinskih grobova na Kapiteljskoj njivi i 60 grobova u Kandiji potvrđuju nastavak intenzivnoga nastanjivanja područja Novoga Mesta u to doba. Iako se promijenio način ukopa, koji je sada zaravnjen i paljevinski, lokacija groblja je ostala u neposrednoj blizini starih grobnih humaka, ostao je i stari način izrade keramičkih posuda, nešto starih predmeta od nakita te željezna sjekira s tuljcem ili krilcima, oblici koji su preživjeli iz starijega željeznog doba. Karakteristično keltsko naoružanje bilo je dugačak željezni mač pohranjen u metalne korice, koje su često bile ukrašene kako geometrijskim tako i biljnim te stiliziranim životinjskim likovima. Dopunjavao ga je drveni štit sa središnjim željeznim umbom, masivni bojni nož i koplje. Repertoaru keltskoga naoružanja svakako nije pripadala željezna sjekira s tuljcem ili krilcima. Kelti su upotrebljavali pretežito keramičko posuđe načinjeno na lončarskom kolu, a ručno izrađene posude gotovo su nepoznate.

U grobljima Novoga Mesta iz perioda mlađega željeznoga doba gotovo 75 posto keramike je izrađeno ručno, a ne na lončarskom kolu.

Svi nabrojeni razlozi argumentirano dokazuju brojnost i moć starosjedilačkoga stanovništva u trenutku keltskoga osvajanja toga prostora.

Grobovi su sada jednostavni, u tlocrtu okrugle ili pravokutne jame, napunjene pepelom ili spaljenim ostacima pokojnika te dijelovima njihove opreme ili nošnje. Većina predmeta (osim keramike) priložena u grob bila je već oštećena. Djelomično ih je uništio plamen lomače, kamo su bili priloženi zajedno s pokojnikom, a djelomično su obredno uništeni prije paljenja. Sve oružje – dugi željezni mačevi s koricama, željezni dijelovi štitova – umba, željezna koplja i noževi, pa i željezni šljemovi – bili su namjerno svinuti i uništeni


**Novo Mesto, Kapiteljska njiva, grob 521, grobna raka s glinenim posudama i željeznim oružjem (3. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave 521, a grave pit with pottery vessels and iron arms (3rd century BC)

## THE LATE IRON AGE

At the beginning of the 3rd century BC, the Celtic tribe of the Taurisci occupied Dolenjska. Almost 700 La Tène period cremation graves at Kapiteljska njiva and 60 graves at Kandija confirm that intensive settlement continued in the Novo Mesto region in this period. Although cremation became the accepted burial ritual, the location of the new flat cemeteries remained in the immediate vicinity of the earlier tumulus cemeteries. The earlier manner of pottery production remained unchanged, as did some types of jewellery, and iron socketed or winged axes, as survivals of the early Iron Age weaponry of the indigenous inhabitants. The characteristic Celtic weapon was a long iron sword in a metal scabbard that was often decorated with geometric and floral designs and stylized animal figures. It was accompanied by a wooden shield with a central iron umbo, a massive dagger, and a spear. Celtic weapons definitely did not include iron socketed or winged axes. The Celts primarily used pottery made on a potter's wheel, while vessels made by hand are almost unknown. However, more than 75 per cent of the pottery found in the Novo Mesto cemeteries of the late Iron Age was made by hand and not on the potter's wheel.

All of the above definitely indicates that the indigenous population was both numerous and powerful even in the period after the Celtic conquest of this area.

Graves were now simple, with a circular or square pit, filled with ashes or the cremated remains of the deceased, and with elements of their equipment or attire. Most of the grave goods (other than pottery) were already damaged when they were placed in the grave. They were partly damaged by the flames of the funerary pyres, where they were placed together with the deceased, and partly they had been ritually destroyed before cremation. All the weapons – long iron swords with scabbards, iron parts of shields – bosses, iron spears and knives, and even iron helmets – were intentionally bent and destroyed before burial. Certain decorative objects in female graves were also bent and damaged: massive bronze bracelets, bronze and iron fibulae, parts of metal and enamel belts, bronze, silver, or golden rings, and particularly sections of glass jewellery, which were mostly melted in the fire. The glass jewellery of the late Iron Age includes massive, profiled glass bracelets in different colours and massive bronze and glass beads of various shapes and sizes.

The first glass bracelets appeared after the arrival of the Celts in the middle La Tène period (3rd to 2nd centuries BC) and represent a new element in this region. The colours range from transparent green to blue, yellow, green, purple, and brown. Merely at the Kapiteljska njiva site as many as 49 glass bracelets have been found to date. Only four were completely preserved and the rest had been melted on the funeral pyre.

prije pokopa. Svinuti i oštećeni bili su i neki ukrasni predmeti u ženskim grobovima: masivne brončane narukvice, brončane i željezne fibule, dijelovi metalnih i emajliranih pojaseva, prstenje načinjeno od bronce, srebra ili zlata, a osobito dijelovi staklenoga nakita koji su većinom rastaljeni u vatri. U stakleni nakit mlađega željeznoga doba spadaju masivne, profilirane i raznobojne staklene narukvice te masivna brončana i staklena zrna različitih oblika i veličine.

Prve narukvice pojavile su se po dolasku Kelta u srednjelatenskome razdoblju (3–2. st. pr. n. e.) i predstavljaju novinu na tom prostoru. Raspon boja je od prozirno zelene do plave, žute, zelene, ljubičaste i smeđe. Samo na lokalitetu Kapiteljska njiva do sada smo pronašli 49 staklenih narukvica, od kojih su se samo četiri u cijelosti sačuvale, a ostale su bile rastaljene na vatri lomače.

Staklena zrna u grobovima nastavljaju tradiciju staklenih zrna starijega željeznoga doba, iako je izbor sada skromniji. Sačuvali su se neki tipovi »starijih« zrna, a pojavili su se i novi. Među starija moramo izdvojiti amforasta zrna, a novi tipovi zrna su: veća, žuta s dvostrukim plavobijelim okcima (Kapiteljska njiva 334) te gotovo križoliko zrno s bijelom spiralnom linijom (Kapi-

**Novo Mesto, Kapiteljska njiva, grob 555, željezne korice mača ukrašene parom zmajeva (3. st. pr. n.e.)**
Novo mesto, Kapiteljska njiva, grave 555, an iron sword scabbard decorated wtih a pair of dragon (3rd century BC)

**Novo Mesto, Kapiteljska njiva, raznobojne staklene narukvice iz različitih grobova (2. st. pr. n. e.)**
Novo mesto, Kapiteljska njiva, polychromous glass bracelets from various graves (2nd century BC)

Glass beads in graves continue the early Iron Age tradition, but with a smaller range of shapes and decorations. Several types of »older« beads were kept and new ones appeared. The older beads include amphora-shaped beads, while the new bead types were: larger, yellow with double blue-white »eyes« (Kapiteljska njiva grave 337), dark blue with white spirals (Kapiteljska njiva 334), and almost cross-shaped with a white spiral line (Kapiteljska njiva, grave 471). These beads remained undamaged, but many beads were deformed, or were melted completely on the funeral pyres while the

teljska njiva, grob 471). Spomenuta zrna su neoštećena dok je veliki broj zrna deformiran, ili su rastaljena na lomači prilikom spaljivanja pokojnika. U vatri je deformiran i žuti stakleni prsten iz groba 110 s Kapiteljske njive.

Izrađevina od jantara u tom razdoblju je malo. Osnovna značajka je da su zrna iste ogrlice različitih oblika i veličine te obrađena s manje pažnje nego u prethodnome razdoblju.

Uzrok manjem broju jantarnih izrađevina u grobovima je vjerojatno njegova osobina lakog izgaranja, a nalazi u keltskim grobovima pokazuju da su skoro svi prilozi u grobovima bili na vatri prilikom spaljivanja pokojnika, slično kao i u kasnome brončanome dobu.

deceased individual was being cremated. A yellow glass ring from grave 110 at Kapiteljska njiva was also deformed by fire.

There were very few products made of amber in this period. The main characteristic is that the beads in a single necklace were of different sizes and shapes and were less skilfully worked than in the previous period.

The reason for the smaller number of amber objects is probably its extreme inflammability. The finds in Celtic graves indicate that almost all the funerary offerings in the graves had been in fire during the cremation of the deceased individual, similar to the situation in the late Bronze Age.

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# KATALOG

# CATALOGUE

KATALOŠKE JEDINICE / CATALOGUE UNITS

| | | |
|---|---|---|
| 1–61: | HPM = | **Hrvatski prirodoslovni muzej**<br>Crotian Natural History Museum |
| 62–186: | AMZ = | **Arheološki muzej u Zagrebu**<br>Archaeological Museum Zagreb |
| 187–313: | DM = | **Dolenjski muzej, Novo Mesto**<br>Museum of Dolenjska |

**1. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 8,5x5,5x3,5 cm, težina 72,84 g
- HPM knj. ul. 1433

*1. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 8,5x5,5x3,5 cm, weight 72,84 g
- HPM knj. ul. 1433

**3. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 4,5x4x2 cm, težina 24,94 g
- HPM knj. ul. 1435

*3. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 4,5x4x2 cm, weight 24,94g
- HPM knj. ul. 1435

**5. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x7x6,5 cm, težina 185,08 g
- HPM knj. ul. 1437

*5. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x7x6,5 cm, weight 185,08 g
- HPM knj. ul. 1437

**2. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9,5x6x3 cm, težina 60,92 g
- HPM knj. ul. 1434

*2. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9,5x6x3 cm, weight 60,92 g
- HPM knj. ul. 1434

**4. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6x6x3,5 cm, težina 74,10 g
- HPM knj. ul. 1436

*4. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 6x6x3,5 cm, weight 74,10 g
- HPM knj. ul. 1436

**6. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6x5x2 cm, težina 46,23 g
- HPM knj. ul. 1438

*6. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 6x5x2 cm, weight 46,23 g
- HPM knj. ul. 1438

**7. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel 7x6x4 cm, težina 57,88 g
- HPM knj. ul. 1439

*7. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x6x4 cm, weight 57,88 g
- HPM knj. ul. 1439

**8. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 4,5x4,5x3 cm, težina 40,15 g
- HPM knj. ul. 1440

*8. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 4,5x4,5x3 cm, weight 40,15 g
- HPM knj. ul. 1440

**9. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 5,5x5,3x2,7 cm, težina 33,67 g
- HPM knj. ul. 1441

*9. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

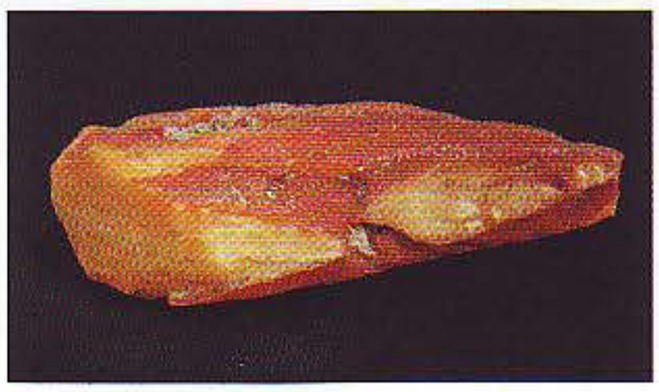
- size 5,5x5,3x2,7 cm, weight 33,67 g
- HPM knj. ul. 1441

**10. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x6x3,5 cm, težina 70,15 g
- HPM knj. ul. 1442

*10. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x6x3,5 cm, weight 70,15 g
- HPM knj. ul. 1442



**11. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9,5x5,8x2,5 cm, težina 56,07 g
- HPM knj. ul. 1443

*11. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9,5x5,8x2,5 cm, weight 56,07 g
- HPM knj. ul. 1443

**12. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 8,5x7x2,5 cm, težina 72,46 g
- HPM knj. ul. 1444

*12. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 8,5x7x2,5 cm, weight 72,46 g
- HPM knj. ul. 1444

**13. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 8,5x5,5x3,5 cm, težina 73,14 g
- HPM knj. ul. 1445

*13. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 8,5x5,5x3,5 cm, weight 73,14 g
- HPM knj. ul. 1445

**14. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 5,5x5x3,5 cm, težina 52,29 g
- HPM knj. ul. 1446

*14. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 5,5x5x3,5 cm, weight 52,29 g
- HPM knj. ul. 1446

**15. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9x6x3 cm, težina 102,47 g
- HPM knj. ul. 1447

*15. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9x6x3 cm, weight 102,47 g
- HPM knj. ul. 1447

**16. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 3,7x3,7x3 cm, težina 24,84 g
- HPM knj. ul. 1448

*16. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 3,7x3,7x3 cm, weight 24,84 g
- HPM knj. ul. 1448

**17. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6x5,5x2,8 cm, težina 57,32 g
- HPM knj. ul. 1449

*17. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 6x5,5x2,8 cm, weight 57,32 g
- HPM knj. ul. 1449

**18. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 12,5x7,5x4 cm, težina 158,02 g
- HPM knj. ul. 1450

*18. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 12,5x7,5x4 cm, weight 158,02 g
- HPM knj. ul. 1450

**19. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6,5x6x3 cm, težina 50,28 g
- HPM knj. ul. 1451

*19. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 6,5x6x3 cm, weight 50,28 g
- HPM knj. ul. 1451

**20. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9x6,3x3 cm, težina 87,16 g
- HPM knj. ul. 1452

*20. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9x6,3x3 cm, weight 87,16 g
- HPM knj. ul. 1452

**21. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast**

- vel. 9,5x7x5,5 cm, težina 160,96 g
- HPM knj. ul. 1453

*21. Baltik Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9,5x7x5,5 cm, weight 160,96 g
- HPM knj. ul. 1453

**22. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9,5x5x3 cm, težina 68,42 g
- HPM knj. ul. 1454

*22. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9,5x5x3 cm, weight 68,42 g
- HPM knj. ul. 1454

**25. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9x5,5x3,2 cm, težina 69,34 g
- HPM knj. ul. 1457

*25. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

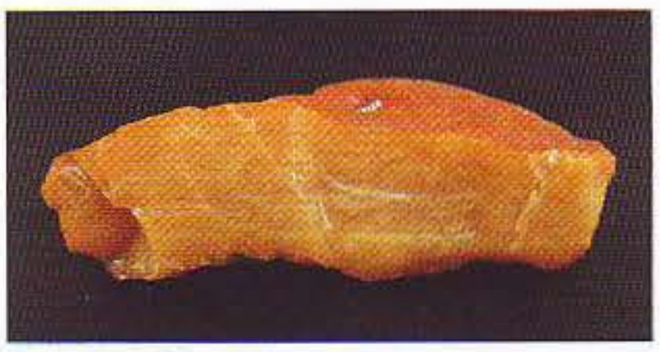
- size 9x5,5x3,2 cm, weight 69,34 g
- HPM knj. ul. 1457

**28. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 10x8x3,5 cm, težina 125,70 g
- HPM knj. ul. 1460

*28. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 10x8x3,5 cm, weight 125,70 g
- HPM knj. ul. 1460



**23. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 13,5x6x4 cm, težina 167,51 g
- HPM knj. ul. 1455

*23. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 13,5x6x4 cm, weight 167,51g
- HPM knj. ul. 1455

**26. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6,5x5,5x3,3 cm, težina 54,52 g
- HPM knj. ul. 1458

*26. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 6,5x5,5x3,3 cm,weight 54,52 g
- HPM knj. ul. 1458

**29. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 8x7,5x2,5 cm, težina 75,96 g
- HPM knj. ul. 1461

*29. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

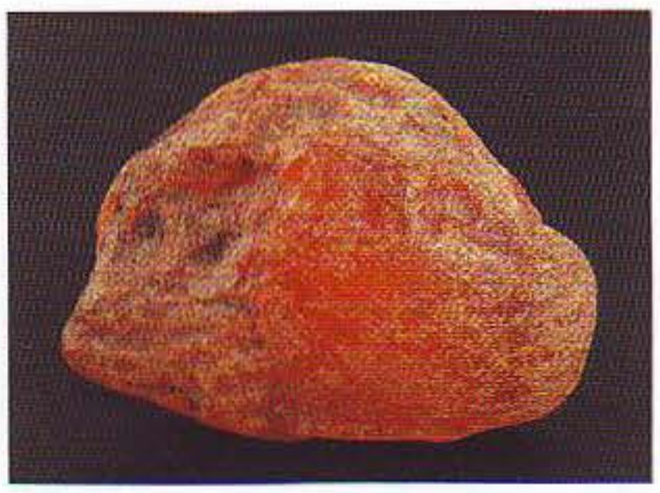
- size 8x7,5x2,5 cm, weight 75,96 g
- HPM knj. ul. 1461

**24. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x6,5x2 cm, težina 48,04 g
- HPM knj. ul. 1456

*24. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x6,5x2 cm, weight 48,04 g
- HPM knj. ul. 1456



**27. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 8x6x3 cm, težina 64,46 g
- HPM knj. ul. 1459

*27. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 8x6x3 cm, weight 64,46 g
- HPM knj. ul. 1459

**30. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 9,5x6,5x4 cm, težina 92,20 g
- HPM knj. ul. 1462

*30. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 9,5x6,5x4 cm, weight 92,20 g
- HPM knj. ul. 1462

**31. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x4,8x4 cm, težina 79,29 g
- HPM knj. ul. 1463

*31. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x4,8x4 cm, weight 79,29 g
- HPM knj. ul. 1463

**32. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x4x2,5 cm, težina 30,95 g
- HPM knj. ul. 1464

*32. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x4x2,5 cm, weight 30,95 g
- HPM knj. ul. 1464

**33. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 7x5x3,3 cm, težina 67,66 g
- HPM knj. ul. 1465

*33. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

- size 7x5x3,3 cm, weight 67,66 g
- HPM knj. ul. 1465

**34. Jantar-sukcinit, Palmnicken, poluotok Samland, Kaljinjingradska oblast, Baltik**

- vel. 6,5x6,5x3 cm, težina 58,56 g
- HPM knj. ul. 1466

*34. Amber – succinite, Palmnicken, Samland Peninsula, Kaliningrad District, Baltic coast*

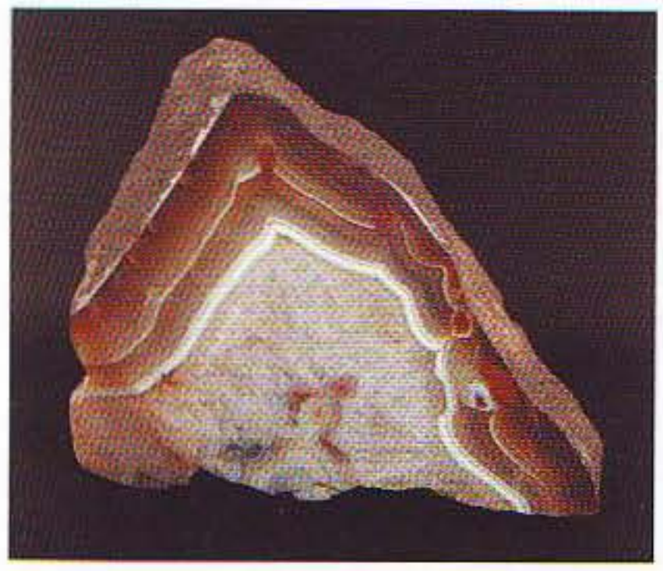
- size 6,5x6,5x3 cm, weight 58,56 g
- HPM knj. ul. 1466

**35. Kremen, ružičnjak, Custer, S. Dakota, SAD**

- odlomak vel. 14x10x7,5 cm
- HPM inv. 1851 MP1

*35. Rose quartz, Custer, S. Dakota, USA*

- fragment size 14x10x7,5 cm
- HPM inv. 1851 MP1



**36. Ahat, Montevideo, Urugvaj**

- odlomak vel. 22x16x8 cm
- HPM inv. 1881 MP1

*36. Agate, Montevideo, Uruguay*

- fragment size 22x16x8 cm
- HPM inv. 1881 MP1

**37. Ametist, kremen, Silver Star, Montana, SAD**

- druza vel. 17x13x11 cm
- HPM inv. 1954 MP1

*37. Amethyst, quartz, Silver Star, Montana, USA*

- druse size 17x13x11 cm
- HPM inv. 1954 MP1

**38. Kremen, karneol, Neunkirchen, Njemačka**
- vel. 14x11x8 cm
- HPM inv. 2035 MP1

*38. Quartz, carneol, Neunkirchen, Germany*
- size 14x11x8 cm
- HPM inv. 2035 MP1

**39. Opsidijan, Lipari, Italija**
- odlomak vel. 16x14x7 cm
- HPM inv. 2390 MP1

*39. Obsidian, Lipari, Italy*
- fragment size 16x14x7 cm
- HPM inv. 2390 MP1

**40. Granit porfiroidni, Psunj, rijeka Pakra, Hrvatska**
- odlomak vel.14,5x10x5,5 cm
- HPM inv. 2408 MP1

*40. Porphyritic Granite, Psunj, Pakra river, Croatia*
- fragment size 14,5x10x5,5 cm
- HPM inv. 2408 MP1

**41. Kremeni konglomerat, Dolina Kokre, Slovenija**
- odlomak vel. 20x14x6 cm
- HPM inv. 2904 MP1

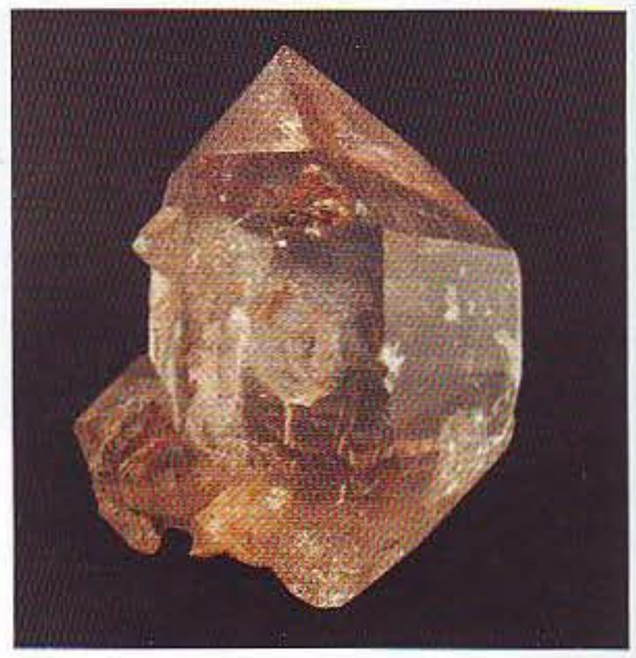
*41. Quartz conglomerate, Kokre valley, Slovenia*
- fragment size 20x14x6 cm
- HPM inv. 2904 MP1

**42. Kremen prozirac, Hot Springs, Garland co., Arkansas SAD**
- druza vel. 18x17x16 cm
- HPM inv. 373 MP1

*42. Rock crystal, Hot Springs, USA*
- druse size18x17x16 cm
- HPM inv. 373 MP1

**43. Kremen bjelutak, potok Ribnjak, Vučje jame, Medvednica, Hrvatska**
- odlomak vel. 32x20x9 cm
- HPM inv. 4069 MP1

*43. Milky quartz, Ribnjak,Vučje jame, Medvednica, Croatia*
- fragment size 32x20x9 cm
- HPM inv. 4069 MP1



**44. Kremen, Busovača, Bosna i Hercegovina**
- vel. 15x12x8 cm
- HPM inv. 4240 MP1

*44. Quartz, Busovača, Bosnia and Hertzegovina*
- size 15x12x8 cm
- HPM inv. 4240 MP1

**45. Kremen, kalcedon, Monte Rafoli, Italija**
- odlomak vel. 8,5x6x5 cm
- HPM inv. 434 MP1

*45. Quartz, calcedon, Monte Rafoli, Italy*
- fragment size 8,5x6x5 cm
- HPM inv. 434 MP1

**46. Opsidijan, Telki-Banya, Mađarska**
- odlomak vel. 10x8x6 cm
- HPM inv. 8090 MP1

*46. Obsidian, Telki-Banya, Hungary*
- fragment size 10x8x6 cm
- HPM inv. 8090 MP1

**47. Ahat, Kameni vrh, Lepoglava, Hrvatska**

- odlomak brušen i poliran s tri strane vel. 8x7x6 cm
- HPM inv. 8738 MP1

*47. Agate, Kameni vrh, Lepoglava, Croatia*

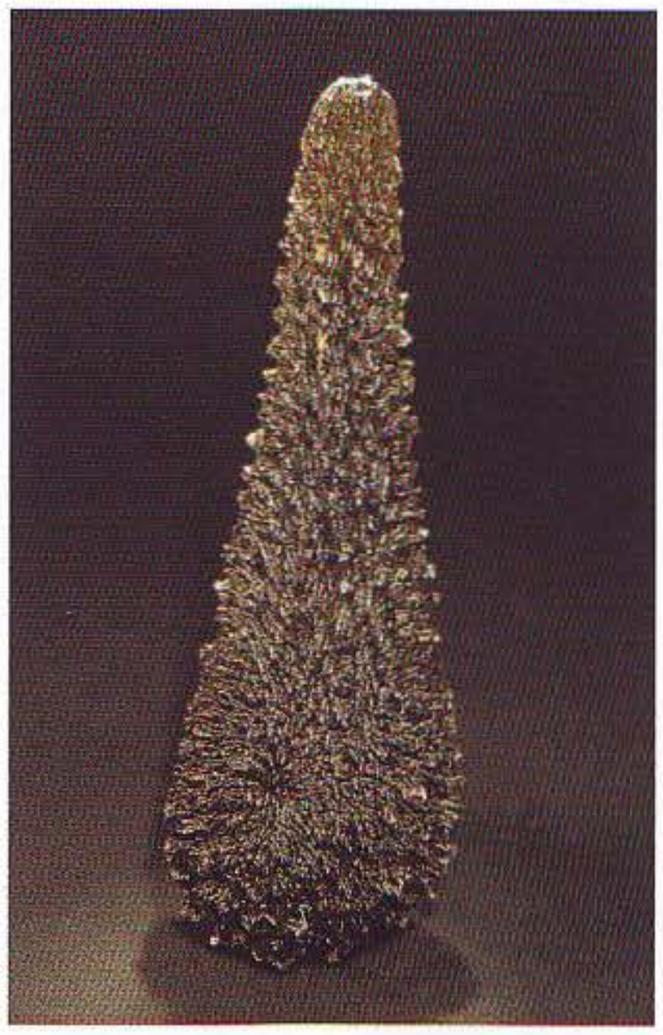
- the fragment is ground and polished on three sides. size 8x7x6 cm
- HPM inv. 8738 MP1

**48. Kremen – morion, karbonat, pirit, Krajka, Kazahstan**

- druza vel. 54x25x12 cm
- HPM inv. 9473 MP1

*48. Quartz – morion, carbonate, pyrite, Krajka, Kazahstan*

- druse size 54x25x12 cm
- HPM inv. 9473 MP1

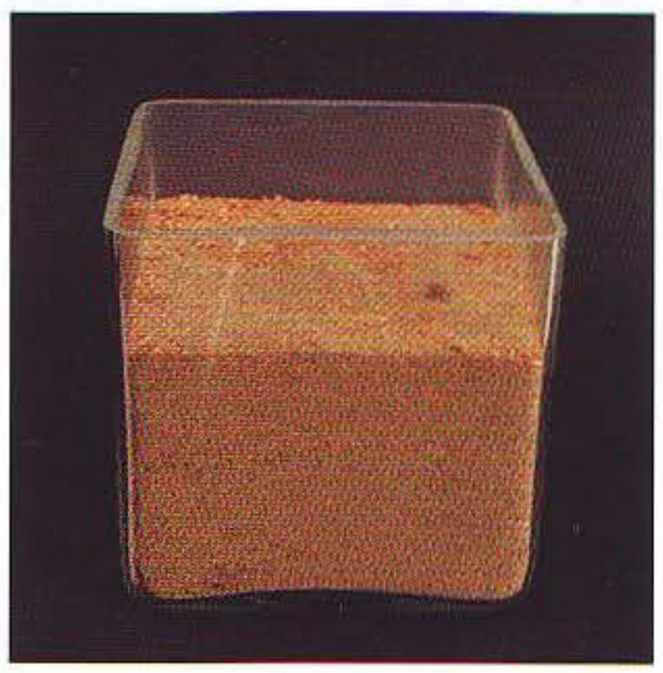


**49. Tektit – Vlatavin, Lončanice, Republika Češka**

- vel. 7,8x2,5x1,8 cm
- HPM inv. 2695 MP1

*49. Tektite- Vltavine, Lončanice, Czech Republic*

- size 7,8x2,5x1,8 cm
- HPM inv. 2695 MP1



**50. Eolski pijesak, Đurđevac, Hrvatska**

- HPM inv. 2851 MP1

*50. Aeolian sand, Djurdjevac, Croatia*

- HPM inv. 2851 MP1

**51. Teksture u pijesku**

- HPM knj. ul. 1483

*51. Mechanical structures (cross-bedding) in sand*

- HPM knj. ul. 1483

**52. Vulkansko staklo, Vulcano, Italija**

- odlomak vel. 16x9x8,5 cm
- HPM inv. 2391

*52. Volcanic glass, Vulcano, Italy*

- fragment size 16x9x8,5 cm
- HPM inv. 2391

**53. Tektit (indohinit), Na Nong, Tajland**

- vel. 5,5x4x1 cm
- HPM inv. 2806 MP1

*53. Tektite (Indochinite), Na Nong, Thailand*

- size 5,5x4x1 cm
- HPM inv. 2806 MP1

**54. Eolski pijesak, Aswan, Egipat**

- HPM inv. 2828 MP1

*54. Aeolian sand, Aswan, Egipt*

- HPM inv. 2828 MP1

**55. Kremeni pješčenjak, Sirač, Slavonija, Hrvatska**

- odlomak vel. 11x11x4 cm
- HPM inv. 2852 MP1

*55. Quartz sandstone, Sirač, Slavonia, Croatia*

- fragment size 11x11x4 cm
- HPM inv. 2852 MP1

**56. Dijatomejska zemlja, Kavadarci, Makedonija**

- odlomak vel. 10x6x5 cm
- HPM inv. 2881 MP1

*56. Diatomite, Kavadarci, Macedonia*

- fragment size 10x6x5 cm
- HPM inv. 2881 MP1

**57. Dijatomejska zemlja, Zovići, Makedonija**

- odlomak vel. 14x10x3 cm
- HPM inv. 2882 MP1

*57. Diatomite, Zovići, Macedonia*

- fragment size 14x10x3 cm
- HPM inv. 2882 MP1

**58. Kvarcit, Sinjakovica, Makedonija**

- odlomak vel. 12x10x4,5 cm
- HPM inv. 3014 MP1

*58. Quartizite, Sinjakovica, Makedonija*

- fragment size 12x10x4,5 cm
- HPM inv. 3014 MP1

**59. Kremeni pješčenjak, Pula, Šaulaga, Hrvatska**

- odlomak vel. 13x11x5 cm
- HPM inv. 4569 MP1

*59. Quartz sandstone, Pula, Šaulaga, Croatia*

- fragment size 13x11x5 cm
- HPM inv. 4569 MP1

**60. Gnajs, Rogoljica, Psunj, Hrvatska**

- odlomak vel. 15x11x5 cm
- HPM inv. 4695 MP1

*60. Gneiss, Rogoljica, Psunj, Croatia*

- fragment size 15x11x5 cm
- HPM inv. 4695 MP1

**61. Kvarcit, Mađarska**

- odlomak vel. 8x6x5 cm
- HPM inv. 8081 MP1

*61. Quartzite, Hungary*

- fragment size 8x6x5 cm
- HPM inv. 8081 MP1

**62. Ogrlica načinjena od 59 zrna jantara različitih veličina.**

- Prozor, jantar, Ø zrna 2,2–0,6 cm
- željezno doba
- AMZ, inv. 13501

*62. Necklace of 59 differently sized amber beads*

- Prozor, amber, Ø bead 2.2–0.6 cm
- Iron Age
- AMZ, Invt. 13501

**63. Ogrlica načinjena od 55 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,7–1,6 cm
- željezno doba
- AMZ, inv. 13495

*63. Necklace of 55 differently sized amber beads*

- Prozor, amber, Ø bead 2.7–1.6 cm
- Iron Age
- AMZ, Invt. 13495

**64. Ogrlica načinjena od 55 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,4–0,9 cm
- željezno doba
- AMZ, inv. 12254

*64. Necklace of 55 differently sized amber beads*

- Prozor, amber, Ø bead 1.4–0.9 cm
- Iron Age
- AMZ, Invt. 12254

**65. Ogrlica načinjena od 55 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,5–1,4 cm
- željezno doba
- AMZ, inv. 12273-2

*65. Necklace of 55 differently sized amber beads*

- Prozor, amber, Ø bead 2.5–1.4 cm
- Iron Age
- AMZ, Invt. 12273-2

**66. Ogrlica načinjena od 57 zrna jantara različite veličine, okruglog i lećastog oblika.**

- Prozor, jantar, Ø zrna 1,3–0,9 cm
- željezno doba
- AMZ, inv. 13457-1

66. *Necklace of 57 differently sized circular and lenticular amber beads*

- Prozor, amber, Ø bead 1.3–0.9 cm
- Iron Age
- AMZ, Invt. 13457-1

**69. Ogrlica načinjena od 40 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,7–0,6 cm
- željezno doba
- AMZ, inv. 13456-3

69. *Necklace of 40 differently sized amber beads*

- Prozor, amber, Ø bead 1.7–0.6 cm
- Iron Age
- AMZ, Invt. 13456-3

**67. Ogrlica načinjena od 62 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,1–0,8 cm
- željezno doba
- AMZ, inv. 13459-2

67. *Necklace of 62 differently sized amber beads*

- Prozor, amber, Ø bead 2.1–0.8 cm
- Iron Age
- AMZ, Invt. 13459-2

**71. Ogrlica načinjena od 129 zrna jantara različite veličine, lećastog oblika.**

- Prozor, jantar, Ø zrna 1,7–0,8 cm
- željezno doba
- AMZ, inv. 13457-2

71. *Neclace of 129 differently sized lenticular amber beads*

- Prozor, amber, Ø bead 1.7–0.8 cm
- Iron Age
- AMZ, Invt. 13457-2

**68. Ogrlica načinjena od 41 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,2–0,9 cm
- željezno doba
- AMZ, inv. 13459-1

68. *Necklace of 41 differently sized amber beads*

- Prozor, amber, Ø bead 2.2–0.9 cm
- Iron Age
- AMZ, Invt. 13459-1



**70. Ogrlica načinjena od 123 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,6–0,6 cm
- željezno doba
- AMZ, inv. 13501-2

70. *Necklace of 123 differently sized amber beads*

- Prozor, amber, Ø bead 1.6–0.6 cm
- Iron Age
- AMZ, Invt. 13501-2

**72. Ogrlica načinjena od 106 zrna jantara različite veličine, okruglog i lećastog oblika.**

- Prozor, jantar, Ø zrna 2,1–1,1 cm
- željezno doba
- AMZ, inv. 13501-1

*72. Necklace of 106 differently sized circular and lenticular amber beads*

- Prozor, amber, Ø bead 2.1–1.1 cm
- Iron Age
- AMZ, Invt. 13501-1

**73. Ogrlica načinjena od 41 zrna jantara različite veličine, okruglog i lećastog oblika. Najduže zrno je ulomak zrna sa fibule.**

- Prozor, jantar, Ø zrna 2,4–0,6 cm, duž. zrna sa fibule 2,7 cm
- željezno doba
- AMZ, inv. 13114

*73. Necklace of 41 differently sized circular and lenticular amber beads. The longest bead is a fragment of bead from a fibula*

- Prozor, amber, Ø bead 2.4–0.6 cm, length of fibula bead 2,7 cm
- Iron Age
- AMZ, Invt. 13114

**74. Ogrlica načinjena od 58 zrna jantara i stakla, različite veličine.**

- Prozor, jantar, staklo, Ø zrna 2,3–0,5 cm
- željezno doba
- AMZ, inv. 12617

*74. Necklace of 58 differently sized amber and glass beads*

- Prozor, amber, glass, Ø 2.3–0.5 cm
- Iron Age
- AMZ, Invt. 12617

**75. Ogrlica načinjena od 53 zrna jantara različite veličine okruglog, lećastog i duguljastog oblika. Pojedina duguljasta zrna su dodatno probušena po sredini.**

- Prozor, jantar, Ø zrna 1,7–1,1 cm, duž. duguljastih zrna 2 cm
- željezno doba
- AMZ, inv. 13113, 13457

*75. Necklace of 53 differently sized circular, lenticular and oblong amber beads. Individual oblong beads were additionally perforated in the middle*

- Prozor, amber, Ø bead 1.7–1.1 cm, length of oblong beads 2 cm
- Iron Age
- AMZ, Invt. 13113, 13457

**76. Ogrlica načinjena od 83 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,8–0,7 cm
- željezno doba
- AMZ, inv. 12476

*76. Necklace of 83 differently sized amber beads*

- Prozor, amber, Ø bead 1.8–0.7 cm
- Iron Age
- AMZ, Invt. 12476

**77. Ogrlica načinjena od 130 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,8–0,9 cm
- željezno doba
- AMZ, inv. 13122

*77. Necklace of 130 differently sized amber beads*

- Prozor, amber, Ø beads 1.8–0.9 cm
- Iron Age
- AMZ, Invt. 13122

**78. Ogrlica načinjena od 53 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,2–0,8 cm
- željezno doba
- AMZ, inv. 13117

*78. Necklace of 53 differently sized amber beads*

- Prozor, amber, Ø beads 2.2–0.8 cm
- Iron Age
- AMZ, Invt. 13117

**79. Ogrlica načinjena od 61 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,4–0,7 cm
- željezno doba
- AMZ, inv. 13501-3

*79. Necklace of 61 differently sized amber beads*

- Prozor, amber, Ø beads 2.4–0.7 cm
- Iron Age
- AMZ, Invt. 13501-3

**80. Ogrlica načinjena od 58 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,3–1,3 cm
- željezno doba
- AMZ, inv. 13501-4

*80. Necklace of 58 differently sized amber beads*

- Prozor, amber, Ø beads 2.3–1.3 cm
- Iron Age
- AMZ, Invt. 13501-4

**81. Ogrlica načinjena od 112 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,2–1 cm
- željezno doba
- AMZ, inv. 13458

*81. Necklace of 112 differently sized amber beads*

- Prozor, amber, Ø beads 2.2–1.0 cm
- Iron Age
- AMZ, Invt. 13458

**82. Ogrlica načinjena od 82 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,2–0,6 cm
- željezno doba
- AMZ, inv. 13124

82. *Necklace of 82 differently sized amber beads*

- Prozor, amber, Ø beads 2.2–0.6 cm
- Iron Age
- AMZ, Invt. 13124

**83. Ogrlica načinjena od 109 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 2,2–0,7 cm
- željezno doba
- AMZ, inv. 13119

83. *Necklace of 109 differently sized amber beads*

- Prozor, amber, Ø beads 2.2–0.7 cm
- Iron Age
- AMZ, Invt. 13119

**84. Ogrlica načinjena od 80 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,5–0,5 cm
- željezno doba
- AMZ, inv. 12595

84. *Necklace of 80 differently sized amber beads*

- Prozor, amber, Ø beads 1.5–0.5 cm
- Iron Age
- AMZ, Invt. 12595

**85. Ogrlica načinjena od 71 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1,7–0,7 cm
- željezno doba
- AMZ, inv. 13456-2

85. *Necklace of 71 differently sized amber beads*

- Prozor, amber, Ø beads 1.7–0.7 cm
- Iron Age
- AMZ, Invt. 13456-2

**86. Ogrlica načinjena od 65 zrna jantara različite veličine.**

- Prozor, jantar, Ø zrna 1–0,8 cm
- željezno doba
- AMZ, inv. 13456-1

86. *Necklace of 65 differently sized amber beads*

- Prozor, amber, Ø beads 1.0–0.8 cm
- Iron Age
- AMZ, Invt. 13456-1

**87. Ogrlica načinjena od 27 zrna jantara različite veličine, te jedno stakleno bikonično. Najveće zrno jantara dodatno horizontalno probušeno sa obje strane.**

- Prozor, jantar, staklo, Ø zrna 3,7–0,7 cm
- željezno doba
- AMZ, inv. 12461

87. *Necklace of 27 differently sized amber beads and 1 biconical glass bead. The largest amber bead was also horizontally perforated on both sides.*

- Prozor, amber, glass, Ø beads 3.7–0.7 cm
- Iron Age
- AMZ, Invt. 12461

**88. Ogrlica načinjena od 8 okruglih zrna jantara i 4 zrna u obliku bula. Zrna bula imaju sa zagla đene strane urezanu 1 do 3 paralelne linije.**

- Prozor, jantar, Ø okruglih zrna 1,3–0,7 cm
- duž bula 3,3–2,3 cm
- željezno doba
- AMZ, inv. 12456

***88. Necklace of 8 round amber beads and 4 seal-like beads. One to three parallel lines were incised on the smoothed side of the seal-like shaped beads.***

- Prozor, amber, Ø round beads 1.3–0.7 cm, length of »seals« 3.3–1.3 cm
- Iron Age
- AMZ, Invt. 12456

**90. Ogrlica načinjena od 7 plosnatih zrna, jedna strana zaobljena. Na zaravnanoj strani rupice načinjene u obliku slova V. Na pojedinim zrnima vidljivi urezani koncentrični krugovi.**

- Prozor, jantar, Ø zrna 2,5–1,3 cm
- željezno doba
- AMZ, inv. 12275-1, 13460-1, 13460-2, 12436, 13460-3, 12275-2, 12275-3

***90. Necklace of 7 flat beads with one rounded side. V shaped holes were incised on the flat side. Incised concentric circles are visible on some beads.***

- Prozor, amber, Ø beads 2.5–1.3 cm
- Iron Age
- AMZ, Invt. 12275-1, 13460-1, 13460-2, 12436, 13460-3, 12275-2, 12275-3

**92. Ogrlica načinjena od 28 zrna izrađenih od staklene paste. Sva zrna su erodirana.**

- Prozor, staklena pasta, Ø 3,8–1,4 cm
- željezno doba
- AMZ, inv. 13503-3

***92. Necklace of 28 glass paste beads. All the beads are eroded.***

- Prozor, glass paste, Ø beads 3.8–1.4 cm
- Iron Age
- AMZ, Invt. 13503-3

**89. Ogrlica načinjena od 16 duguljastih bikoničnih zrna jantara te tri kesičasta zrna.**

- Prozor, jantar, duž. duguljastih zrna 1,8–1,1 cm, šir. 0,9–0,6 cm
- duž. kesičastih zrna 2,7 cm
- željezno doba
- AMZ, inv. 12633

***89. Necklace of 16 elongated biconical amber beads with three pouch shaped beads***

- Prozor, amber, length of oblong beads 1.8–1.1 cm, width 0.9–0.6 cm
- length of pouch shaped beads 2.7 cm
- Iron Age
- AMZ, Invt. 12633

**91. Ogrlica načinjena od 17 zrna izrađenih od tamnoplave staklene paste, te ukrašenih žutim koncentričnim krugovima. Najveće zrno oko rupica ukrašeno cik cak linijom.**

- Prozor, staklena pasta, Ø zrna 3–1,1 cm
- željezno doba
- AMZ, inv. 13133

***91. Necklace of 17 beads made of dark blue glass paste, decorated with yellow concentric circles. The largest bead decorated with a zigzag line around the hole.***

- Prozor, glass paste, Ø beads 3.0–1.1 cm
- Iron Age
- AMZ, Invt. 13133

**93. Ogrlica načinjena od 47 zrna izrađenih od tamnoplave staklene paste. Mjestimično vidljivi žuti koncentrični krugovi, a na ostalima je žuta boja ispala, pa su vidljivi koncentrični utori. Pojedina zrna oko rupica ima cik cak liniju, krug ili četverokut.**

- Prozor, staklena pasta, Ø 3,8–0,9 cm
- željezno doba
- AMZ, inv. 13503-4

***93. Necklace of 47 dark blue glass paste beads. Yellow concentric circles are sporadically visible, while the yellow paint is missing elsewere, so concentric grooves can be seen. Individual beads have a zigzag line, circle, or a square round the holes.***

- Prozor, glass paste, Ø beads 3.8–0.9 cm
- Iron Age
- AMZ, Invt. 13503-4

**94. Ogrlica načinjena od 19 zrna izrađenih od tamne staklene paste. Zrna su ukrašena urezanim koncentričnim krugovima. Jedno zrno je ukrašeno sa pet paralelnih cik cak linija između kojih su koncentrični krugovi.**

- Prozor, staklena pasta, Ø 2,2–1,3 cm
- željezno doba
- AMZ, inv. 13131

*94. Necklace of 19 dark blue glass paste beads. The beads are decorated with concentric circles. One bead is decorated with five parallel zigzag lines separated by concentric circles.*

- Prozor, glass paste, Ø beads 2.2–1.3 cm
- Iron Age
- AMZ, Invt. 13131

**95. Ogrlica načinjena od 12 zrna načinjenih od staklene paste i 1 zrna od tamnoplavog stakla. Pojedina zrna vrlo oštećena. Ukrašena koncentričnim krugovima.**

- Prozor, staklena pasta, staklo, Ø 2,4–1,1 cm
- željezno doba
- AMZ, inv. 12282

*95. Necklace of 12 glass paste beads and 1 dark glass bead. Some beads badly damaged. Decorated with concentric circles.*

- Prozor, glass paste, glass, Ø beads 2.4–1.1 cm
- Iron Age
- AMZ, Invt. 12282

**96. Ogrlica načinjena od 9 zrna izrađenih od tamne staklene paste. Zrna su ukrašena urezanim koncentričnim krugovima.**

- Prozor, staklena pasta, Ø zrna 3,3–2 cm
- željezno doba
- AMZ, inv. 13503-1

*96. Necklace of 9 dark glass paste beads. The beads are decorated with incised concentric circles.*

- Prozor, glass paste, Ø beads 3.3–2.0 cm
- Iron Age
- AMZ, Invt. 13503-1

**97. Tri zrna izrađena od staklene paste. Dva zrna su ukrašena urezanim koncentričnim krugovima.**

- Prozor, staklena pasta, Ø zrna 5,2 cm, 4,2 cm, 3,8 cm
- željezno doba
- AMZ, inv. 13503-2, 12706, 13503

*97. Three beads made of glass paste. Two beads are decorated with incised concentric circles.*

- Prozor, glass paste, Ø beads 5.2 cm, 4.2 cm, 3.8 cm
- Iron Age
- AMZ, Invt. 13503-2, 12706, 13503

**98. Ogrlica načinjena od 235 zrna izrađenih od tamnoplavog stakla.**

- Prozor, staklo, Ø 1,4–0,3 cm
- željezno doba
- AMZ, inv. 13023

*98. Necklace of 235 dark blue glass beads.*

- Prozor, glass, Ø beads 1.4–0.3 cm
- Iron Age
- AMZ, Invt. 13023

**99. Ogrlica načinjena od 44 staklena zrna različite veličine.**

- Prozor, staklo, Ø 2,1–1,2 cm
- željezno doba
- AMZ, inv. 13032

*99. Necklace of 44 differently sized glass beads.*

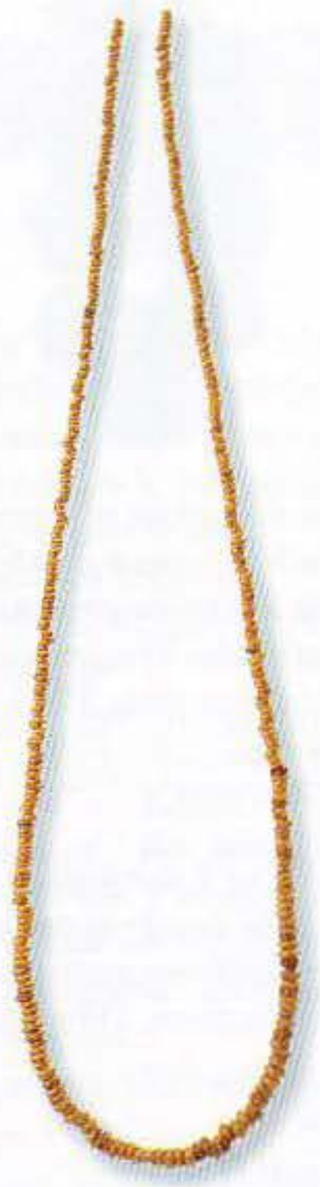
- Prozor, glass, Ø beads 2.1–1.2 cm
- Iron Age
- AMZ, Invt. 13032

**100. Ogrlica načinjena od 72 staklena zrna žute boje.**

- Prozor, staklo, Ø 0,8–0,5 cm
- željezno doba
- AMZ, inv. 12258

**100.** *Necklace of 72 yellow glass beads.*

- Prozor, glass, Ø 0.8–0.5 cm
- Iron Age
- AMZ, Invt. 12258



**102. Ogrlica načinjena od 422 staklena zrna žute boje.**

- Prozor, staklo, Ø 0,8–0,5 cm
- željezno doba
- AMZ, inv. 13499

**102.** *Necklace of 422 yellow glass beads.*

- Prozor, glass, Ø 0.8–0.5 cm
- Iron Age
- AMZ, Invt. 13499

**104. Ogrlica načinjena od 75 staklena zrna plave boje.**

- Prozor, staklo, Ø 0,6–0,4 cm
- željezno doba
- AMZ, inv. 12596

**104.** *Necklace of 75 blue glass beads.*

- Prozor, glass, Ø 0.6–0.4 cm
- Iron Age
- AMZ, Invt. 12596

**101. Ogrlica načinjena od 76 staklena zrna žute boje.**

- Prozor, staklo, Ø 1,1–0,7 cm
- željezno doba
- AMZ, inv. 12247

**101.** *Necklace of 76 yellow glass beads.*

- Prozor, glass, Ø 1.1–0.7 cm
- Iron Age
- AMZ, Invt. 12247

**103. Ogrlica načinjena od 90 staklena zrna žute i plave boje.**

- Prozor, staklo, Ø 0,6–0,5 cm
- željezno doba
- AMZ, inv. 12622

**103.** *Necklace of 90 yellow and blue glass beads.*

- Prozor, glass, Ø 0.6–0.5 cm
- Iron Age
- AMZ, Invt. 12622

**105. Ogrlica načinjena od 117 staklena zrna duguljastog, bikoničnog i okruglog oblika.**

- Prozor, staklo, Ø 1,3–0,6 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 13031

**105.** *Necklace of 117 glass beads of oblong, biconical and round shape.*

- Prozor, glass, Ø 1.3–0.6 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 13031

**106. Ogrlica načinjena od 156 staklena zrna. Pojedina zrna ispod staklene navlake imaju umetnutu zlatnu foliju. Jedno zrno izrađeno u obliku kapljice.**

- Prozor, staklo, zlato, Ø 0,9–0,4 cm. Duž. zrna u obliku kapljice 1,8 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 13029

***106. Necklace of 156 glass beads. Individual beads have gold foil inserted under a glass coating. One bead is teardrop shaped.***

- Prozor, glass, gold, Ø 0.9–0.4 cm. Length of droplet shaped bead 1.8 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 13029

**107. Ogrlica načinjena od 62 staklena zrna raznih oblika.**

- Prozor, staklo, Ø zrna 1,3–0,3 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 12246

***107. Necklace of 62 differently shaped glass beads.***

- Prozor, glass, Ø 1.3–0.3 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 12246

**108. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim točkicama.**

- Prozor, bronca, vis. 7,8 cm, Ø gornjeg otvora 14,7 cm, Ø donjeg otvora 20,5 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20197

***108. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered points.***

- Prozor, bronze, height 7.8 cm, Ø top opening 14.7 cm, Ø bottom opening 20.5 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20197

**109. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim točkicama.**

- Prozor, bronca, vis. 8 cm, Ø gornjeg otvora 10,8 cm, Ø donjeg otvora 16,4 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20198

***109. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered points.***

- Prozor, bronze, height. 8 cm, Ø top opening 10,8 cm, Ø bottom opening 16,4 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20198

**110. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim točkicama.**

- Prozor, bronca, vis. 8,8 cm, Ø gornjeg otvora 13 cm, Ø donjeg otvora 17,8 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20196

***110. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered points.***

- Prozor, bronze, height. 8,8 cm, Ø top opening 13 cm, Ø bottom opening 17,8 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20196

**111. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim točkicama.**

- Prozor, bronca, vis. 6 cm, Ø gornjeg otvora 11,5 cm, Ø donjeg otvora 15,5 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 12555

***111. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered points.***

- Prozor, bronze, height. 6 cm, Ø top opening 11,5 cm, Ø bottom opening 15,5 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 12555

**112. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim paralelnim točkicama složenim u 6 redova.**

- Prozor, bronca, vis. 7,3 cm, Ø gornjeg otvora 11,5 cm, Ø donjeg otvora 17 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 12556

***112. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered parallel points arranged in 6 lines.***

- Prozor, bronze, height. 7,3 cm, Ø top opening 11,5 cm, Ø bottom opening 17 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 12556

**113. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim paralelnim točkicama složenim u 5 redova.**

- Prozor, bronca, vis. 7,4 cm, Ø gornjeg otvora 11,5 cm, Ø donjeg otvora 19 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20195

***113. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered parallel points arranged in 5 lines.***

- Prozor, bronze, height. 7,4 cm, Ø top opening 11,5 cm, Ø bottom opening 19 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20195

**114. Oglavlje izrađeno od širokog brončanog lima površine prekrivene iskucanim paralelnim točkicama složenim u 5 redova.**

- Prozor, bronca, vis. 5,8 cm, Ø gornjeg otvora 10,5 cm, Ø donjeg otvora 16,5 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20201

***114. Head covering, made from a broad band of bronze sheet metal, the surface covered with hammered parallel points arranged in 5 lines.***

- Prozor, bronze, height. 5,8 cm, Ø top opening 10,5 cm, Ø bottom opening 16,5 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20201

**115. Oglavlje se sastoji od mnoštva sitnih karičica spojenih u lančiće koji tvore oglavlje s resama.**

- Prozor, bronca, duž. lančića 23 cm
- starije željezno doba, 7. st. pr. n.e.
- AMZ, inv. 20194

***115. Head covering composed of numerous small circlets joined into chains creating a cap with tassel.***

- Prozor, bronze, length 23 cm
- Early Iron Age, 7th century BC
- AMZ, Invt. 20194

**116. Plosnata punolijevana stilizirana ženska figura trokutastog tijela (27 komada).**

- Prozor, bronca, vis. 6,1 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 13303

***116. Flat, solid cast stylized female figure with a triangular body (27 specimens).***

- Prozor, bronze, height 6.1 cm
- Early Iron Age, 7–6th century BC
- AMZ, Invt. 13303

**117. Plosnata punolijevana stilizirana ženska figura trokutastog tijela (20 komada).**

- Prozor, bronca, vis. 6,7 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 12889

***117. Flat, solid cast stylized female figure with a triangular body and two legs (20 specimens).***

- Prozor, bronze, height 6.7 cm
- Early Iron Age, 7th–6th century BC
- AMZ, Invt. 12889

**118. Plosnata punolijevana stilizirana ženska figura trokutastog tijela (5 komada).**

- Prozor, bronca, vis. 6,1 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 13302

**118.** ***Flat, solid cast stylized female figure with a triangular body (5 specimens).***

- Prozor, bronze, height 6.1 cm
- Early Iron Age, 7th–6th century BC
- AMZ, Invt. 13302

**119. Plosnata punolijevana stilizirana figura trokutastog tijela.**

- Prozor, bronca, vis. 4,5 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 13397

**119.** ***Flat, solid cast stylized female figure with a triangular body.***

- Prozor, bronze, height 4.5 cm
- Early Iron Age, 7th–6th century BC
- AMZ, Invt. 13397

**120. Plosnata punolijevana stilizirana ženska figura trokutastog tijela.**

- Prozor, bronca, vis. 5,7 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 13253

**120.** ***Flat, solid cast stylized female figure with a triangular body.***

- Prozor, bronze, height 5.7 cm
- Early Iron Age, 7th–6th century BC
- AMZ, Invt. 13253

**121. Plosnata punolijevana stilizirana muška figura s naznačenim spolovilom (7 komada).**

- Prozor, bronca, vis. 6,1 cm
- starije željezno doba, 7–6. st. pr. n.e.
- AMZ, inv. 12881

**121.** ***Flat, solid cast stylized male figure showing sexual organs (7 specimens).***

- Prozor, bronze, height 6.1 cm
- Early Iron Age, 7th–6th century BC
- AMZ, Invt. 12881

**122. Jednopetljasta lučna fibula sa duguljastim zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 7 cm
- duž. jantara 5 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12962

**122.** ***Single-looped bow fibula with an elongated amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 7 cm
- Amber length 5 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12962

**123. Jednopetljasta lučna fibula sa duguljastim zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 8,3 cm
- duž. jantara 7,4 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12962-1

**123.** ***Single-looped bow fibula with an elongated amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 8.3 cm
- Amber length 7.4 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12962-1

**124. Jednopetljasta lučna fibula sa duguljastim zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 3,5 cm
- duž. jantara 2,7 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13490-3

*124. Single-looped bow fibula with an elongated amber bead on the bow.*

- Prozor, bronze, amber
- Fibula length 3.5 cm
- Amber length 2.7 cm
- Early Iron Age, 8th–4th BC
- AMZ, Invt. 13490-3

**125. Jednopetljasta lučna fibula sa zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 3,5 cm
- duž. jantara 2,4 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13490-4

*125. Single-looped bow fibula with an amber bead on the bow.*

- Prozor, bronze, amber
- Fibula length 3.5 cm
- Amber length 2.4 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13490-4

**126. Jednopetljasta lučna fibula sa zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 3,1 cm
- duž. jantara 1,9 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13490-1

**126. *Single-looped bow fibula with an amber bead on the bow.***

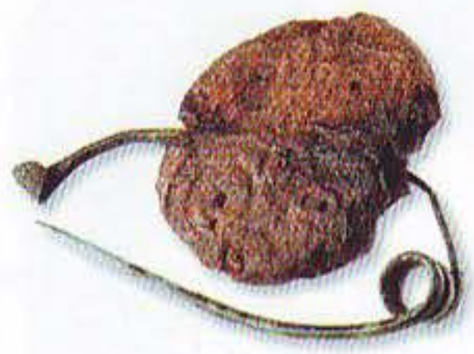
- Prozor, bronze, amber
- Fibula length 3.1 cm
- Amber length 1.9 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13490-1

**127. Jednopetljasta lučna fibula sa duguljastim zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 5 cm
- duž. jantara 3,2 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13490-6

*127. Single-looped bow fibula with an oblong amber bead on the bow.*

- Prozor, bronze, amber
- Fibula length 5.0 cm
- Amber length 3.2 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13490-6



**128. Jednopetljasta lučna fibula sa okruglim zrnom jantara na luku. Zrno je sa zaravnjene strane ukrašeno urezanim koncentričnim krugovima.**

- Prozor, bronca, jantar
- duž. fibule 6,7 cm
- Ø zrna 3,9 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13464

*128. Single-looped bow fibula with a round amber bead on the bow. The flattened side of the bead is decorated with incised concentric circles.*

- Prozor, bronze, amber
- Fibula length 6.7 cm
- Bead diam. 3.9 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13464

**129. Jednopetljasta lučna fibula sa duguljastim zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 8,1 cm
- duž. zrna 6 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13463

*129. Single-looped bow fibula with an elongated amber bead on the bow*

- Prozor, bronze, amber
- Fibula length 8.1 cm
- Bead length 6.0 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13463

**130. Zrno jantara sa fibule. Od fibule sačuvan luk i noga.**

- Prozor, bronca, jantar
- duž. zrna 4,9 cm
- šir. zrna 3,5 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13490

*130. Amber bead from a fibula. The bow and foot of the tibula were preserved.*

- Prozor, bronze, amber
- Bead length 4.9 cm
- Bead width 3.5 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13490

**131. Zrno jantara sa fibule. Od fibule sačuvan dio luka.**

- Prozor, bronca, jantar
- duž. zrna 6,4 cm
- šir. zrna 3,6 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12963

131. *Amber bead from a fibula. Part of the fibula bow was preserved.*

- Prozor, bronze, amber
- Bead length 6.3 cm
- Bead width 3.6 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12963

**132. Zrno jantara sa fibule. Od fibule sačuvan dio luka.**

- Prozor, bronca, jantar
- duž. zrna 5,3 cm
- šir. zrna 3,2 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13120-3

132. *Amber bead from a fibula. Part of the fibula bow was preserved.*

- Prozor, bronze, amber
- Bead length 5.3 cm
- Bead width 3.2 cm
- Early Iron Age 8rth–4th century BC
- AMZ, Invt. 13129-3

**133. Duguljasto zrno jantara sa fibule. Po sredini probušeno. Na površini su vidljivi pravilni urezi. Po dužim stranama urezane su dvije linije.**

- Prozor, jantar
- duž. 6,7 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13458

133. *Oblong amber bead from a fibula. Perforated in the middle. Regular incisions are visible on the surface. Two lines incised on the longer sides.*

- Prozor, amber
- Length 6.7 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13458

**134. Zrno jantara sa fibule.**

- Prozor, jantar
- duž. zrna 5,9 cm
- šir. zrna 4,7 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12492

134. *Amber bead from a fibula.*

- Prozor, amber
- Bead length 5.9 cm
- Bead width 4.7 cm
- Early Iron Age 8th–4th century BC
- AMZ, Invt. 12492

**135. Zrno jantara sa fibule.**

- Prozor, jantar
- duž. zrna 6,9 cm
- šir. zrna 4,6 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12684

135. *Amber bead from a fibula.*

- Prozor, amber
- Bead length 6.9 cm
- Bead width 4.6 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12684

**136. Plosnato zrno jantara sa fibule. S jedne strane utisnuti koncentrični krugovi.**

- Prozor, jantar
- duž. zrna 5,9 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13496

136. *Flat amber bead from a fibula with incised concentric circles on one side.*

- Prozor, amber
- Bead length 5.9 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13496

**137. Četvrtasto zrno jantara sa fibule. Na zaravnjenoj strani utisnuti koncentrični krugovi.**

- Prozor, jantar
- duž. zrna 3,4 cm
- šir. zrna 3 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13496-2

137. *Square amber bead from a fibula. Concentric circles incised on the flat side.*

- Prozor, amber
- Bead length 3.4 cm
- Bead width 3.0 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13496-2

**138. Jednopetljasta lučna fibula sa zrnom jantara na luku. Dio luka fibule omotan brončanom žicom.**

- Prozor, bronca, jantar
- duž. fibule 9,8 cm
- duž. zrna 4,2 cm
- starije željezno doba, 7–4. st. pr. n.e.
- AMZ, inv. 12900

***138. Single-looped bow fibula with an amber bead on the bow. Bronze wire was coiled around part of the bow.***

- Prozor, bronze, amber
- Fibula length 9.8 cm
- Bead length 4.2 cm
- Early Iron Age, 7th–4th century BC
- AMZ, Invt. 12900

**140. Jednopetljasta lučna fibula sa zrnom jantara na luku. Luk fibule omotan brončanom žicom.**

- Prozor, bronca, jantar
- duž. fibule 9,4 cm
- Ø zrna 1,8 cm
- starije željezno doba, 7–4. st. pr. n.e.
- AMZ, inv. 12908

***140. Single-looped bow fibula with an amber bead on the bow. Bronze wire coiled around the bow.***

- Prozor, bronze, amber
- Fibula length 9.4 cm
- Bead diam. 1.8 cm
- Early Iron Age, 7th–4th century BC
- AMZ, Invt. 12908

**142. Jednopetljasta lučna fibula sa zrnom jantara na luku. Luk fibule omotan brončanom žicom.**

- Prozor, bronca, jantar
- duž. fibule 5,3 cm
- Ø zrna 1,9 cm
- starije željezno doba, 7–4. st. pr. n.e.
- AMZ, inv. 12898

***142. Single-looped bow fibula with an amber bead on the bow. Bronze wire was coiled around the bow.***

- Prozor, bronze, amber
- Fibula length 5.3 cm
- Bead diam. 1.9 cm
- Early Iron Age, 7th–4th century BC
- AMZ, Invt. 12898

**139. Jednopetljasta lučna fibula sa zrnom jantara na luku. Luk fibule omotan brončanom žicom.**

- Prozor, bronca, jantar
- duž. fibule 8,8 cm
- duž. zrna 3,5 cm
- starije željezno doba, 7–4. st. pr. n.e.
- AMZ, inv. 12893

***139. Single-looped bow fibula with an amber bead on the bow. Bronze wire was coiled around the bow.***

- Prozor, bronze, amber
- Fibula length 8.8 cm
- Amber length 3.5 cm
- Early Iron Age, 7th–4th century BC
- AMZ, Invt. 12893

**141. Jednopetljasta lučna fibula sa zrnom plavog stakla na luku. Luk fibule omotan brončanom žicom.**

- Prozor, bronca, staklo
- duž. fibule 11,1 cm
- Ø zrna 0,9 cm
- starije željezno doba, 7–4. st. pr. n.e.
- AMZ, inv. 12906

***141. Single-looped bow fibula with a blue glass bead on the bow. Bronze wire was coiled around the bow.***

- Prozor, bronze, glass
- Fibula length 11.1 cm
- Bead diam. 0.9 cm
- Early Iron Age, 7th–4th century BC
- AMZ, Invt. 12906

**143. Tropetljasta lučna fibula sa 3 zrna staklene paste na luku.**

- Prozor, bronca, staklena pasta
- duž. fibule 4,4 cm
- Ø zrna 1 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12690

***143. Three-looped bow fibula with 3 glass paste beads on the bow.***

- Prozor, bronze, glass paste
- Fibula length 4.4 cm
- Bead diam. 1.0 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12690



**144. Tropetljasta lučna fibula sa 2 staklena zrna na luku.**

- Prozor, bronca, staklo
- duž. fibule 5,8 cm
- Ø zrna 1,9–1,6 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12921

144. *Three-looped bow fibula with 2 glass beads on the bow.*
- Prozor, bronze, glass
- Fibula length 5.8 cm
- Bead diam. 1.9 n–1.6 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12921

**145. Tropetljasta lučna fibula sa 2 staklena zrna na luku.**
- Prozor, bronca, staklo
- duž. fibule 5,6 cm
- Ø zrna 1,5–1,2 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12345

145. *Three-looped bow fibula with 2 glass beads on the bow.*
- Prozor, bronze, glass
- Fibula length 5.6 cm
- Bead diam. 1.5–1.2 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12345

**146. Tropetljasta lučna fibula sa 1 staklenim zrnom na luku.**
- Prozor, bronca, staklo
- duž. fibule 4,9 cm
- Ø zrna 1,9 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12920

146. *Three-looped bow fibula with 1 glass bead on the bow.*
- Prozor, bronze, glass
- Fibula length 4.9 cm
- Bead diam. 1.9 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12920

**147. Tropetljasta lučna fibula sa krupnim zrnom staklene paste na luku.**
- Prozor, bronca, staklena pasta
- duž. fibule 7 cm
- Ø zrna 3,8 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12705

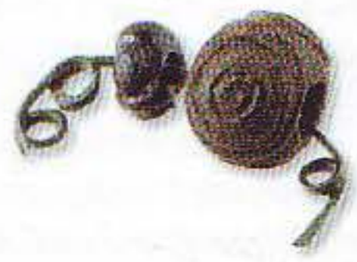
147. *Three-looped bow fibula with a large glass paste bead on the bow.*
- Prozor, bronze, glass paste
- Fibula length 7 cm
- Bead diam. 3,8 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12705

**148. Tropetljasta lučna fibula sa krupnim zrnom staklene paste na luku.**
- Prozor, bronca, staklena pasta
- duž. fibule 8,5 cm
- Ø zrna 4,1 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 20362

148. *Three-looped bow fibula with a large glass paste bead on the bow.*
- Prozor, bronze, glass paste
- Fibula length 8.5 cm
- Bead diam. 4.1 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 20362

**149. Tropetljasta lučna fibula sa 1 zrnom staklene paste na luku.**
- Prozor, bronca, staklena pasta
- duž. fibule 4 cm
- Ø zrna 1 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12692

149. *Three-looped bow fibula with 1 glass paste bead on the bow.*
- Prozor, bronze, glass paste
- Fibula length 4.0 cm
- Bead diam. 1.0 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12692



**150. Tropetljasta lučna fibula sa 2 zrna staklene paste na luku.**
- Prozor, bronca, staklena pasta
- duž. fibule 4 cm
- Ø zrna 1,9–1,2 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12698

150. *Three-looped bow fibula with 2 glass paste beads on the bow.*
- Prozor, bronze, glass paste
- Fibula length 4.0 cm
- Bead diam. 1.9–1.2 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12698

**151. Tropetljasta lučna fibula sa četvrtastim zrnom staklene paste na luku.**
- Prozor, bronca, staklena pasta
- duž. fibule 4,7 cm
- Ø zrna 2,3 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12427

151. *Three-looped bow fibula with a square glass paste bead on the bow.*

- Prozor, bronze, glass paste
- Fibula lenght 4.7 cm
- Bead diam. 2.3 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12427

**152. Tropetljasta lučna fibula sa 2 okrugla i 1 četvrtastim zrnom staklene paste na luku.**

- Prozor, bronca, staklena pasta
- duž. fibule 7,2 cm
- Ø zrna 3,4–2 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 12703

152. *Three-looped bow fibula with 2 round and 1 four sided glass bead on the bow.*

- Prozor, bronze, glass paste
- Fibula length 7.2 cm
- Bead diam. 3.4–2.0 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 12703

**153. Tropetljasta lučna fibula sa 4 tamnoplava staklena zrna na luku.**

- Prozor, bronca, staklo
- duž. fibule 9,1 cm
- Ø zrna 2,4–2,1 cm
- starije željezno doba, 6–4. st. pr. n.e.
- AMZ, inv. 12897

153. *Three-looped bow fibula with 4 dark blue glass beads on the bow.*

- Prozor, bronze, glass
- Fibula length 9.1 cm
- Bead diam. 2.4–2.1 cm
- Early Iron Age, 6th–4th century BC
- AMZ, Invt. 12897

**154. Tropetljasta lučna fibula sa 7 zrna jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 9,8 cm
- Ø zrna 2,2–1,7 cm
- starije željezno doba, 6–4. st. pr. n.e.
- AMZ, inv. 20331

154. *Three-looped bow fibula with 7 amber beads on the bow.*

- Prozor, bronze, amber
- Fibula length 9.8 cm
- Bead diam. 2.2–1.7 cm
- Early Iron Age, 6ht–4th century BC
- AMZ, Invt. 20331

**155. Četvrtasto zrno sa fibule.**

- Prozor, staklena pasta, duž. 3,1 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13027

155. *Square glass bead from a fibula.*

- Prozor, glass paste, length 3,1 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13027

**156. Trokutasto zrno sa fibule.**

- Prozor, staklena pasta, duž. 3,5 cm
- starije željezno doba, 8–4. st. pr. n.e.
- AMZ, inv. 13035

156. *Triangular glass paste bead from a fibula*

- Prozor, glass paste, length 3,5 cm
- Early Iron Age, 8th–4th century BC
- AMZ, Invt. 13035

**157. Ukrasna igla sa tri zrna jantara na vrhu.**

- Prozor, bronca, jantar
- duž. igle 20,9 cm
- Ø zrna 2–1,7 cm
- starije željezno doba, 7–6. st. pr. n. e.
- AMZ, inv. 20336

157. *Pin with three amber beads on the top.*

- Prozor, bronze, amber
- Pin length 20.9 cm
- Bead diam. 2.0–1.7 cm
- Early Iron Age, 7th–6th BC
- AMZ, Invt. 20336

**158. Zrno jantara u obliku glave ovna.**

- Prozor, jantar
- duž. 3,1 cm
- deblj. 1,2 cm
- starije željezno doba, 6–5. st. pr. n. e.
- AMZ, inv. 20344

158. *Amber bead in the shape of a ram's head.*

- Prozor, amber
- Length 3.1 cm
- Thickness 1.2 cm
- Early Iron Age, 6th–5th century BC
- AMZ, Invt. 20344

**159. Zrno jantara u obliku glave ovna.**

- Prozor, jantar
- duž. 3,6 cm
- deblj. 1,4 cm
- starije željezno doba, 6–5. st. pr. n. e.
- AMZ, inv. 20345

159. *Amber bead in the shape of a ram's head.*

- Prozor, amber
- Length 3.6 cm
- Thickness 1.4 cm
- Early Iron Age, 6th–5th century BC
- AMZ, Invt. 20345

**160. Zrno jantara u obliku glave ovna.**

- Prozor, jantar
- duž. 3,7 cm
- deblj. 1,4 cm
- starije željezno doba, 6–5. st. pr. n. e.
- AMZ, inv. 20346

160. *Amber bead in the shape of a ram's head.*

- Prozor, amber
- Length 3.7 cm
- Thickness 1.4 cm
- Early Iron Age, 6th–5th century BC
- AMZ, Invt. 20346

**161. Zrno jantara u obliku kukca.**

- Prozor, jantar
- duž. 2,4 cm
- deblj. 0,8 cm
- starije željezno doba, 6–5. st. pr. n. e.
- AMZ, inv. 12475

161. *Amber bead in the shape of an insect.*

- Prozor, amber
- Length 2.4 cm
- Thickness 0.8 cm
- Early Iron Age, 6th–5th century BC
- AMZ, Invt. 12475

**162. 4 zrna jantara u obliku astragala.**

- Prozor, jantar
- duž. 2,8; 2,5; 2,7; 2,2 cm
- šir. 2,7; 2,4; 2,1; 2.0 cm
- starije željezno doba, 5–4. st. pr. n. e.
- AMZ, inv. 20363

162. *4 amber beads in the shape of astragal.*

- Prozor, amber
- Length 2.8; 2.5; 2.7; 2.2
- Width 2.7; 2.4; 2.1; 2.0
- Early Iron Age, 5th–4th century BC
- AMZ, Invt. 20363

**163. Plosnato okruglo zrno jantara ukrašeno utisnutim koncentričnim krugovima.**

- Prozor, jantar
- Ø 2,4 cm
- deb. 0,6 cm
- starije željezno doba, 8–4. st. pr. n. e.
- AMZ, inv. 20334

163. *Flat circular amber bead decorated with incised concentric circles.*

- Prozor, amber
- Diam.2.4 cm
- Thickness 0.6 cm
- Early Iron Age, 8th–4th BC
- AMZ, Invt. 20334

**164. Perla s tri lica. Na cilindričnom plaštu perle prikazana su tri plastično oblikovana lica, međusobno odvojena vertikalnim linijama. Plašt perle je tamnoplave boje, dok su dva lica obojena bijelom, a treće žutom bojom.**

- Prozor, staklo
- vis. 2,2 cm
- Ø 1,8 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 12979

164. *A bead with three faces. The cylindric surface of the bead shows three faces in relief, separated by vertical lines. The bead surface is dark blue while two faces are white and one is yellow.*

- Prozor, glass
- Height 2.2 cm
- Diam. 1.8 cm
- Late Iron Age, 3rd–2nd century BC
- AMZ, Invt. 12979

**165. Perla s tri lica. Na cilindričnom plaštu perle prikazana su tri plastično oblikovana lica, međusobno odvojena vertikalnim linijama. Plašt perle je tamnoplave boje, dok su dva lica obojena zelenom, a treće bijelom bojom.**

- Prozor, staklo
- vis. 3,3 cm
- Ø 2,8 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 12978.

165. *A bead with three faces. The cylindric surface of the bead shows three faces in relief, separated by vertical lines. The bead surface is dark blue while two faces are green and one is white.*

- Prozor, glass
- Height 3.3 cm
- Diam. 2.8 cm
- Late Iron Age, 3rd–2nd century BC
- AMZ, Invt. 12978

**166. Perla s tri lica. Na cilindričnom plaštu perle prikazana su tri plastično oblikovana lica, medusobno odvojena vertikalnim linijama. Plašt perle je tamnoplave boje, dok su dva lica obojena bijelom, a treće žutom bojom.**

- Prozor, staklo
- vis. 2,5 cm
- Ø 2 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 12980

**166.** ***A bead with three faces. The cylindric surface of the bead shows three faces in relief, separated by vertical line. The bead surface is dark blue, while two faces are white and the third is yellow.***

- Prozor, glass
- Height 2.5 cm
- Diam. 2.0 cm
- Late Iron Age, 3rd–2nd century BC
- AMZ, Invt. 12980

**167. Zrno jantara u obliku stilizirane glave ovna s okruglom alkom za ovjes.**

- Prozor, bronca, jantar
- duž. 2,8 cm
- deb. 1,2 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 12445

**167.** ***Amber bead in the shape of a stylized ram's head with a circlet for suspension.***

- Prozor, bronze, amber
- Length 2.8 cm
- Whickness 1.2 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 12445

**168. Zrno jantara u obliku stilizirane glave ovna s okruglom alkom za ovjes na koju su obješena 2 lančića.**

- Prozor, srebro, jantar
- duž. privjeska 5,4 cm
- duž. zrna 2 cm
- deb. 0,8 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 12314

**168.** ***Amber bead in the shape of a stylized ram's head with a circlet for hanging with two chains.***

- Prozor, silver, amber
- Length of the pendant 5.4 cm
- Bead length 2.0 cm
- Thickness 0.8 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 12314

**169. Oštro profilirano zrno jantara, s obje strane konkavno udubljeno s rupom u sredini. Pri vrhu probušene dvije rupice, kroz koje su provučene alke s lančićima za ovjes.**

- Prozor, jantar, srebro
- duž. privjeska 10 cm
- Ø zrna 3,4 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 13019

**169.** ***Sharply profiled amber bead, concavely indented on both sides, with a hole in the middle. Circles with hanging chains threaded through two holes perforated on the top.***

- Prozor, amber, silver
- Length of the pendant 10 cm
- Bead diam. 3.4 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 13019

**170. 10 oštro profiliranih zrna jantara, s obje strane su konkavno udubljena s rupom u sredini. Pri vrhu jedna ili dvije rupice za ovjes. Jedno zrno je i horizontalno probušeno.**

- Prozor, jantar
- Ø zrna 4,6–2,2 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 13018, 12313

**170.** ***10 sharply profiled amber beads, concavely indented on both sides, with a hole in the middle. One or two holes for hanging at the top. One bead is horizontally perforated.***

- Prozor, amber
- Bead diam. 4.6–2.2 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 13018, 12313

**171. Fibula s dvije spirale, 3 zrna jantara i 1 zrnom od stakla na luku.**

- Prozor, bronca, jantar, staklo
- duž. fibule 10 cm
- Ø zrna 3,4–2,9 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 12745

171. *Fibula with two spirals, 3 amber beads and 1 glass bead on the bow.*
- Prozor, bronze, amber, glass
- Fibula length 10 cm
- Bead diam. 3.4–2.9 cm
- Late Iron Age, 3rd–2nd century BC
- AMZ, Invt. 12745

**172. Fibula s dvije spirale i 5 zrna jantara na luku.**
- Prozor, bronca, jantar
- duž. fibule 10,8 cm
- Ø zrna 3,2–2,5 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 12742

172. *Fibula with two spirals and 5 amber beads on the bow.*
- Prozor, bronze, amber
- Fibula length 10.8 cm
- Bead diam. 3.2–2.5 cm
- Late Iron Age, 3rd–2nd century BC
- AMZ, Invt. 12742



**173. Fibula s dvije spirale i 7 zrna jantara na luku.**
- Prozor, bronca, jantar
- duž. fibule 8,8 cm
- Ø zrna 2–1,2 cm
- mlađe željezno doba, 3–2. st. prije nove ere
- AMZ, inv. 13470-2

173. *Fibula with two spirals and 7 amber beads on the bow.*
- Prozor, bronze, amber
- Fibula length 8.8 cm
- Bead diam. 2.0–1.2 cm
- Late Iron Age, 3rd–2nd BC
- AMZ, Invt. 13470-2

**174. Prozirna staklena narukvica**
- Prozor, staklo
- Ø 6,2 cm, vis. 1,5 cm
- mlađe željezno doba, 2. st. prije nove ere
- AMZ, inv. 13380

174. *Transparent glass bracelet.*
- Prozor, glass
- Diam. 6.2 cm
- Height 1.5 cm
- Late Iron Age, 2nd century BC
- AMZ, Invt. 13380

**175. Fibula sa dvije spirale, 1 zrnom jantara i 2 staklena zrna ispunjena zlatnom folijom.**
- duž. fibule 4,3 cm
- Prozor, bronca, jantar, zlato
- Ø jantara 1,9 cm
- Ø stakla 0,7 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12750

175. *Fibula with two spirals, 1 amber bead and 2 glass beads filled with golden foil.*
- Fibula length 4.3 cm
- Prozor, bronze, amber, gold
- Diam. of amber 1.9 cm
- Diam. of glass 0.7 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12750

**176. Fibula sa dvije spirale i zrnom jantara na luku.**
- Prozor, bronca, jantar
- duž. fibule 3,6 cm
- duž. zrna 2,1 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12490

176. *Fibula with two spirals and an amber bead on the bow.*
- Prozor, bronze, amber
- Fibula length 3.6 cm
- Bead length 2.1 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12490

**177. Fibula sa dvije spirale i zrnom jantara na luku.**
- Prozor, bronca, jantar
- duž. fibule 7 cm
- duž. zrna 5,5 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12951

177. *Fibula with two spirals and an amber bead on the bow.*
- Prozor, bronze, amber
- Fibula length 7.0 cm
- Bead length 5.5 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12951

**178. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 5,4 cm
- duž. zrna 2,6 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12602

178. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 5.4 cm
- bead length 2.6 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12602

**180. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 6,1 cm
- duž. zrna 4 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12946

180. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 6.1 cm
- Bead length 4.0 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12946

**182. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, srebro, jantar
- duž. fibule 5,7 cm
- duž. zrna 3,2 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12981

182. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, silver, amber
- Fibula length 5.7 cm
- Bead length 3.2 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12981

**179. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, srebro, jantar
- duž. fibule 4,2 cm
- duž. zrna 2,7 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12647

179. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, silver, amber
- Fibula length 4.2 cm
- Bead length 2.7 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12647

**181. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 5,1 cm
- duž. zrna 3,5 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12952

181. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 5.1 cm
- Bead length 3.5 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12952

**183. Fibula sa dvije spirale i zrnom jantara na luku.**

- Prozor, bronca, jantar
- duž. fibule 5,8 cm
- duž. zrna 4 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 13465

183. ***Fibula with two spirals and an amber bead on the bow.***

- Prozor, bronze, amber
- Fibula length 5.8 cm
- Bead length 4.0 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 13465

**184. Zrno jantara sa fibule.**

- Prozor, jantar
- duž. 3,6 cm
- deblj. 1,9 cm
- mlađe željezno doba, 1. st. prije nove ere
- AMZ, inv. 12681

**184.** ***Amber bead from a fibula.***

- Prozor, amber
- Length 3.6 cm
- Thickness 1.9 cm
- Late Iron Age, 1st century BC
- AMZ, Invt. 12681

**185. Fibula sa dvije spirale i zrnom stakla na luku.**

- Prozor, bronca, staklo
- duž. fibule 6,8 cm
- duž. zrna 4,8 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12976

**185.** ***Fibula with two spirals and a glass bead on the bow.***

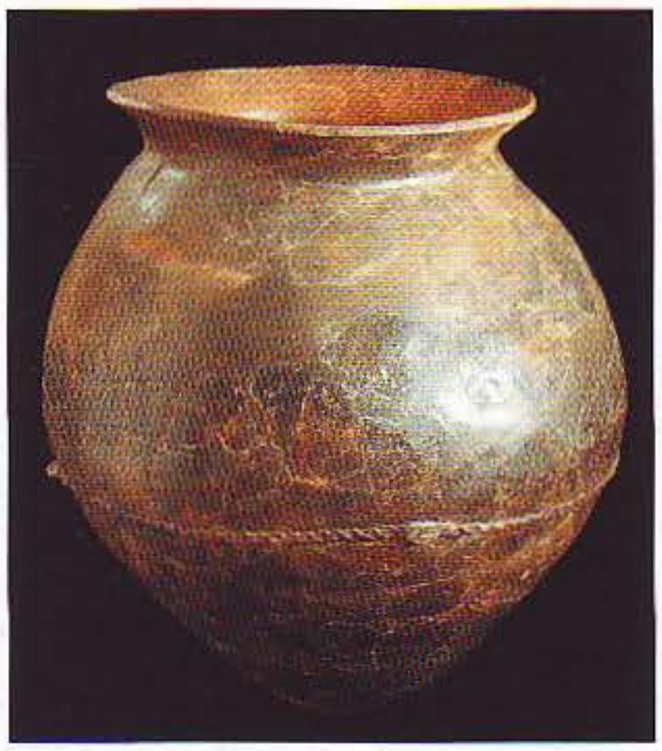
- Prozor, bronze, glass
- Fibula length 6.8 cm
- Bead length 4.8 cm
- Late Iron Age, 2nd–1st BC
- AMZ, Invt. 12976

**186. Fibula s dvije spirale i dijelom slomljene staklene narukvice.**

- Prozor, bronca, staklo
- duž. fibule 5 cm
- duž. zrna 3,5 cm
- mlađe željezno doba, 2–1. st. prije nove ere
- AMZ, inv. 12958

**186.** ***Fibula with two spirals and part of broken glass bracelet.***

- Prozor, bronze, glass
- Fibula length 5.0 cm
- Bead length 3.5 cm
- Late Iron Age, 2nd–1st century BC
- AMZ, Invt. 12958



**187. Glinena žara s plastičnim rebrom**

- Novo mesto, Kapiteljska njiva, grob 33
- 9.–8. st. pr. n. e.
- keramika, vis. 59 cm, pr. 58 cm
- DM, inv. P 1535

*187. Pottery urn with the applied horizontal rib*

- Novo mesto, Kapiteljska njiva, grave 33
- 9th to 8th century BC
- pottery, height 59 cm, diam. 58 cm
- DM, invt. P 1535

**188. Glinena zdjela s nažljebljenim otvorom**

- Novo mesto, Kapiteljska njiva, grob 33
- 9.–8. st. pr. n. e.
- keramika, vis. 6 cm, pr. 20 cm
- DM, inv. P 1537

*188. Pottery bowl with oblique chanelling on the rim*

- Novo mesto, Kapiteljska njiva, grave 33
- 9th to 8th century BC
- pottery, height 6 cm, diam. 20 cm
- DM, invt. P 1537

**189. Glinena posudica, ukrašena**

- Novo mesto, Kapiteljska njiva, grob 33
- 9.–8. st. pr. n. e.
- keramika, vis. 7,5 cm, pr. 10 cm
- DM, inv. P 1536

*189. Pottery bowl, decorated*

- Novo mesto, Kapiteljska njiva, grave 33
- 9th to 8th century BC
- pottery, height 7.5 cm, diam. 10 cm
- DM, invt. P 1536

**190. Glinena posuda, ukrašena**

- Novo mesto, Kapiteljska njiva, grob 33
- 9.–8. st. pr. n. e.
- keramika, vis. 12 cm, pr. 17 cm
- DM, inv. P 1538

*190. Pottery bowl, decorated*

- Novo mesto, Kapiteljska njiva, grave 33
- 9th to 8th century BC
- pottery, height 12 cm, diam. 17 cm
- DM, invt. P 1538

**191. Staklena ogrlica načinjena od 257 tamnoplavih staklenih zrna s izbočinama i žutim linijama i jedno tamnosmeđe zrno sa žutim linijama.**

- Novo mesto, Kapiteljska njiva, grob 54
- 9.–8. st. pr. n. e.
- staklo, pr. zrna 0,2–0,6 cm; pr. zrna 1,2 cm
- DM, inv. P 3691, 3692

*191. Glass necklace of 257 dark blue glass beads with protrusions and yellow lines, and one dark brown bead with yellow lines*

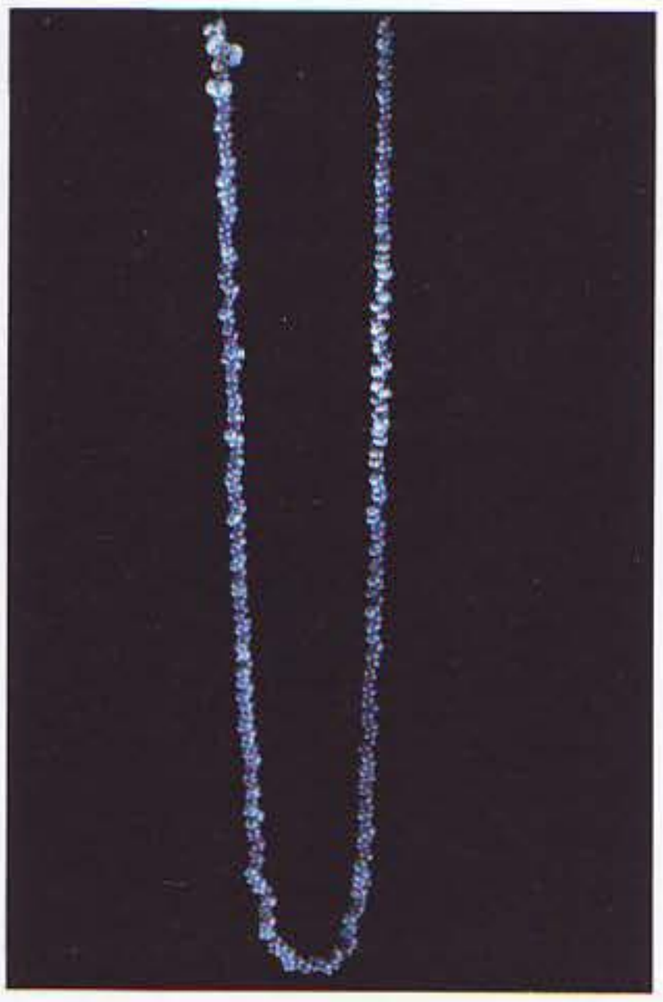
- Novo mesto, Kapiteljska njiva, grave 54
- 9th to 8th century BC
- glass, bead diam. 0.2 to 0.6 cm; diam. of the bead 1.2 cm
- DM. Invt. P 3691, 3692

**192. Staklena ogrlica načinjena od 279 tamnoplavih staklenih zrna sa žutim okcima.**

- Novo mesto, Mestne njive, grob 132
- 9.–8. st. pr. n. e.
- staklo, pr. zrna 0,3–1,2 cm
- DM, inv. P 1647

*192. Glass necklace of 279 dark blue glass beads with yellow »eyes«*

- Novo mesto, Mestne njive, grave 132
- 9th to 8th century BC
- glass, bead diam. 0.3 to 1.2 cm
- DM, invt. P 1647



**193. Staklena ogrlica načinjena od 260 plavih staklenih zrna**

- Novo mesto, Mestne njive, grob 291
- 9–8. st. pr. n. e.
- staklo, pr. zrna 0,3–1 cm
- DM, inv. P 1624

*193. Glass necklace of 260 blue glass beads*

- Novo mesto, Mestne njive, grave 291
- 9th to 8th century BC
- glass, bead diam. 0.3 to 1 cm
- DM, invt. P 1624

**194. Staklena ogrlica načinjena od 12 cijelih i 7 fragmentiranih prozirnih staklenih zrna**

- Novo mesto, Mestne njive, grob 365
- 9.–8. st. pr. n. e.
- staklo, pr. zrna 1,4 cm
- DM, inv. P 1575

*194. Glass necklace of 12 whole and 7 fragmentary transparent glass beads*

- Novo mesto, Mestne njive, grave 365
- 9th to 8th century BC
- glass, bead diam. 1.4 cm
- DM, invt. P 1575

**195. Staklena ogrlica načinjena od 43 plava staklena zrna sa žutim i bijelim okcima**

- Novo mesto, Mestne njive, grob 459
- 9.–8. st. pr. n. e.
- staklo, pr. zrna 0,5–0,9 cm
- DM, inv. P 3706

*195. Glass necklace of 43 blue glass beads with yellow and blue »eyes«*

- Novo mesto, Mestne njive, grave 459
- 9th to 8th century BC
- glass, bead diam. 0.5 to 0.9 cm
- DM, invt. P 3706

**196. Staklena ogrlica načinjena od 158 tamnoplavih staklenih zrna**

- Novo mesto, Mestne njive, grob 555
- 9.–8. st. pr. n. e.
- staklo, pr. zrna 0,7–1,2 cm
- DM, inv. P 3707

*196. Glass necklace of 158 dark blue glass beads*

- Novo mesto, Mestne njive, grave 555
- 9th to 8th century BC
- glass, bead diam. 0.7 to 1.2 cm
- DM, invt. P 3707

**197. Glineni kernos**

- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- keramika, vis. 26 cm
- DM, inv. P 900

197. *Pottery kernos*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- pottery, height 26 cm
- DM, invt. P 900

**198. Glineni kernos**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- keramika, vis. 26,5 cm
- DM, inv. P 901

198. *Pottery kernos*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- pottery, height 26.5 cm
- DM, invt. P 901

**199. Glineni kernos**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- keramika, vis. 28 cm
- DM, inv. P 902

199. *Pottery kernos*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- pottery, height 28 cm
- DM, invt. P 902



**200. Masivna brončana narukvica, ukrašena**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- bronca, pr. 9,2 cm
- DM, inv. 896

200. *Massive decorated bronze bracelet*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- bronze, diam. 9.2 cm
- DM, invt. 896

**201. Masivna brončana narukvica, ukrašena**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- bronca, pr. 9,2 cm
- DM, inv. 897

201. *Massive decorated bronze bracelet*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- bronze, diam. 9.2 cm
- DM, invt. 897

**202. Rebrasta brončana narukvica**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- bronca, pr. 11,2 cm
- DM, inv. 894

202. *Ribbed bronze bracelet*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- bronze, diam. 11.2 cm
- DM, invt. 894

**203. Rebrasta brončana narukvica**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- bronca, pr. 11,1 cm
- DM, inv. 895

203. *Ribbed bronze bracelet*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- bronze, diam. 11.1 cm
- DM, invt. 895

**204. Zlatne vitice za kosu**
- Novo mesto, Kandija, grob IV/20
- 6. st. pr. n. e.
- zlato, pr. 3,5–3,7 cm
- DM, inv. 893

204. *Golden coiled circlets for hair*
- Novo mesto, Kandija, grave IV/20
- 6th century BC
- gold, diam. 3.5 to 3.7 cm
- DM, invt. 893

**205. Ogrlica načinjena od 85 raznobojnih staklenih zrna s izbočinama i okcima, sa željeznim i brončanim omčama, 1 staklena ovnova glava i 2 jantarna zrna**

- Novo mesto, Kandija, grob IV/3
- 4. st. pr. n. e.
- staklo, jantar, željezo, bronca, pr. 0,8–1,9 cm
- DM, inv. P 270

*205. Necklace of 85 multicoloured glass beads with protrusions and »eyes«, with iron and bronze loops, 1 glass ram's head and 2 amber beads*

- Novo mesto, Kandija, grave IV/3
- 4th century BC
- glass, amber, iron, bronze, diam. 0.8 to 1.9 cm
- DM, invt. P 270

**206. Brončani prsni oklop**

- Novo mesto, Kandija, grob s oklopom
- 7. st. pr. n. e.
- bronca, vis. 51 cm

*206. Bronze cuirass*

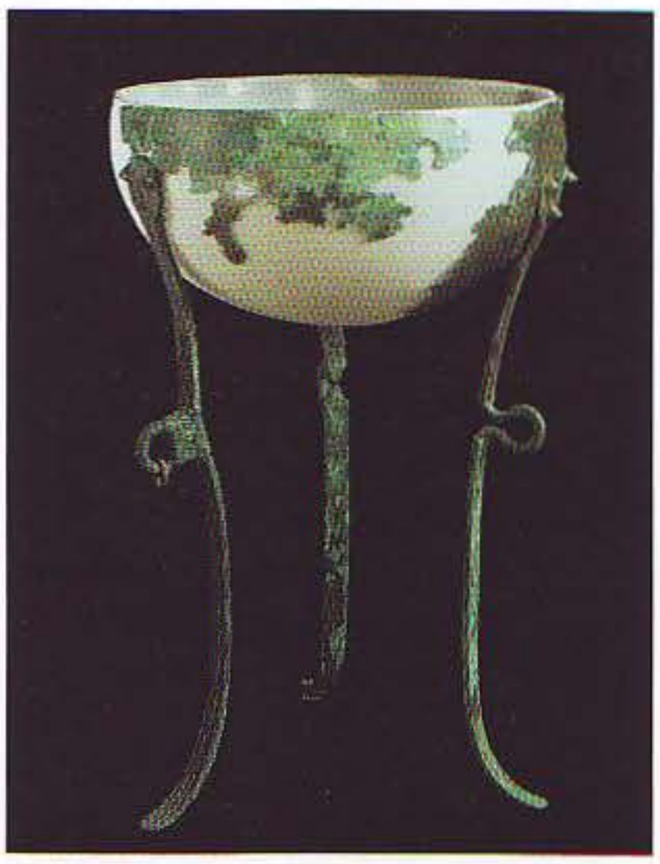
- Novo mesto, Kandija, grave with armor
- 7th century BC
- bronze, height 51 cm

**207. Željezni umbo sa štita**

- Novo mesto, Kandija, grob s okopom
- 7. st. pr. n. e.
- željezo, duž. 29,5 cm, šir. 12,5 cm

*207. Iron shield umbo*

- Novo mesto, Kandija, grave with armour
- 7th century BC
- iron, length 29.5 cm, width 12.5 cm

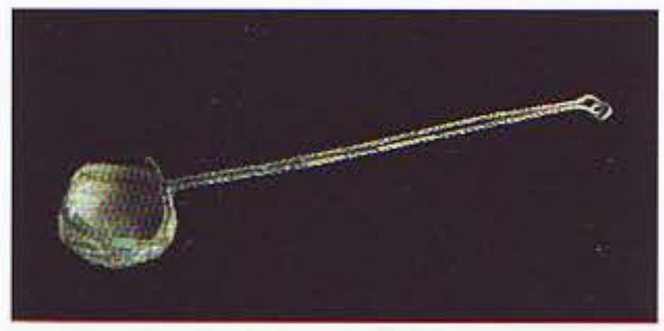


**208. Brončani tronožac**

- Novo mesto, Kandija
- grob s tronoščem (grob 2)
- 7. st. pr. n. e.
- bronca, vis. 41,5 cm, pr. 24,5 cm

*208. Bronze tripod*

- Novo mesto, Kandija
- Grave with a tripod (grave 2)
- 7th century BC
- bronze, height 41.5 cm, diam. 24.5 cm



**209. Brončano cjedilo na dugoj dršci**

- Novo mesto, Kapiteljska njiva, grob III/22
- 7. st. pr. n. e.
- bronca, duž. 56 cm, šir. 12,5 cm
- DM, inv. P 2226

*209. Bronze strainer-ladle with long handle*

- Novo mesto, Kapiteljska njiva, grave III/22
- 7th century BC
- bronze, length 56 cm, width 12.5 cm
- DM, invt. P 2226

**210. Glineni ciborij s poklopcem**

- Novo mesto, Kapiteljska njiva, grob I/15
- 6. st. pr. n. e.
- keramika, vis. 27 cm
- DM, inv. P 1399

*210. Pottery ciborium with a lid*

- Novo mesto, Kapiteljska njiva, grave I/15
- 6th century BC
- pottery, height 27 cm
- DM, invt. P 1399

**211. Glineni lončić s nogom i grlićem na trbuhu**

- Novo mesto, Kapiteljska njiva, grob I/40
- 6.–5. st. pr. n. e.
- keramika, vis. 11 cm
- DM, inv. P 1487

*211. Small footed pottery vessel with a spout on the belly*

- Novo mesto, Kapiteljska njiva, grave I/40
- 6th to 5th century BC
- pottery, height 11 cm
- DM, invt. P 1487

**213. Glinena posudica s uzdignutom ornamentiranom drškom**

- Novo mesto, Kapiteljska njiva, grob III/19
- 5. st. pr. n. e.
- keramika, vis. 10,5 cm, pr. 11,5 cm
- DM, inv. P 2196

*213. Small pottery vessel with upswung decorated handle*

- Novo mesto, Kapiteljska njiva, grave III/19
- 5th century BC
- pottery, height 10.5 cm, diam. 11.5 cm
- DM, invt. P 2196

**215. Glinena zdjela s uzdignutom drškom, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob V/14
- 5. st. pr. n. e.
- keramika, vis. 8,5 cm, pr. 18,5 cm
- DM, inv. P 2435

*215. Pottery bowl with an upswung decorated handle*

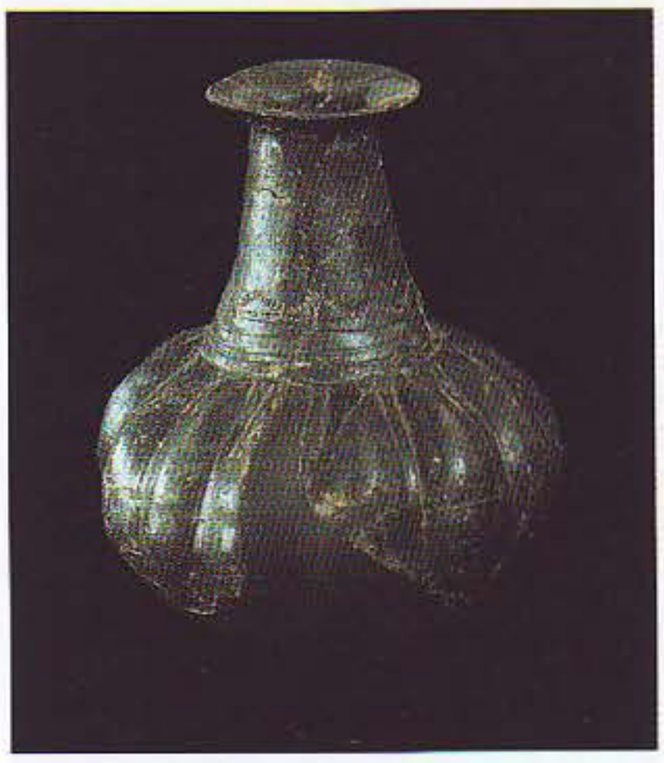
- Novo mesto, Kapiteljska njiva, grave V/14
- 5th century BC
- pottery, height 8.5 cm, diam. 18.5 cm
- DM, invt. P 2435

**212. Glinena posuda, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob II/31
- 7. st. pr. n. e.
- keramika, vis. 26,5 cm, pr. 28,5 cm
- DM, inv. P 2073

*212. Pottery vessel, decorated*

- Novo mesto, Kapiteljska njiva, grave II/31
- 7th century BC
- pottery, height 26.5 cm, diam. 28.5 cm
- DM, invt. P 2073

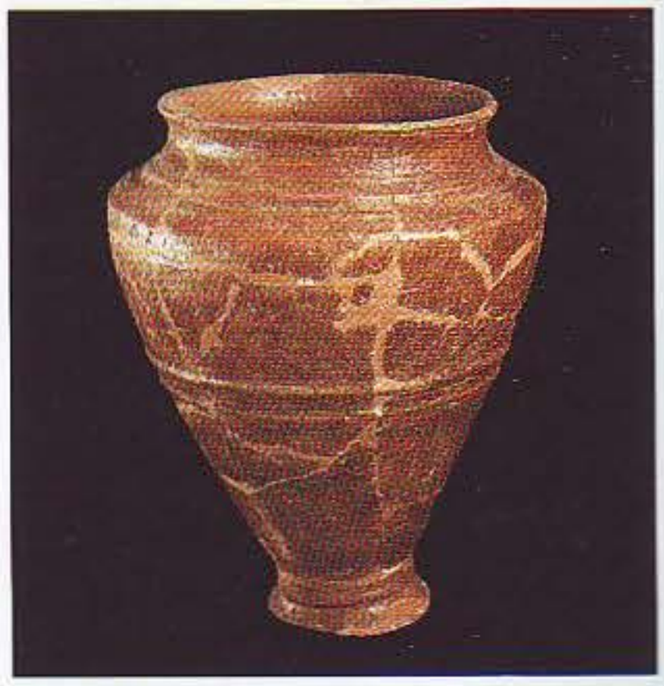


**214. Glinena posuda s vertikalnim naborima i visokim vratom, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob III/33
- 5. st. pr. n. e.
- keramika, vis. 16 cm, pr. 14 cm
- DM, inv. P 2253

*214. Pottery vessel with wide ribs and a high neck, decorated*

- Novo mesto, Kapiteljska njiva, grave III/33
- 5th century BC
- pottery, height 16 cm, diam. 14 cm
- DM, invt. P 2253



**216. Glinena situlasta posuda**

- Novo mesto, Kapiteljska njiva, grob VI/6
- 6. st. pr. n. e.
- keramika, vis. 23 cm, pr. 18,5 cm
- DM, inv. P 2668

*216. Pottery situla shaped vessel*

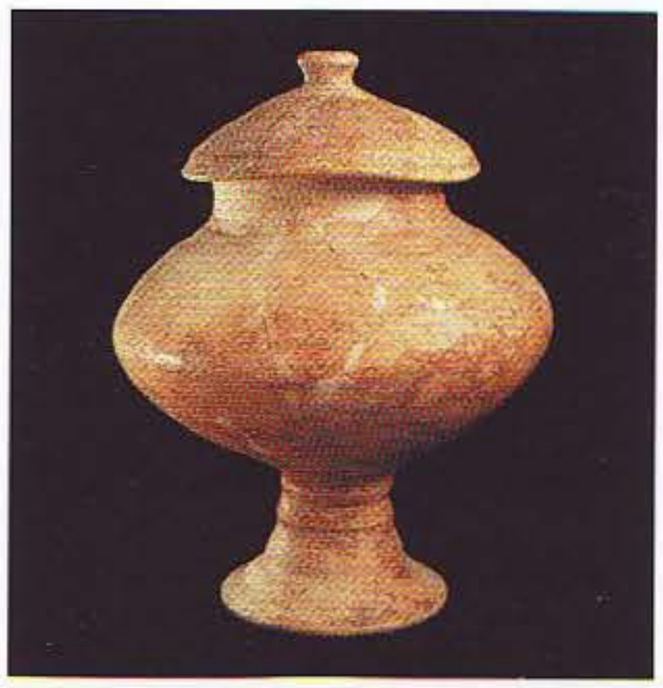
- Novo mesto, Kapiteljska njiva, grave VI/6
- 6th century BC
- pottery, height 23 cm, diam. 18.5 cm
- DM, invt. P 2668

**217. Glinena posuda s vertikalnim naborima i uzdignutom ornamentiranom ručkom**

- Novo mesto, Kapiteljska njiva, grob VI/34
- 6.–5. st. pr. n. e.
- keramika, vis. 14,1 cm, pr. 16,1 cm
- DM, inv. P 2747

217. ***Pottery vessel with wide vertical ribs and an upswung ornamented handle***

- Novo mesto, Kapiteljska njiva, grave VI/34
- 6th to 5th century BC
- pottery, height 14.1 cm, diam. 16.1 cm
- DM, invt. P 2747



**219. Glineni ciborij s pokrovom**

- Novo mesto, Kapiteljska njiva, grob VII/6
- 6. st. pr. n. e.
- keramika, vis. 24,6 cm, pr. 23,9 cm
- DM, inv. P 2782

219. ***Pottery ciborium with a lid***

- Novo mesto, Kapiteljska njiva, grave VII/6
- 6th century BC
- pottery, height 24.6 cm, diam. 23.9 cm
- DM, invt. P 2782

**221. Glinena posuda s vertikalnim naborima i visokim vratom**

- Novo mesto, Kapiteljska njiva, grob VII/27
- 6.–5. st. p. n. e.
- keramika, vis. 24,9 cm, pr. 20,1 cm
- DM, inv. P 2824

221. ***Pottery vessel with wide vertical ribs and a high neck***

- Novo mesto, Kapiteljska njiva, grave VII/27
- 6th to 5th century BC
- pottery, height 24.9 cm diam. 20.1 cm
- DM, invt. P 2824

**218. Glinena grčka posudica – skyfos**

- Novo mesto, Kapiteljska njiva, grob VI/44
- 4. st. pr. n. e.
- keramika, vis. 6,7 cm, pr. 14,3 cm
- DM, inv. P 2763

218. ***Small Greek pottery vessel – skyphos***

- Novo mesto, Kapiteljska njiva, grave VI/44
- 4th century BC
- pottery, height 6.7 cm, diam. 14.3 cm
- DM, invt. P 2763

**220. Glinena grčka posudica – kylix**

- Novo mesto, Kapiteljska njiva, grob VII/20
- prva polovica 5. st. pr. n. e.
- keramika, vis. 7,8 cm, pr. 13,7 cm
- DM, inv. P 2798

220. ***Small Greek pottery vessel – kylix***

- Novo mesto, Kapiteljska njiva, grave VII/20
- first half of 5th century BC
- pottery, height 7.8 cm, diam. 13.7 cm
- DM, invt. P 2798

**222. Glinena posuda s vertikalnim naborima i uzdignutim drškama, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob VII/39
- 5. st. p. n. e.
- keramika, vis. 15,5 cm, pr. 24,6 cm
- DM, inv. P 2851

222. ***Pottery vessel with wide vertical ribs and upswung handles, ornamented***

- Novo mesto, Kapiteljska njiva, grave VII/39
- 5th century BC
- pottery, height 15.5 cm, diam. 24.6 cm
- DM, invt. P 2851

**223. Glinena zdjela na nozi sa životinjskim glavama**

- Novo mesto, Kapiteljska njiva, grob X/17
- 6.–5. st. p. n. e.
- keramika, vis. 24,6 cm, pr. 28 cm
- DM, inv. P 3702

*223. Footed pottery vessel with animal heads*

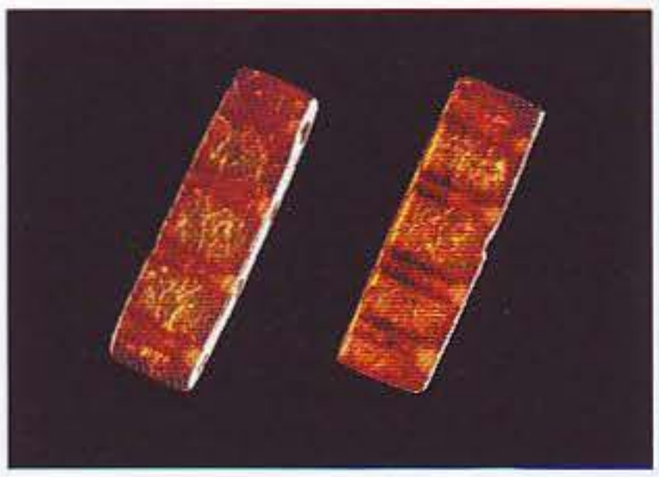
- Novo mesto, Kapiteljska njiva, grave X/17
- 6th to 5th century BC
- pottery, height 24.6 cm, diam. 28 cm
- DM, invt. P 3702

**225. Tri zlatna listića, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- zlato, duž. 4–4,2 cm, šir. 1,5–1,6 cm
- DM, inv. P 2488

*225. Three sheets of gold foil ornamented*

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- gold, length 4–4.2 cm, width 1.5–1.6 cm
- DM, invt. P 2488



**227. Dva jantarna razdjelnika, ornamentirana**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- jantar, duž. 3,6 cm, deb. 0,7 cm
- DM, inv. P 2491

*227. Two amber spacer beads, ornamented*

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- amber, length 3.6 cm, thickness 0.7 cm
- DM, invt. P 2491

**224. Glineno vreteno, ornamentirano**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. p. n. e.
- keramika, vis. 2,1 cm, pr. 3,1 cm
- DM, inv. P 2487

*224. Pottery spindle whorl, ornamented*

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- DM, invt. P 2487

**226. Dijelovi brončane posude**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5–4. st. pr. n. e.
- bronca, duž. 3,6 cm
- DM, inv. P 2490

*226. Fragments of a bronze vessel*

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th centrury BC
- bronze, length 3.6 cm
- DM, invt. P 2490

**228. Pet diskoidnih jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- jantar, p. 2,1–2,5 cm, deb. 0,5–0,7 cm
- DM, inv. P 2492, 2493

*228. Five disc-shaped decorated amber beads*

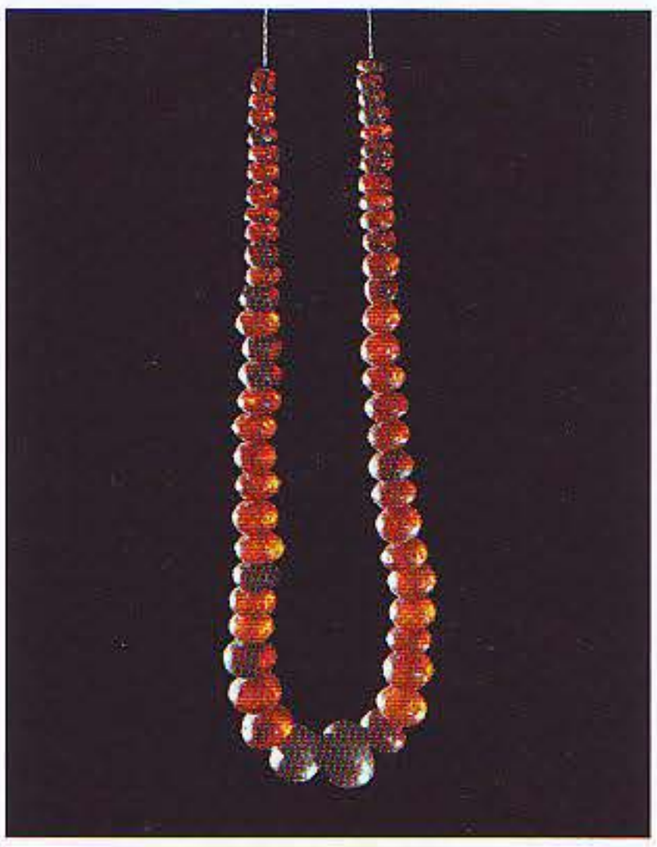
- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- amber, diam. 2.1–2.5 cm, thickness 0.5–0.7 cm
- DM, invt. P 2492, 2493

**229. Tri jantarna zrna u obliku četiri ptičje glavice**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- jantar, duž. 1,4–1,6 cm, deb. 0,7 cm
- DM, inv. P 2494

***229. Three amber beads, each shaped like four bird heads***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- amber, length 1.4–1.6 cm, thickness 0.7 cm
- DM, invt. P 2494



**230. Jantarna ogrlica načinjena od 57 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- jantar, pr. 0,8–3,1 cm
- DM, inv. P 2495

***230. Amber necklace of 57 amber beads***

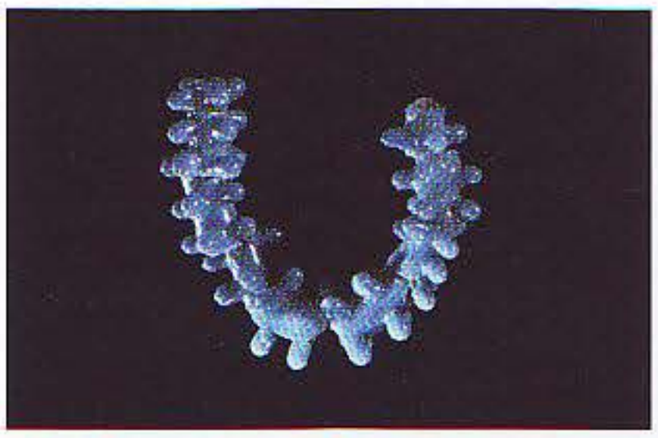
- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- amber, diam. 0.8 to 3.1 cm
- DM, invt. P 2495

**231. Jantarna ogrlica načinjena od 94 jantarna zrna**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st pr. n. e.
- jantar, duž. pr. 0,3–0,9 cm
- DM, inv. P 2496

***231. Amber necklace of 94 amber beads***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- amber, diam. 0.3 to 0.9 cm
- DM, invt. P 2496

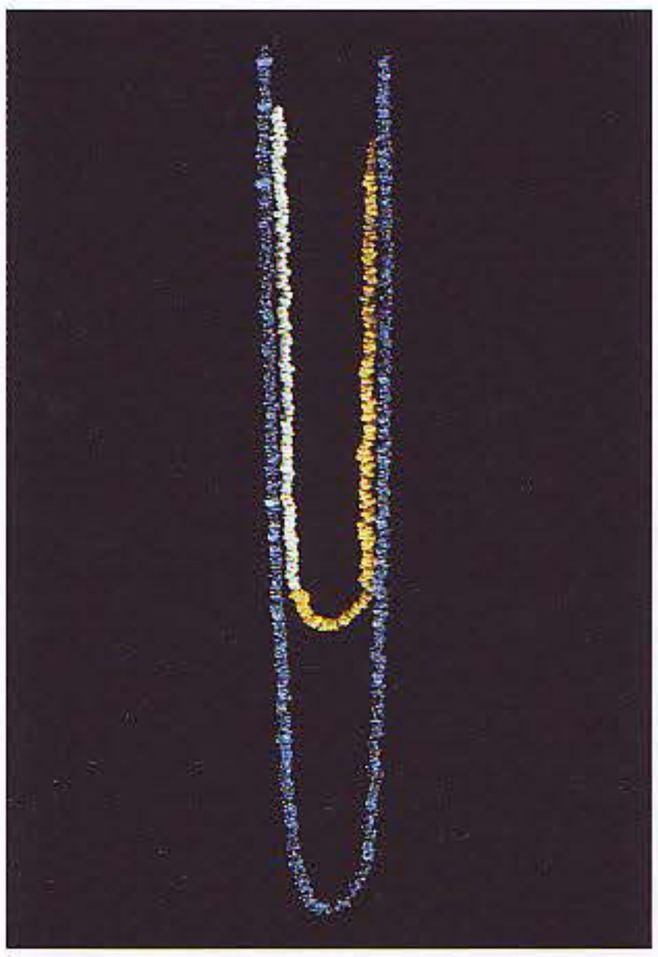


**232. Sedam staklenih plavih zrna s izbočinama**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- staklo, pr. 1,2 cm
- DM, inv. P 2497

***232. Seven blue glass beads with protrusions***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- glass, diam. 1.2 cm
- DM, invt. P 2497

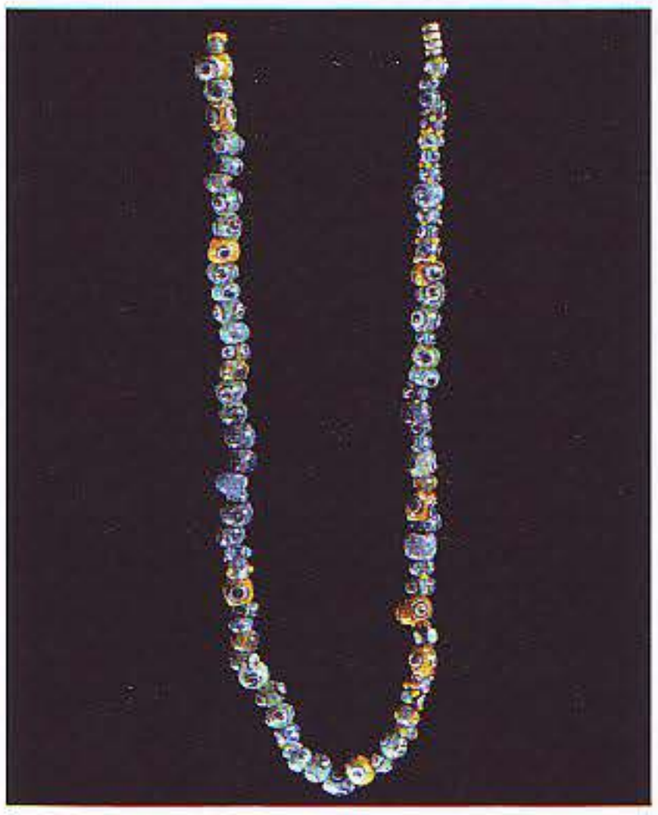


**233. Staklena ogrlica načinjena od 549 plavih, 157 žutih i 136 bijelih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- staklo, pr. 0,3–0,7 cm
- DM, inv. P 2498

***233. Glass necklace of 549 blue, 157 yellow and 136 white glass beads***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- glass, diam. 0.3–0.7 cm
- DM, invt. P 2498



**234. Staklena ogrlica načinjena od 80 raznobojnih staklenih zrna s okcima i izbočinama te 4 koštana zrna**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- staklo, kost, pr. 0,3–0,7 cm
- DM, inv. P 2498

**234.** ***Necklace of 80 multicoloured and protrusions glass beads with »eyes« and 4 bone beads***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- glass, bone, diam. 0.3–0.7 cm
- DM, invt. P 2498

**235. Deset oštećenih staklenih ovnovih glavica**

- Novo mesto, Kapiteljska njiva, grob V/35
- 5.–4. st. pr. n. e.
- staklo, duž. 0,8–1 cm
- DM, inv. P 2498

**235.** ***Ten damaged glass ram heads***

- Novo mesto, Kapiteljska njiva, grave V/35
- 5th to 4th century BC
- glass, length 0.8–1.0 cm
- DM, invt. P 2498

**236. Staklena ogrlica načinjena od 46 plavih staklenih zrna i dva zrna s valovnicom**

- Novo mesto, Kapiteljska njiva, grob I/5
- 5.–4. st. pr. n. e.
- staklo, pr. 0,3–1,7 cm
- DM, inv. P 1369

**236.** ***Glass necklaces of 46 blue glass beads and two beads with a wavy decoration***

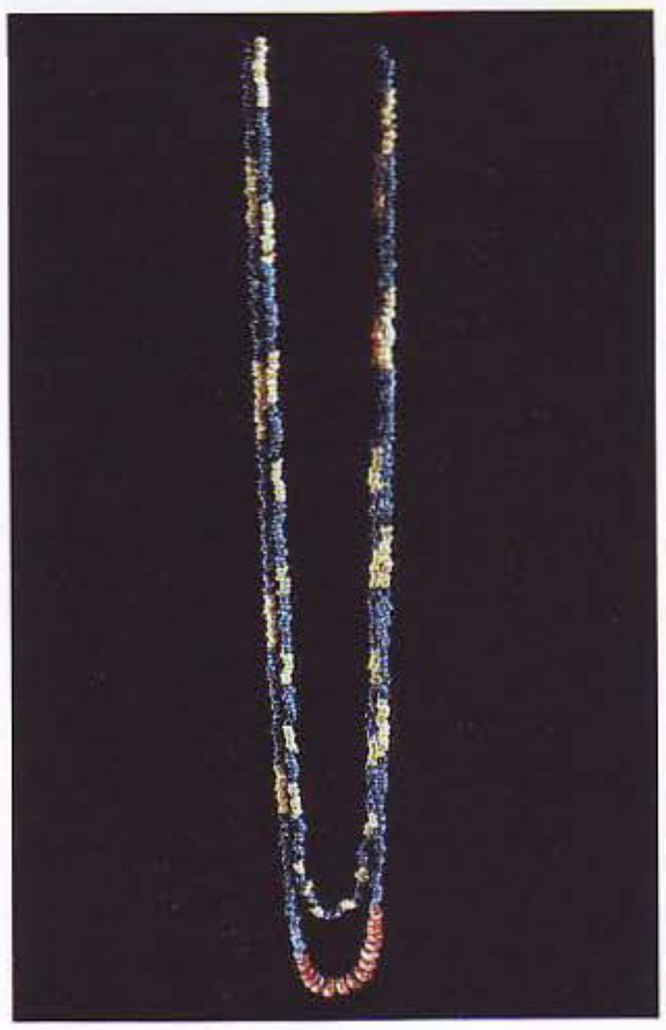
- Novo mesto, Kapiteljska njiva, grave I/5
- 5th to 4th century BC
- glass, diam. 0.3–1.7 cm
- DM, invt. P 1369

**237. Jantarna ogrlica načinjena od 49 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob I/19
- 6.–5. st. pr. n. e.
- jantar, pr. 0,7–1,1 cm
- DM, inv. P 1412

**237.** ***Amber necklace of 49 amber beads***

- Novo mesto, Kapiteljska njiva, grave I/19
- 6th to 5th century BC
- amber diam. 0.7–1.1 cm
- DM, invt. P 1412



**238. Ogrlica načinjena od 252 bijelih, 566 plavih te 21 žutih staklenih zrna i 19 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob I/23
- 7.–6. st. pr. n. e.
- staklo, jantar, pr. 0,35–0,85 cm
- DM, inv. P 1418

**238.** ***Necklace made of 252 white, 566 blue and 21 yellow glass beads and 19 amber beads***

- Novo mesto, Kapiteljska njiva, grave I/23
- 7th to 6th century BC
- glass, amber, diam. 0.35–0.86 cm
- DM, invt. P 1418

**239. Ogrlica načinjena od 16 jantarnih, 1 žutog staklenog i 28 koštanih zrna**

- Novo mesto, Kapiteljska njiva, grob I/26
- 6. st. pr. n. e.
- jantar, kost, staklo, pr. 0,2–0,9 cm
- DM, inv. P 1425

**239.** ***Necklace of 16 amber, 1 yellow glass and 28 bone beads***

- Novo mesto, Kapiteljska njiva, grave I/26
- 6th century BC
- amber, bone, glass, diam. 0.2–0.9 cm
- DM, invt. P 1425

**240. Staklena ogrlica načinjena od 48 plavih, 50 bijelih, 44 crna i 16 žutih staklenih zrna s plavim okcima**

- Novo mesto, Kapiteljska njiva, grob I/27
- 5.–4. st. pr. n. e.
- staklo, pr. 0,3–0,9 cm
- DM, inv. P 1432

***240. Glass necklace of 48 blue, 50 white, 44 black and 16 yellow glass beads with blue »eyes«***

- Novo mesto, Kapiteljska njiva, grave I/27
- 5th to 4th century BC
- glass, diam. 0.3–0.9 cm
- DM, invt. P 1432

**241. Jantarna ogrlica načinjena od 57 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob I/29
- 5.–4. st. pr. n. e.
- jantar, pr. 0,6–1,4 cm
- DM, inv. P 1446

***241. Amber necklace of 57 amber beads***

- Novo mesto, Kapiteljska njiva, grave I/29
- 5th to 4th century BC
- amber, diam. 0.6–1.4 cm
- DM, invt. P 1446

**242. Ogrlica načinjena od 13 jantarnih i 9 raznobojnih staklenih zrna s okcima i izbočinama**

- Novo mesto, Kapiteljska njiva, grob I/30
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,35–1,45 cm
- DM, inv. P 1452

***242. Necklace of 13 amber and 9 multicoloured glass beads with »eyes« and protrusions***

- Novo mesto, Kapiteljska njiva, grave I/30
- 5th to 4th century BC
- glass, amber, diam. 0.35–1.45 cm
- DM, invt. P 1452

**243. Ogrlica od 2 jantarna i 10 crnih, 1 zelenog, 8 bijelih i 76 plavih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob I/37
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,2–1,6 cm
- DM, inv. P 1477

***243. Necklace of 2 amber and 10 black, 1 green, 8 white and 76 blue glass beads***

- Novo mesto, Kapiteljska njiva, grave I/37
- 5th to 4th century BC
- glass, amber, diam. 0.2–1.6 cm
- DM, invt. P 1477

**244. Tri raznobojna staklena zrna s okcima i izbočinama**

- Novo mesto, Kapiteljska njiva, grob I/63
- 5.–4. st. p. n. e.
- staklo, pr. 0,9–1,5 cm
- DM, inv. P 3709

*244. Three multicoloured glass beads with »eyes« and protrusions*

- Novo mesto, Kapiteljska njiva, grave I/63
- 5th to 4th century BC
- glass, diam. 0.9–1.5 cm
- DM, invt. P 3709

**245. Jantarna ogrlica načinjena od 66 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob I/66
- 4. st. pr. n. e.
- jantar, pr. 0,6–1,6 cm
- DM, inv. P 3698

*245. Amber necklace of 66 amber beads*

- Novo mesto, Kapiteljska njiva, grave I/66
- 4th century BC
- amber, diam. 0.6–1.6 cm
- DM, invt. P 3698

**246. Ogrlica načinjena od 3 jantarna, 138 plava, 3 žuta i 74 bijela staklena zrna**

- Novo mesto, Kapiteljska njiva, tumul 1/nalaz 2
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,3–1,1 cm
- DM, inv. P 1515

*246. Necklace of 3 amber, 138 blue, 3 yellow and 74 white glass beads*

- Novo mesto, Kapiteljska njiva, grave mound 1/ find 2
- 5th to 4th century BC
- glass, amber, diam. 0.3–1.1 cm
- DM, invt. P 1515

**247. Ogrlica načinjena od 8 jantarnih i 78 raznobojnih staklenih zrna s okcima**

- Novo mesto, Kapiteljska njiva, grob III/11
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,4–1,3 cm
- DM, inv. P 2155

*247. Necklace of 8 amber and 78 multicoloured glass beads with »eyes«*

- Novo mesto, Kapiteljska njiva, grave III/11
- 5th to 4th century BC
- glass, amber, diam. 0.4–1.3 cm
- DM, invt. P 2155

**248. Jantarna ogrlica načinjena od 41 cijelog i 17 zdrobljenih jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob III/19
- 5.–4. st. pr. n. e.
- jantar, pr. 0,9–1,8 cm
- DM, inv. P 2202

*248. Amber necklace of 41 whole and 17 crushed amber beads*

- Novo mesto, Kapiteljska njiva, grave III/19
- 5th to 4th century BC
- amber, diam. 0.9–1.8 cm
- DM, invt. P 2202

**249. Ogrlica načinjena od 13 jantarnih, 98 raznobojnih staklenih i 4 koštana zrna**

- Novo mesto, Kapiteljska njiva, grob III/20
- 5.–4. st. pr. n. e.
- staklo, jantar, kost, pr. 0,3–0,4 cm
- DM, inv. P 2208

*249. Necklace made of 13 amber, 98 multicoloured glass and 4 bone beads*

- Novo mesto, Kapiteljska njiva, grave III/20
- 5th to 4th century BC
- glass, amber, bone, diam. 0.3–0.4 cm
- DM, invt. P 2208

**250. Ogrlica načinjena od 1 jantarnog i 15 raznobojnih staklenih zrna (7 s okcima)**

- Novo mesto, Kapiteljska njiva, grob III/23
- 6.–5. st. pr. n. e.
- staklo, jantar, pr. 0,8–1,2 cm
- DM, inv. P 2230

*250. Necklace made of 1 amber and 15 multicoloured glass beads (7 with »eyes«)*

- Novo mesto, Kapiteljska njiva, grave III/23
- 6th to 5th century BC
- glass, amber, diam. 0.8–1.2 cm
- DM, invt. P 2230

**251. Ogrlica načinjena od 8 jantarnih, 19 raznobojnih staklenih zrna (10 s okcima i 1 staklene ovnove glave**

- Novo mesto, Kapiteljska njiva, grob III/49
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,5–1,4 cm
- DM, inv. P 2315, 2316

*251. Necklace made of 8 amber, 19 multicoloured glass beads (10 with »eyes«) and 1 glass ram head*

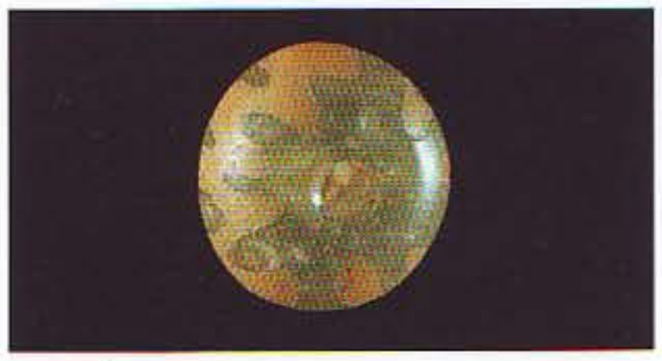
- Novo mesto, Kapiteljska njiva, grave III/49
- 5th to 4th century BC
- glass, amber, diam. 0.5–1.4 cm
- DM, invt. P 2315, 2316

**252. Staklena ogrlica načinjena od 125 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob III/53
- 5.–4. st. pr. n. e.
- staklo, pr. 0,3–1,25 cm
- DM, inv. P 2323

*252. Glass necklace of 125 multicoloured glass beads*

- Novo mesto, Kapiteljska njiva, grave III/53
- 5th to 4th century BC
- glass, diam. 0.3–1.25 cm
- DM, invt. P 2323



**253. Žutozeleno stakleno zrno s valovnicom**

- Novo mesto, Kapiteljska njiva, tumul III/mjestimično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,5 cm
- DM, inv. P 2330

*253. Yellow-green glass bead with a wavy design*

- Novo mesto, Kapiteljska njiva, grave mound III/ sporadically
- 5th to 4th century BC
- glass, diam. 1.5 cm
- DM, invt. P 2330

**254. Tamnoplavo stakleno zrno s valovnicom**

- Novo mesto, Kapiteljska njiva, tumul III/mjestimično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,4 cm
- DM, inv. P 2331

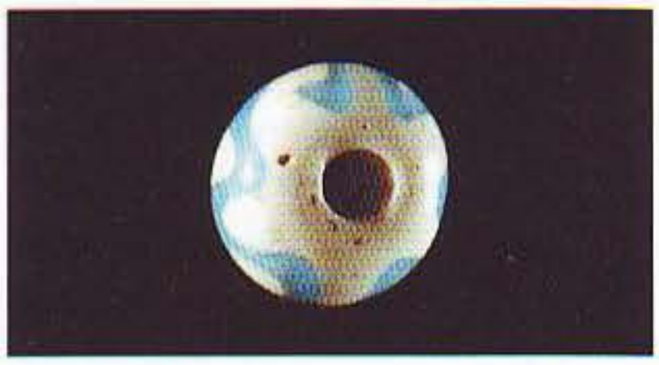
*254. Dark blue glass bead with a wavy design*

- Novo mesto, Kapiteljska njiva, grave mound III/ sporadically
- 5th to 4th century BC
- glass, diam. 1.4 cm
- DM, invt. P 2331

**255. Zeleno stakleno zrno**

- Novo mesto, Kapiteljska njiva, tumul III/mjestimično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,8 cm
- DM, inv. P 2333

255. *Green glass bead*
- Novo mesto, Kapiteljska njiva, grave mound III/ sporadically
- 5th to 4th century BC
- glass, diam. 1.8 cm
- DM, invt. P 2333



**256. Bijelo stakleno zrno s valovnicom**
- Novo mesto, Kapiteljska njiva, tumul III/mjestimično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,3 cm
- DM, inv. P 2334

256. *White glass bead with a wavy design*
- Novo mesto, Kapiteljska njiva, grave mound III/ sporadically
- 5th to 4th century BC
- glass, diam. 1.3 cm
- DM, invt. P 2334

**257. Svijetložuto stakleno zrno s valovnicom**
- Novo mesto, Kapiteljska njiva, tumul III/mjestimično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,3 cm
- DM, inv. P 2339

257. *Light yellow glass bead with a wavy design*
- Novo mesto, Kapiteljska njiva, grave mound III/sporadically
- 5th to 4th century BC
- glass, diam. 1.3 cm
- DM, invt. P 2339

**258. Ogrlica načinjena od 10 jantarnih i 23 raznobojna staklena zrna s okcima i izbočinama**
- Novo mesto, Kapiteljska njiva, grob IV/2
- 7.–6. st. pr. n. e.
- staklo, jantar pr.0,6–0,8 cm
- DM, inv. P 2383

258. *Necklace of 10 amber and 23 multicoloured glass beads with »eyes« and protrusions*
- Novo mesto, Kapiteljska njiva, grave IV/2
- 7th to 6th century BC
- glass, amber, dia. 0.6–0.8 cm
- DM, invt. P 2383

**259. Zeleno stakleno zrno s okcima i izbočinama**
- Novo mesto, Kapiteljska njiva, tumul IV/sporadično
- 5.–4. st. pr. n. e.
- staklo, pr. 1,1 cm
- DM, inv. 2385

259. *Green glass bead with »eyes« and protrusions*
- Novo mesto, Kapiteljska njiva, grave mound IV/sporadically
- 5th to 4th century BC
- glass, diam. 1.1 cm
- DM, invt. 2385

**260. Ogrlica načinjena od 5 jantarnih i 13 raznobojnih staklenih zrna s okcima**
- Novo mesto, Kapiteljska njiva, grob V/5
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,3–0,7 cm
- DM, inv. P 2406

260. *Necklace of 5 amber and 13 multicoloured glass beads with »eyes«*
- Novo mesto, Kapiteljska njiva, grave V/5
- 5th to 4th century BC
- glass, amber, diam. 0.3–0.7 cm
- DM, invt. P 2406

**261. Ogrlica načinjena od 17 jantarnih i 38 raznobojnih staklenih zrna**
- Novo mesto, Kapiteljska njiva, grob V/8
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,4–1,3 cm
- DM, inv. P 2415

261. *Necklace made of 17 amber and 38 multicoloured glass beads*
- Novo mesto, Kapiteljska njiva, grave V/8
- 5th to 4th century BC
- glass, amber, diam. 0.4–1.3 cm
- DM, invt. P 2415

**262. Plavo stakleno zrno s okcima i izbočinama**

- Novo mesto, Kapiteljska njiva, grob V/11
- 4. st. pr. n. e.
- staklo, pr. 1,2 cm
- DM, inv. P 2424

***262. Blue glass bead with »eyes« and protrusions***

- Novo mesto, Kapiteljska njiva, grave V/11
- 4th century BC
- glasss, diam. 1.2 cm
- DM, invt. P 2424

**264. Ogrlica načinjena od 2 jantarna i 15 staklenih zrna (6 s okcima)**

- Novo mesto, Kapiteljska njiva, grob V/30
- 6.–5. st. pr. n. e.
- staklo, jantar, pr. 0,4–1,0 cm
- DM, inv. P 2478

***264. Necklace of 2 amber and 15 glass beads (6 with »eyes«)***

- Novo mesto, Kapiteljska njiva, grave V/30
- 6th to 5th century BC
- glass, amber, diam. 0.4–1.5 cm
- DM, invt. P 2522

**266. Ogrlica načinjena od 14 cijelih i 4 oštećena jantarna zrna te 8 raznobojnih staklenih zrna (3 s okcima)**

- Novo mesto, Kapiteljska njiva, grob V/63
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,4–0,9 cm
- DM, inv. P 2571

***266. Necklace of 14 whole and 4 damaged amber beads and 8 multicoloured glass beads (3 with »eyes«)***

- Novo mesto, Kapiteljska njiva, grave V/63
- 5th to 4th century BC
- glass, amber, diam. 0.4–0.9 cm
- DM, invt. P 2571

**263. Ogrlica načinjena od 39 cijelih i 8 oštećenih jantarnih i 7 tirkiznih te 12 tamnoplavih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob V/21
- 6.–4. st. pr. n. e.
- staklo, jantar, pr. 0,3–0,9 cm
- DM, inv. P 2451

***263. Necklace of 39 whole and 8 damaged amber and 7 turquoise and 12 dark blue glass beads***

- Novo mesto, Kapiteljska njiva, grave V/21
- 6th to 4th century BC
- glass, amber, diam. 0.3–0.9 cm
- DM, invt. P 2451

**265. Staklena ogrlica načinjena od 11 plavih i 3 svijetloplava staklena zrna s okcima**

- Novo mesto, Kapiteljska njiva, grob V/46
- 6.–5. st. pr. n. e.
- staklo, pr. 0,7–1,5 cm
- DM, inv. P 2522

***265. Glass necklace of 11 blue and 3 light blue glass beads with »eyes«***

- Novo mesto, Kapiteljska njiva, grave V/46
- 6th to 5th century BC
- glass, diam. 0.7–1.5 cm
- DM, invt. P 2571

**267. Staklena ogrlica načinjena od 14 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob V/72
- 5.–4. st. pr. n. e.
- staklo, pr. 0,85–1,4 cm
- DM, inv. P 2586

***267. Glass necklace made of 14 multicoloured glass beads***

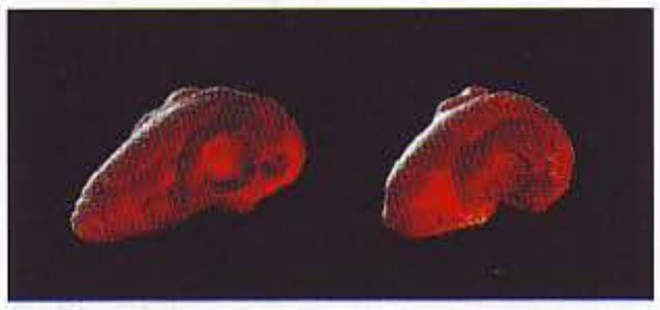
- Novo mesto, Kapiteljska njiva, grave V/72
- 5th to 4th century BC
- glass, diam. 0.86–1.4 cm
- DM, invt. P 2586

**268. Jantarna ogrlica načinjena od 19 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob VI/3
- 5.–4. st. pr. n. e.
- jantar, pr. 0,9–1,5 cm
- DM, inv. P 2659

*268. Amber necklace of 19 amber beads*

- Novo mesto, Kapiteljska njiva, grave VI/3
- 5th to 4th century BC
- amber, diam. 0.9–1.5 cm
- DM, invt. P 2659



**269. Dva jantarna zrna u obliku ovnovih glava**

- Novo mesto, Kapiteljska njiva, grob VI/4
- 4. st. pr. n. e.
- jantar, duž. 1,0–1,2 cm
- DM, inv. P 2665

*269. Two amber beads in the shape of ram's heads*

- Novo mesto, Kapiteljska njiva, grave VI/4
- 4th century BC
- amber, length 1.0–1.2 cm
- DM, invt. P 2665

**270. Ogrlica sastavljena od 18 jantarnih i 11 staklenih zrna (4 s okcima)**

- Novo mesto, Kapiteljska njiva, grob VI/4
- 5.–4. st. pr. n. e.
- jantar, staklo, pr. 0,4–1,0 cm
- DM, inv. P 2665

*270. Necklace made of 18 amber and 11 glass beads (4 with »eyes«)*

- Novo mesto, Kapiteljska njiva, grave VI/4
- 5th to 4th century BC
- amber, glass, diam. 0.4–1.0 cm
- DM, invt. P 2665

**271. Jantarna ogrlica načinjena od 43 cijela i 4 oštećena jantarna zrna**

- Novo mesto, Kapiteljska njiva, grob VI/12
- 4. st. pr. n. e.
- jantar, pr. 0,7–1,5 cm
- DM, inv. P 2683

*271. Amber necklace of 43 whole and 4 damaged amber beads*

- Novo mesto, Kapiteljska njiva, grave VI/12
- 4th century BC
- amber, diam 0.7–1.5 cm
- DM, invt. P 2683

**272. Ogrlica načinjena od 1 jantarnog i 6 raznobojnih staklenih zrna te 3 košarasta staklena zrna**

- Novo mesto, Kapiteljska njiva, grob VI/14
- 5.–4. st. pr. n. e.
- jantar, staklo, pr. 0,8–1,3 cm
- DM, inv. P 2690

*272. Necklace of 1 amber and 6 multicoloured glass beads and 3 basket shaped glass beads*

- Novo mesto, Kapiteljska njiva, grave VI/14
- 5th to 4th century BC
- amber, glass, diam. 0.8–1.3 cm
- DM, invt. P 2690

**273. Ogrlica načinjena od 28 jantarnih, 126 raznobojnih staklenih zrna s izraslinama i okcima, neke su sa željeznim omčama te veća staklena (oštećena) ovnova glava**

- Novo mesto, Kapiteljska njiva, grob VI/16
- 5.–4. st. pr. n. e.
- jantar, staklo, pr. 0,4–1,0 cm
- DM, inv. P 2704, 2705

273. *Necklace made of 28 amber, 126 multicoloured glass beads with protrusions and »eyes«, some with iron loops and a large (damaged) ram head*

- Novo mesto, Kapiteljska njiva, grave VI/16
- 5th to 4th century BC
- amber, glass, diam. 0.4–1.0 cm
- DM, invt. P 2704, 2705

**274. Staklena ogrlica načinjena od 73 plava, 6 žutih i 4 bijela staklena zrna**

- Novo mesto, Kapiteljska njiva, grob VI/18
- 6.–5. stoljeće pr. n. e.
- staklo, pr. 0,4 cm
- DM, inv. P 2709

274. *Glass necklace of 73 blue, 6 yellow and 4 white glass beads*

- Novo mesto, Kapiteljska njiva, grave VI/18
- 6th to 5th century BC
- glass, diam. 0.4 cm
- DM, invt. P 2709

**275. Ogrlica sa zlatnim prstenom načinjena od 97 koštanih, 928 raznobojnih staklenih i 112 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob VI/22
- 5. st. pr. n. e.
- jantar, staklo, kost, zlato, pr. 0,4–1,5 cm
- pr. zlatnog prstena 0,7 cm
- DM, inv. P 2715

275. *Necklace with a golden ring made of 97 bone, 928 multicoloured glass and 112 amber beads*

- Novo mesto, Kapiteljska njiva, grave VI/22
- 5th century BC
- amber, glass, bone, gold, diam. 0.4–1.5 cm
- diam. of the golden ring 0.7 cm
- DM, invt. P 2715

**276. Jantarna ogrlica načinjena od 19 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob VI/25
- 5.–4. st. pr. n. e.
- jantar, pr. 0,7–2,0 cm
- DM, inv. P 2720

276. *Amber necklace of 19 amber beads*

- Novo mesto, Kapiteljska njiva, grave VI/25
- 5th to 4th century BC
- amber, diam. 0.7–2.0 cm
- DM, invt. P 2720

**277. Ogrlica načinjena od 14 cijelih i 1 oštećenog jantarnog zrna, 42 raznobojna staklena zrna s okcima i izbočinama**

- Novo mesto, Kapiteljska njiva, grob VI/26
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,3–0,9 cm
- DM, inv. P 2727

277. *Necklace of 14 whole and 1 damaged amber beads, 42 multicoloured glass beads with »eyes« and protrusions*

- Novo mesto, Kapiteljska njiva, grave VI/26
- 5th to 4th century BC
- glass, amber, diam. 0.3–0.9 cm
- DM, invt. P 2727

**278. Sedam staklenih zrna u obliku ovnovih glava**

- Novo mesto, Kapiteljska njiva, grob VI/26
- 5.–4. st. pr. n. e.
- staklo, duž. 1,7 cm
- DM, inv. P 2728

***278. Seven glass beads in the shape of ram heads***

- Novo mesto, Kapiteljska njiva, grave VI/26
- 5th to 4th century BC
- glass, length 1.7 cm
- DM, invt. P 2742

**280. Ogrlica načinjena od 6 staklenih, 8 koštanih i 1 jantarnog zrna**

- Novo mesto, Kapiteljska njiva, grob VI/43
- 6.–5. st. pr. n. e.
- staklo, jantar, kost, pr. 0,2–2,1 cm
- DM, inv. P 3708

***280. Necklace of 6 glass and 1 amber 8 bone beads***

- Novo mesto, Kapiteljska njiva, grave VI/43
- 6th to 5th century BC
- glass, amber, bone, diam. 0.2–2.1 cm
- DM, invt. P 3708

**282. Jantarna ogrlica načinjena od 77 cijelih i 4 zdrobljena jantarna zrna**

- Novo mesto, Kapiteljska njiva, grob VII/20
- 5. st. pr. n. e.
- jantar, pr. 0,7–0,9 cm
- DM, inv. P 2803

***282. Amber necklace of 77 whole and 4 crushed amber beads***

- Novo mesto, Kapiteljska njiva, grave VII/20
- 5th century BC
- amber, diam. 0.7–0.9 cm
- DM, invt. P 2803

**279. Ogrlica načinjena od 4 jantarna zrna i 24 raznobojna staklena zrna**

- Novo mesto, Kapiteljska njiva, grob VI/32
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,4–1,3 cm
- DM, inv. P 2742

***279. Necklace of 4 amber and 24 multicoloured glass beads***

- Novo mesto, Kapiteljska njiva, grave VI/32
- 5th to 4th century BC
- glass, amber, diam. 0.4–1.3 cm
- DM, invt. P 2742

**281. Dva jantarna zrna s dvije pačje glave i žuto stakleno zrno s plavobijelim okcima**

- Novo mesto, Kapiteljska njiva, grob VI/44
- 4. st. pr. n. e.
- staklo, jantar, pr. 1,6 cm
- DM, inv. P 2762

***281. Two amber beads each with two duck's heads and a yellow glass bead with blue-white »eyes«***

- Novo mesto, Kapiteljska njiva, grave VI/44
- 4th century BC
- glass, amber, diam. 1.6 cm
- DM, invt. P 2762

**283. Ogrlica načinjena od 34 plava staklena i 19 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob VII/23
- 5. st. pr. n. e.
- staklo, jantar, pr. 0,4–0,7 cm
- DM, inv. P 2807

283. *Necklace of 34 blue glass and 19 amber beads*

- Novo mesto, Kapiteljska njiva, grave VII/23
- 5th century BC
- glass, amber, diam. 0.4–0.7 cm
- DM, invt. P 2807

**284. Ogrlica načinjena od 28 staklenih (boja?) i 14 jantarnih zrna**

- Novo mesto, Kapiteljska njiva, grob VII/23
- 5. st. pr. n. e.
- staklo, jantar, pr. 0,4–1,7 cm
- DM, inv. P 2808

284. *Necklace of 28 glass and 14 amber beads*

- Novo mesto, Kapiteljska njiva, grave VII/23
- 5th century BC
- glass, amber, diam. 0.4–1.7 cm
- DM, invt. P 2808

**285. Staklena ogrlica načinjena od 37 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob VII/27
- 6.–5. st. pr. n. e.
- staklo, pr. 0,4–1,5 cm
- DM, inv. P 2827

285. *Glass necklace of 37 multicoloured glass beads*

- Novo mesto, Kapiteljska njiva, grave VII/27
- 6th to 5th century BC
- glass, diam. 0.4–1.5 cm
- DM, invt. P 2827

**286. Ogrlica načinjena od 2 jantarna i 7 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob VII/28
- 5.–4. st. pr. n. e.
- staklo, jantar, pr. 0,7–1,7 cm
- DM, inv. P 2830

286. *Necklace of 2 amber and 7 multicoloured glass beads*

- Novo mesto, Kapiteljska njiva, grave VII/28
- 5th to 4th century BC
- glass, length 1.45 cm
- DM, invt. P 2831

**287. Šest staklenih zrna u obliku ovnovih glava**

- Novo mesto, Kapiteljska njiva, grob VII/28
- 5.–4. st. pr. n. e.
- staklo, duž. 1,45 cm
- DM, inv. P 2831

287. *Six glass beads in the shape of ram's head*

- Novo mesto, Kapiteljska njiva, grave VII/28
- 5th to 4th century BC
- glass, length 1.45 cm
- DM, invt. P 2831

**288. Ogrlica načinjena od 2 jantarna i 9 raznobojnih staklenih zrna s izbočinama i okcima**

- Novo mesto, Kapiteljska njiva, grob VII/37
- 4. st. pr. n. e.
- staklo, jantar, pr. 0,5–1,7 cm
- DM, inv. P 2850

288. *Necklace of 2 amber and 9 multicoloured glass beads with protrusions and »eyes«*

- Novo mesto, Kapiteljska njiva, grave VII/37
- 4th century BC
- glass, amber, diam. 0.5–1.7 cm
- DM, invt. P 2850

**289. Staklena ogrlica načinjena od 45 staklenih zrna i 1 staklenog zrna u obliku ovnove glave**

- Novo mesto, Kapiteljska njiva, grob VIII/2
- 5.–4. st. pr. n. e.
- staklo, pr. 0,4–0,95 cm
- DM, inv. P 2859

289. *Glass necklace of 45 glass beads and 1 glass bead in the shape of a ram head*
- Novo mesto, Kapiteljska njiva, grave VIII/2
- 5th to 4th century BC
- glass, diam. 0.4–1.5 cm
- DM, invt. P 2859

**290. Jantarna ogrlica načinjena od 59 jantarnih zrna**
- Novo mesto, Kapiteljska njiva, grob VIII/8
- 6.–5. st. pr. n. e.
- jantar, pr. 0,4–1,5 cm
- DM, inv. P 3697

290. *Amber necklace of 59 amber beads*
- Novo mesto, Kapiteljska njiva, grave VIII/8
- 6th to 5th century BC
- amber, diam. 0.4–1.5 cm
- DM, invt. P 3697

**291. Ogrlica načinjena od 21 raznobojnih staklenih zrna i 7 jantarnih zrna**
- Novo mesto, Kapiteljska njiva, grob IX/73
- 4. st. pr. n. e.
- staklo, jantar, pr. 0,5–1,7 cm
- DM, inv. P 3700

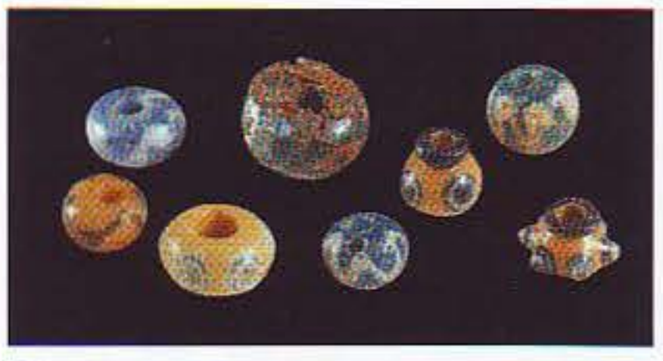
291. *Necklace of 21 multicoloured glass beads and 7 amber beads*
- Novo mesto, Kapiteljska njiva, grave IX/73
- 4th century BC
- glass, amber, diam. 0.5–1.7 cm
- DM, invt. P 3700

**292. Tamnosmeđe stakleno zrno sa žutim krugovima i točkama**
- Novo mesto, Kapiteljska njiva, grob IX/92
- 7.–6. st. pr. n. e.
- staklo, pr. 2,9 cm
- DM, inv. P 3699

292. *Dark brown glass bead with yellow circles and dots*
- Novo mesto, Kapiteljska njiva, grave IX/92
- 7th to 6th century BC
- glass, diam. 2.9 cm
- DM, invt. P 3699

**293. Tri raznobojna staklena zrna**
- Novo mesto, Kapiteljska njiva, grob X/17
- 6.–5. st. pr. n. e.
- staklo, pr. 0,4–0, 9 cm
- DM, inv. P 3704

293. *Three multicoloured glass beads*
- Novo mesto, Kapiteljska njiva, grave IX/17
- 6th to 5th century BC
- glass, diam. 0.4–0.9 cm
- DM, invt. P 3704



**294. Devet raznobojnih staklenih zrna**
- Novo mesto, Kapiteljska njiva, grob X/31
- 5.–4. st. pr. n. e.
- staklo, pr. 1,2–1,9 cm
- DM, inv. P 3701

294. *Nine multicoloured glass beads*
- Novo mesto, Kapiteljska njiva, grave X/31
- 5th to 4th century BC
- glass, diam. 1.2–1.9 cm
- DM, invt. P 3701

**295. Dvanaest različitih staklenih zrna**
- Novo mesto, Kapiteljska njiva, grob XII/nalaz 4
- 6.–5. st. pr. n. e.
- staklo, pr. 0,9–1, 5 cm
- DM, inv. P 3705

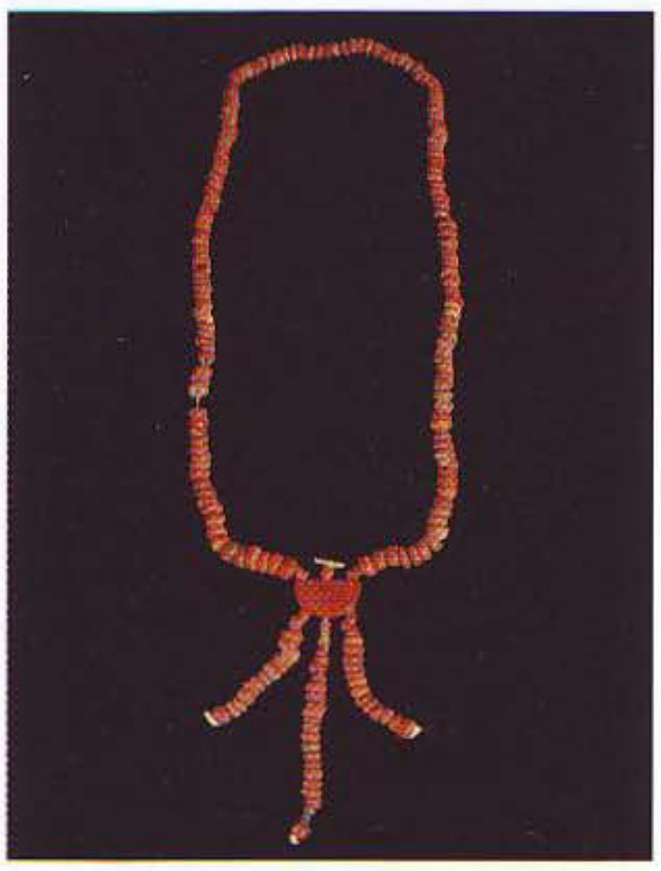
295. *Twelve varied glass beads*
- Novo mesto, Kapiteljska njiva, grave XII/ find 4
- 6th to 5th century BC
- glass, diam. 0.9–1.5 cm
- DM, invt. P 3705

**296. Ogrlica načinjena od 200 jantarnih i 5 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, tumul A/2/99
- 7.–6. st. pr. n. e.
- staklo, jantar, pr. 0,2–1, 4 cm
- DM, inv. P 3696

*296. Necklace of 200 amber and 5 multicoloured glass beads*

- Novo mesto, Kapiteljska njiva, grave mound A/2/99
- 7th to 6th century BC
- glass, amber, diam. 0.2–1.4 cm
- DM, invt. P 3696



**297. Ogrlica načinjena od 210 jantarnih zrna, 2 staklena i jantarnog razdjelnika**

- Novo mesto, Kapiteljska njiva, grob 11
- 2. st. pr. n. e.
- jantar, staklo, pr. 0,65–1, 6 cm
- DM, inv. P 1100

*297. Necklace of 210 amber beads, 2 glass beads and an amber spaced-bead*

- Novo mesto, Kapiteljska njiva, grave 11
- 2nd century BC
- amber, glass, diam. 0.65–1.6 cm
- DM, invt. P 1100

**298. Zelenoplava staklena narukvica**

- Novo mesto, Kapiteljska njiva, grob 11
- 2. st. pr. n. e.
- staklo, pr. 9,5 cm, deb. 1,6 cm
- DM, inv. P 1101

*298. Green-blue glass bracelet*

- Novo mesto, Kapiteljska njiva, grave 11
- 2nd century BC
- glass, diam. 9.5 cm, thickness 1.6 cm
- DM, invt. P 1101

**299. Tamnoplava staklena narukvica**

- Novo mesto, Kapiteljska njiva, grob 15
- 2. st. pr. n. e.
- staklo, pr. 8 cm, šir. 1,2 cm
- DM, inv. P 1119

*299. Dark blue glass bracelet*

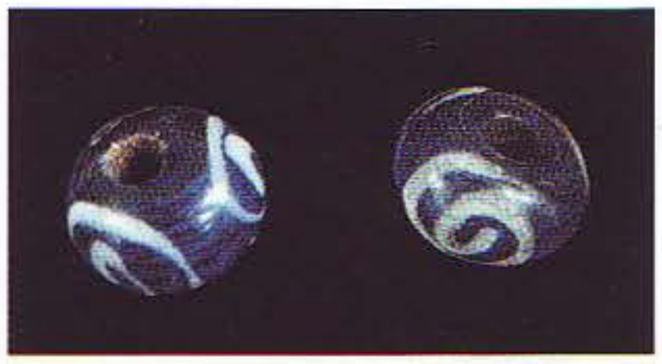
- Novo mesto, Kapiteljska njiva, grave 15
- 2nd century BC
- glass, diam. 8 cm, width 1.2 cm
- DM, invt. P 1119

**300. Stakleni prsten, djelomično rastaljen**

- Novo mesto, Kapiteljska njiva, grob 110
- 2. st. pr. n. e.
- staklo, pr. 2,2 cm
- DM, inv. P 3388

*300. Glass ring, partly melted*

- Novo mesto, Kapiteljska njiva, grave 110
- 2nd century BC
- glass, diam. 2.2 cm
- DM, invt. P 3388



**301. Dva plava staklena zrna s bijelom valovnicom**

- Novo mesto, Kapiteljska njiva, grob 334
- 3.–2. st. pr. n. e.
- staklo, pr. 1,4 cm
- DM, inv. P 3432

*301. Two blue glass beads with a white wavy design*

- Novo mesto, Kapiteljska njiva, grave 334
- 3rd to 2nd century BC
- glass, diam 1.4 cm
- DM, invt. P 3432

**302. Žuto stakleno zrno s plavobijelim okcima**

- Novo mesto, Kapiteljska njiva, grob 337
- 3–2. st. pr. n. e.
- staklo, pr. 2,2 cm
- DM, inv. P 3232

**302.** ***Yellow glass beads with blue-white »eyes«***

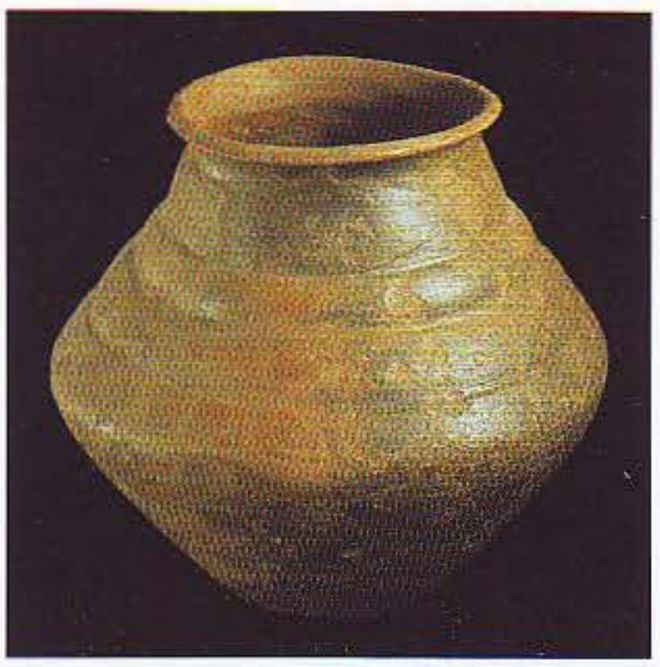
- Novo mesto, Kapiteljska njiva, grave 337
- 3rd to 2nd century BC
- glass, diam. 2.2 cm
- DM, invt. P 3232

**305. Staklena ogrlica načinjena od 40 raznobojnih staklenih zrna**

- Novo mesto, Kapiteljska njiva, grob 491
- 3. st. pr. n. e.
- staklo, pr. 0,5–1,4 cm
- DM, inv. P 3466

**305.** ***Glass necklace of 40 multicoloured glass beads***

- Novo mesto, Kapiteljska njiva, grave 491
- 3rd century BC
- glass, diam. 0.5–1.4 cm
- DM, invt. P 3466



**307. Glinena posuda, napravljena na lončarskom kolu**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- keramika, vis. 26,1 cm, pr. 29,1 cm
- DM, inv. P 3294

**307.** ***Pottery vessel, made on the potter's wheel***

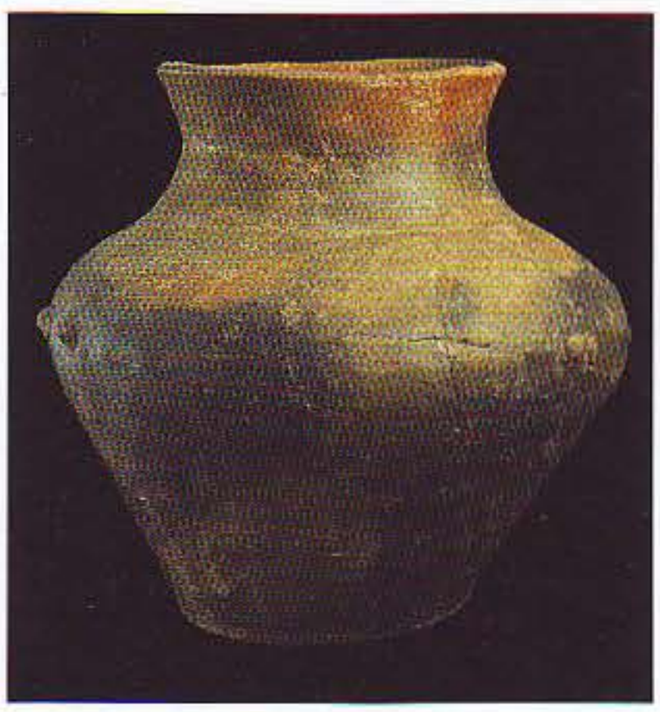
- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- pottery, height 26.1 cm, diam 29.1 cm
- DM, invt. P 3294

**303. Ogrlica načinjena od 40 jantarnih i 1 staklenog zrna**

- Novo mesto, Kapiteljska njiva, grob 429
- 3.–2. st. pr. n. e.
- jantar, staklo, pr. 0,7–1,8 cm
- DM, inv. P 3441

**303.** ***Necklace of 40 amber beads and 1 glass bead***

- Novo mesto, Kapiteljska njiva, grave 429
- 3rd to 2nd century BC
- amber, glass, diam. 0.7–1.8 cm
- DM, invt. P 3441

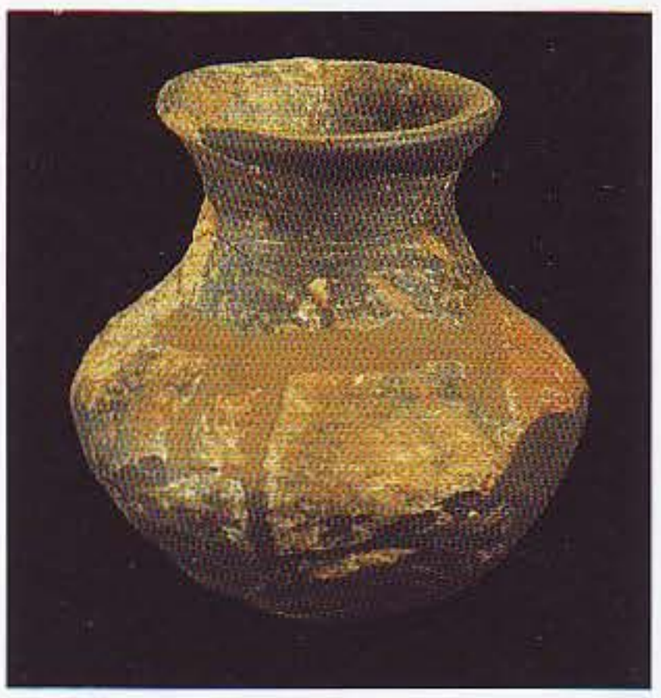


**306. Glinena posuda**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- keramika, vis. 26,2 cm, pr. 27,7 cm
- DM, inv. P 3293

**306.** ***Pottery vessel***

- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- pottery, height 26.2 cm, diam. 27.7 cm
- DM, invt. P 3293



**308. Glinena posuda, napravljena na lončarskom kolu**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- keramika, vis. 8,2 cm, pr. 8,4 cm
- DM, inv. P 3295

**308.** ***Pottery vessel, made on the potter's wheel***

- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- pottery, height 8.2 cm, diam. 8.4 cm
- DM, invt. P 3295

**304. Plavo stakleno zrno**

- Novo mesto, Kapiteljska njiva, grob 471
- 3–2. st. pr. n. e.
- staklo, pr. 1,6 cm
- DM, inv. P 3461

**304.** ***Blue glass bead***

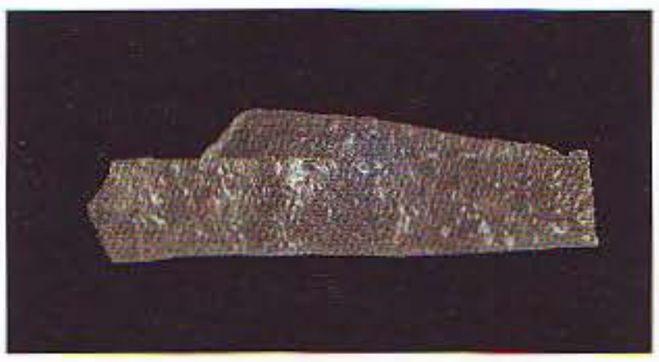
- Novo mesto, Kapiteljska njiva, grave 471
- 3rd to 2nd century BC
- glass, diam. 1.6 cm
- DM, invt. P 346

**309. Železni umbo sa štita**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- železo, duž. 25 cm, šir. 12,5 cm
- DM, inv. P 3296

***309. Iron umbo (shield boss)***

- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- iron, length 25 cm, width 12.5 cm
- DM, invt. P 3296



**311. Željezne korice mača, ukrašene**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- željezo, duž. 27,6 cm, šir. 5,5 cm
- DM, inv. P 3298

***311. Iron sword scabbard, decorated***

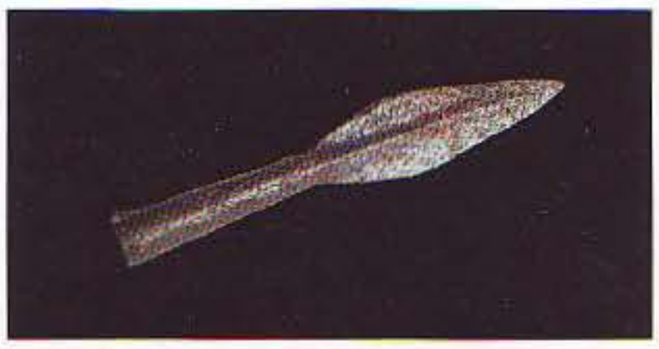
- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- iron, length 27.6 cm width 5.5 cm
- DM, invt. P 3298

**313. Staklena narukvica, prozirna, profilirana**

- Novo mesto, Kapiteljska njiva, sporadično
- 2. st. pr. n. e.
- staklo, pr. 9,8 cm, šir. 2,8 cm
- DM, inv. P 3551

***313. Transparent profiled glass bracelet***

- Novo mesto, Kapiteljska njiva, sporadically
- 2nd century BC
- glass, diam. 9.8 cm, width 2.8 cm
- DM, invt. P 3551

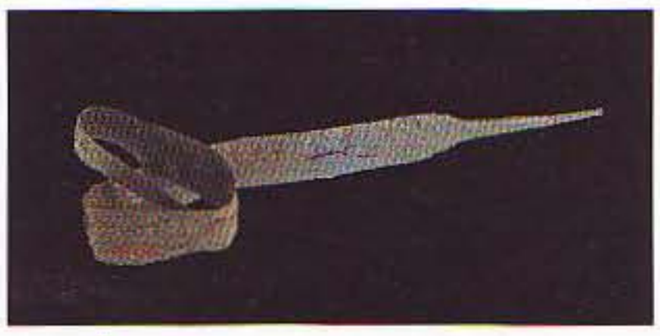


**310. Železni vrh koplja**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- železo, duž. 26,2 cm, šir. 4,4 cm
- DM, inv. P 3297

***310. Iron spearhead***

- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- iron, length 26.2 cm, width 4.4 cm
- DM, invt. P 3297



**312. Železni mač, svinut**

- Novo mesto, Kapiteljska njiva, grob 521
- 2. st. pr. n. e.
- železo, duž. 45,5 cm, šir. 5 cm
- DM, inv. P 3299

***312. Iron sword, bent***

- Novo mesto, Kapiteljska njiva, grave 521
- 2nd century BC
- iron, length 45.5 cm, width 5 cm
- DM, invt. P 3299

**Izložba** / ***Exhibition***

Organizator / *Organized by:*
Arheološki muzej u Zagrebu / The Archaeological Museum in Zagreb

Suorganizatori izložbe / *Contributing museums*:
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Autor prostorne koncepcije i oblikovanja /
*Exhibition design and spatial conception*:
Mario Beusan

Koordinator izložbe / *Exhibition coordinator*:
Lidija Bakarić

Koordinator izložbenog postava proizvoda suvremene staklarske industrije / Contemporary glass industry exhibition coordinator: Renata Brezinšćak

Restauracija izložaka / *Restoration of the exhibits*:
Sonja Tomašić, Damir Doračić, Simon Bobnar, Miha Jakobčić, Robert Koračin, Brigita Petek, Jana Šubic Prislan, Višnja Lisičar, Silva Sušić

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Ivan Troha, Robert Vazdar, Damir Zbukvić

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