Korak v kronologijo zgodnjesrednjeveškega naglavnega nakita vzhodnih Alp

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Izvleček

Članek predlaga klasifikacijski sistem za zgodnjesrednjeveške naglavne obročke v vzhodnih Alpah. S pomočjo stratigrafske in topografsko-kronološke analize izbranih grobišč vzpostavlja relativno in absolutno kronologijo teh obročkov. Preizkusi uporabnost datiranja z metodo radioaktivnega ogljika C14 in ugotovi, da od druge četrtine 10. st. dalje obstaja velika razlika med dejanskimi koledarskimi datumi in tistimi, ki jih omogoča kalibriranje s pomočjo veljavne kalibracijske krivulje za severno zemeljsko poloblo. Relativne razlike med laboratorijskimi C14 starostmi pa so veljavne.

Ključne besede: zgodnji srednji vek, vzhodne Alpe, kronologija, območni odklon C14, metode, tipologija, nakit, naglavni obročki

Abstract

The article proposes a classification system for early medieval head circlets in the Eastern Alps. The relative and absolute chronologies of these rings are established with the help of stratigraphic, topographical, and chronological analysis of selected cemeteries. Radiocarbon dating is tested and it appears that from the second quarter of the 10th century onwards there is a large difference between the actual calendar dates and those obtained by calibration using the valid calibration curve for the northern hemisphere. The relative differences between the radiocarbon ages, however, remain valid.

Keywords: Early Middle Ages, Eastern Alps, chronology, C14 regional offset, methodology, typology, jewellery, head circlets

Raziskava* se je začela tako, kot je najavljeno v metodološkem uvodu (glej spodaj). Poskusili smo datirati grobove z metodo radioaktivnega ogljika C14, a se je hitro pokazalo, da tako datiranje ne more biti bližnjica. Hkrati so se izluščili nekateri resni problemi. Strategijo in metode raziskave je bilo treba temeljito spremeniti, da je bilo mogoče doseči uporaben rezultat. Struktura članka približno sledi temu spoznavnemu postopku.

1. STANJE RAZISKAV IN METODOLOŠKA IZHODIŠČA

Prostor arheološke najdbe in njena časovna opredelitev sta neobhodni izhodišči nadaljnjih arheoloških analiz. Kronologija ni nikoli popolna in je zato večnozelena tema arheologije. Zgodnjesrednjeveško arheološko gradivo vzhodnih Alp je prostorsko in časovno umeščeno med različna geografska območja z neodvisnimi kronologijami. "Najzrelejša" po stopnji proučenosti, prepletenosti z naravoslovnimi, numizmatičnimi in historičnimi datacijami je nedvomno kronologija poznega merovinškega obdobja zahodne Evrope, ki pa se konča v prvi polovici 8. stoletja. Za čas od konca 6. st. do začetka 9. st. obstaja vzhodno od Alp kronologija panonske Avarije. Ta se nanaša na arheološke najdbe, ki jih površni arheološki žargon imenuje "avarske", toda zaradi namišljene etnične vsebine se tej oznaki v zadnjih letih izogibamo. Čas po prihodu Madžarov opisuje kronološki sistem v Panoniji, ki ga podpirajo številne najdbe kovancev v grobovih. Arheologija je dala najdbam, ki jih ta sistem razvršča, različna imena. Nekaterim je ljubši izraz bjelobrdska kultura,

* Članek je nastal v okviru programa P6-0064 Arheološke raziskave in projekta J6-4057 Grobišče Župna cerkev v Kranju, ki ju financira Agencija za raziskovalno dejavnost RS.

drugim najdbe arpadskega obdobja. Ta kronologija panonske Madžarske se začne v 10. st. in nadaljuje v naslednja stoletja. Vse naštete kronologije (zgornje in tiste v nadaljevanju) se nanašajo prvenstveno na ženski nakit, deloma tudi na moške pasne sestave. Vsi drugi neglineni predmeti so bistveno redkejši, zahtevajo svoje kronologije (npr. kronologija mečev, ostrog), za splošno časovno opredeljevanje najdišč so manj uporabni. Najdbe Češke, Moravske, Slovaške, Hrvaške opisujejo lokalni sistemi, ki bi jih lahko označili kot še vedno intuitivne. S tem mislim na sistem, ki ga posameznik vzpostavi arbitrarno s pomočjo svoje intuicije, ki mu pomaga urediti vsa njegova opazovanja. Tak sistem zaradi tega ni nujno slab in zgrešen, še več, zelo verjetno je edini mogoč, dokler imamo opraviti z množico težko oprijemljivih podatkov. Toda v nadaljevanju seveda zahteva nenehno preverjanje, kjer je to le mogoče.

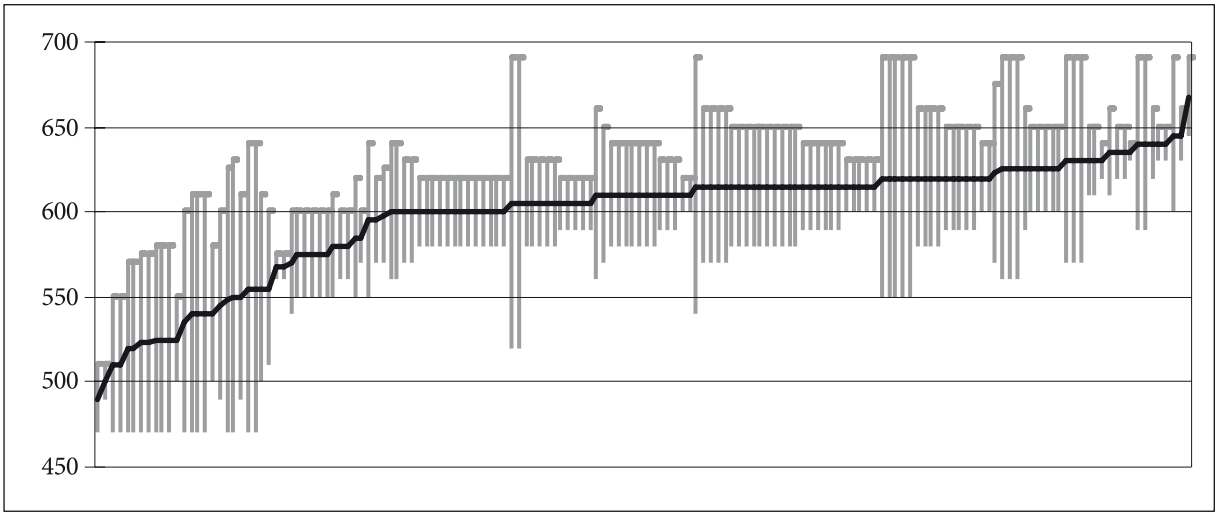
V slednjo skupino kronologij vsekakor spada kronologija zgodnjesrednjeveškega arheološkega gradiva vzhodnih Alp. Ohlapni stiki s prej naštetimi kronologijami mu nakazujejo obstoj v obdobju od 7./8. st. do 10. st., pri čemer sta zgornja in spodnja meja še povsem nedorečeni. V starejši literaturi najdemo zanj poimenovanje karantansko-köttlaška (tudi ketlaška, celo koteljska) kultura ali kulturna skupina. Tega poimenovanja zavestno ne bom uporabil, ker menim, da je koncept arheološke kulture za obravnavani čas in prostor že izčrpan in bolj zavajajoč kot ne (več: Pleterski 2003, 653). Medtem ko so vse starejše objave obravnavale to gradivo kronološko enotno (Korošec 1947, 110–113; pregled: Pleterski 2001a), manjša izjema je nedorečeni poizkus Jožeta Katelica določiti nekatere starejše predmete (Kastelic, Gabrovec 1950, 47; Kastelic 1960, 40), je Paola Korošec kot prva predlagala delitev gradiva na starejšo (karantansko) in mlajšo (köttlaško) skupino z napovedjo prehodne faze (Korošec 1961, 192–194). Starejšo je postavila v čas avaro-slovanskega obdobja (kar bi pomenilo od konca 6. st. do začetka 9. st.), začetek mlajše v sredino 9. st. in njen zaključek na konec 10. st. (Korošec 1970–1971, 100–101). Tu ni mesto, da bi obravnavali njen navidezno ponesrečeni poizkus določiti tudi posebno kulturno "skupino s keramiko", za katero so značilni lonci v grobovih. Čeprav je pozneje predložila obširen katalog najdišč in grobnih celot, je argumentacijo utopila v množici nepreglednih primerjav (Korošec 1979). Tako je prvi metodološko povsem jasen dokaz pravilnosti te členitve predstavil šele Timotej Knific s stratigrafsko analizo grobišča na blejski Pristavi (Knific 1974).

Sledila je delitev gradiva na tri stopnje, ki jo je v kratkem članku predlagal Jochen Giesler, vendar ni bila argumentacija, ki jo je napovedal, nikoli objavljena. Zato ostaja v veljavi njegovo samokritično opozorilo, da so njegova kronološka izhodišča bolj pomoč za splošno predstavo kot pa trdni datumi ("diese Zeitansätze gegenwärtig noch eher Vorstellungshilfen als gesicherte termini darstellen") (Giesler 1980, 96). Prvo stopnjo (pred-Köttlach) je datiral v prvo polovico 9. st. z začetkom okoli 800, drugo stopnjo (Köttlach I) v drugo polovico 9. st. in prvo polovico 10. st., tretjo stopnjo (Köttlach II) v čas od druge polovice 10. st. do sredine 11. st. (Giesler 1980, 95–96). Njegova absolutna kronologija je bila v naslednjih desetletjih predmet kritike, ki je pokazala, da je treba gradivo datirati bistveno bolj zgodaj (pregled: Eichert 2010b, 16, 168–171).

Najnovejšo členitev, ki obsega zgolj gradivo avstrijske Koroške, je predlagal Stefan Eichert. Razdelil ga je na skupino A (660–780), ki pa ne vključuje gradiva iz ženskih grobov in po avtorjevi oceni predstavlja samo družbeni vrh, na skupino B (740–830) in skupino C (780–11. st.). Medtem ko skupino B sestavlja gradivo iz moških in ženskih grobov, obsega skupina C samo še ženski nakit. Eichert je slednjo podrobneje razdelil na podskupine C1 (780–830), C2 (830–900) in C3 (900–11. st.). Temeljne časovne ločnice je v precejšnji meri naslonil na politično dogajanje (Eichert 2010b, 160–173). Njegova členitev že kaže zavest, da oblikovne skupine premetov niso nujno razporejene v času samo zaporedno, ampak so si lahko tudi vzporedne. To pa zahteva popolnoma drugačen pristop h kronološki analizi.

Vprašati se je namreč treba, ali je pristop, ki izvira iz tradicije evropske prazgodovinske arheologije in ki osmišljuje kronološko razumevanje gradiva s pomočjo (različno poimenovanih) časovnih stopenj, še vedno edini in najboljši za kronologijo zgodnjesrednjeveškega arheološkega gradiva. Že pred več kot tremi desetletji je Heiko Steuer opozoril na nesmiselnost iskanja kratkotrajnih časovnih stopenj. To je ilustriral z modelom, ki upošteva čas izdelave neke vrste predmetov, čas obtoka teh predmetov in čas življenja njihovih uporabnikov. Časovni razpon, v katerem so predmete polagali v grobove, je zelo težko krajši od 50 let, mnogo verjetneje je celo daljši (Steuer 1977). Že samo zaradi tega je kronologija po sistemu stopenj omejena.

Glavni problem tega pristopa pa dobro ponazarja grafikon posameznih časovno občutljivih lastnosti predmetov z grobišča Altenerding (*sl. 1*), na katerem je pokopavanje trajalo od okoli 470 do okoli 690. Določiti je bilo mogoče 154 lastnosti. Dolžine črt ponazarjajo obdobje, v katerem se te lastnosti



Sl. 1: Altenerding, Nemčija. Časovni razponi lastnosti predmetov. Razvrščeni so po sredini časovnih razponov (Pleterski 2003, sl. 162).
Fig. 1: Altenerding, Germany. Time frames of different object characteristics. The time frames are arranged according to their means (Pleterski 2003, Abb. 162).

pojavljajo v grobovih. Predstava o časovnih stopnjah je seveda nemogoča brez tihe predpostavke, da obstajajo časovno ločene skupine opazovanih lastnosti. Takih skupin grafikon ne kaže. Gre zgolj za nenehno uvajanje novih lastnosti in izginjanje starih (Pleterski 2001b; id. 2003, 529–530). Kot merilo in mejo posameznim časovnim stopnjam bi seveda lahko vzeli tudi prihod novih lastnosti in njihovo izginotje. Toda zakaj bi bila npr. meja pri 570 bolj upravičena od meje pri 580 ali 590? Res je, da nekatere meje med časovnimi stopnjami arheološkega gradiva na splošno vendarle najdejo potrditev tudi na neodvisne načine (stratigrafija, naravoslovne datacije). Pojasnimo jih lahko s tem, da se ujemajo s časom velikih sprememb opazovanih lastnosti, kot jo pri Altenerdingu lahko vidimo približno med letoma 580 in 600. A uganiti vnaprej tak čas sprememb je težko, poleg tega so taka obdobja razporejena časovno neenakomerno in običajno v večjih časovnih razmakih, kot si jih želimo. Dejansko so časovne stopnje, ki jih ustvarjamo arheologi, močno arbitrarne, kar je razvidno že iz preprostega dejstva, da jih zaokrožamo v skladu z današnjim merjenjem časa (prelomi stoletij, njihova sredina, prva, druga polovica ....). Zaradi datiranja *per analogiam* se predpostavljene časovne členitve samo še utrjujejo in poglabljajo.

Če je cilj kronologija, potem bo **strategija naše raziskave** taka, da bo v kar največji meri upoštevala zgornja opažanja. Izogibali se bomo razmišljanju, ki zahteva časovne skupine gradiva. Usmerili se bomo na čas "trajanja" posamezne vrste predmetov. Tako vrsto bomo določili prvenstveno s pomočjo njenih oblik in jo zato označili kot oblikovni tip. Ker ga bomo določili sami, bo seveda spadal med navidezne oziroma empirične tipe in ni nikakršne nujnosti, da se ujema z resničnim oziroma kulturnim tipom (definicije: Djindjian 2001, 43; Klejn 1988, 509–511). To je tveganje, ki se mu ni mogoče izogniti, a se ga je dobro zavedati. Časovni razpon oblikovnemu tipu bomo iskali tako, da ga bomo umestili v časovno merljiv najdbeni kontekst. Tak kontekst ponujajo najdišča z dobro stratigrafijo in topografsko kronologijo (poznano pod nerodnim imenom horizontalna stratigrafija – Pleterski, Belak 2005, 35). To bo pokazalo relativno kronologijo opazovanih oblikovnih tipov. Njeno umestitev v koledarsko starost bomo skušali doseči s pomočjo datiranj po metodi radioaktivnega ogljika C14 (dalje datacija C14), ki so trenutno na voljo. Da je tak postopek uresničljiv, dokazuje obravnava vzhodnoalpske zgodnjesrednjeveške lončenine, ki jo je bilo mogoče klasificirati in dobljenim oblikovnim tipom določiti čas trajanja z datacijo C14. Rezultat je referenčna kronološka tabela posameznih oblikovnih tipov (Pleterski 2010a), trenutno prva evropska regionalna kronologija zgodnjesrednjeveškega posodja, ki je bila narejena s pomočjo te metode. Prvi preizkusi kažejo njeno uporabnost (Pleterski 2010b; Magajne 2011; Vinder 2011).

Predmeti, ki jih je vredno obravnavati, morajo biti taki, da je njihova klasifikacija preprosta, biti morajo spremenljivi v času, dovolj splošni in

množični, da jih najdemo široko razprostranjene in da se isti oblikovni tip pojavlja predvidoma istočasno. Z njihovo pomočjo bo mogoče pozneje kronološko opredeljevati tudi tiste predmete, ki v tem prvem koraku ne bodo doživeli obravnave. Tem merilom v obravnavanem času in prostoru najbolje ustreza naglavni ženski nakit. Je časovno občutljiv, ni tako raznolik, kot so zaponke, je najpogosteje v grobovih. Ker so bili predmeti istega oblikovnega tipa lahko v uporabi tako za uhane (pritrjeni na uho) kot tudi za obsenčnike (pritrjeni na glavo neodvisno od ušes), jih bom poimenoval **naglavni obročki** (kratko tudi zgolj obročki).

2. KLASIFIKACIJA NAGLAVNIH OBROČKOV (NO)

Merilo za razvrstitev bosta oblika locna in oblika njegovih zaključkov (*sl. 2*). Ob tem ima kronološko vrednost tudi opazovanje debeline prereza locna, ki v opazovanem času narašča. To sicer ne pomeni, da v mlajšem času ni tanjših prerezov, pomeni pa, da v starejšem opazovanem času ni debelejših prerezov. Zunaj obravnavanega prostora in časovnega odseka to opažanje ne velja, oziroma bi bilo to treba šele dokazati.

Zanimiva lastnost naglavnih obročkov brez zank in kaveljčkov je njihova sučnost. To pomeni, da zaključka ne ležita v isti ravnini, ampak sta zamaknjena. Obroček je oblikovan tako kot posamezna zanka vibe. Če ga položimo na vodoravno podlago, se prvi zaključek nahaja višje, locen pa poteka bodisi v levo ali v desno smer. Zato lahko govorimo o levosučnih in desno sučnih obročkih. Praviloma (kar pomeni, da obstajajo izjeme) se v istem grobu naglavni obročki nahajajo v parih, par sestavljata levosučni in desnosučni obroček. Kadar najdemo v dveh različnih grobovih obročka, ki se ujemata po velikosti, obliki in izdelavi ter sta si protisučna, gre zelo verjetno za par, ki je bil razdeljen med dve lastnici. To pa seveda pomeni tudi kronološko povezavo med grobovoma.

Klasifikacijske tabele (*sl. 2*) seveda ne opisujejo vseh možnosti, a so odprt sistem, ki ga je mogoče poljubno dopolnjevati. Vsak posamezen oblikovni tip bomo opisali s pomočjo lastnosti v tabelah, ki bodo podane po naslednjem zaporedju:

NO (= naglavni obroček), **00** (oznaka oblike locna), **00** (oznaka dodatkov na locnu), **_00** (oznaka prvega zaključka locna), **00** (oznaka drugega zaključka locna).

Locen / Hoop

Oblika / Shape

preprost / simple	01
različno število kratkih zank / different number of short loops	02
dolga zanka / long loop	03
polmesec, različno oblikovana žičnata mreža / crescent, wire mesh of different shapes	04
polmesec, kovan / crescent, forged	05
polmesec, ulit / crescent, cast	06
astragalne odebelitve / astragal-shaped thickenings	07
sesukan iz žic / twisted of wire	08
ulit, posnema štiridelne dodatke / cast, resembling quadripartite appendages	09
ulit, posnema šestdelne dodatke / cast, resembling six-partite appendages	10
drugo / other	99

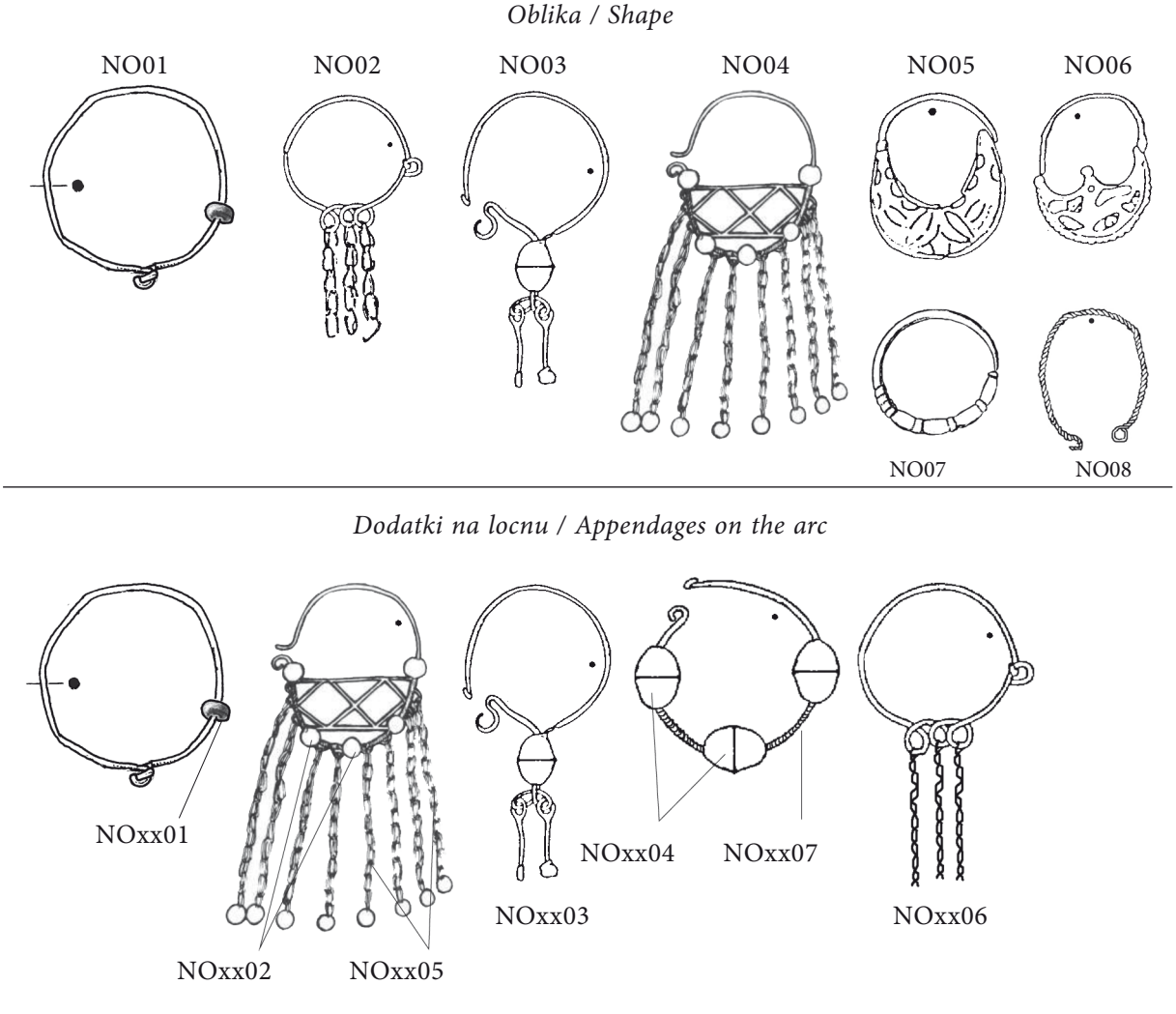
Dodatki na locnu / Appendages on the arc

ena steklena jagoda / one glass bead	01
več steklenih jagod / several glass beads	02
ena pločevinasta jagoda / one tin bead	03
več pločevinastih jagod / several tin beads	04
verižice z različnimi zaključki / chains with different ends	05
sesukane žičke / twisted wires	06
locen ovit z žico / wire wrapped around the arc	07
drugo / other	99
manjka / missing	mm

Zaključek / End

kaveljček / hook	01
nekovana zanka / loop, not forged	02
kovana zanka / forged loop	03
nekovana S zanka / S-shaped loop, not forged	04
kovana S zanka / forged S-shaped loop	05
raven konec / straight end	06
vsestransko zožujoč v konico / evenly narrowed into a point	07
enojna odebelitev / one thickening	08
večkratna odebelitev / several thickenings	09
vrh preoblikovanega locna / top of a transformed arc	10
uho / eye	11
drugo / other	99
manjka / missing	mm

Uporaba dvojne ničle pomeni, da nimamo podatka o opazovani vrsti lastnosti. V kombinaciji zanke poljubne izvedbe in kaveljčka pomeni kaveljček drugi zaključek.



Sl. 2: Klasificirane lastnosti naglavnih obročkov.
Fig. 2: The classified characteristics of head circlets.

3. POSKUS Z DATACIJAMI C14

Koledarski razponi, ki jih dajejo datacije C14, so seveda lahko dolgi tudi več stoletij, medtem ko je običajen zgodnjesrednjeveški grob nastal bolj ali manj v enem dnevu. Ali je tako sploh mogoče priti do vsaj približne koledarske starosti groba, ki bi bila boljša od datiranja z obstoječimi intuitivnimi kronologijami? Raziskovalci, ki obvladajo statistične metode, si pri interpretiranju datacij C14 vedno bolj pomagajo z bayesovsko statistiko. Ta omogoča kronološke analize, ki vsebujejo več datacij C14, in njihove povezave z že znanimi podatki o relativni kronologiji. Pri tem je koledarska starost prikazana kot verjetnost in relativna starost kot predhodni podatek (Bronk Ramsey 2009a). Najdišče, ki omogoča stratifikacijo datacij C14, zato ponuja možnost zožitve širokega koledarskega razpona posamezne datacije C14 zaradi njenega znanega razmerja z drugimi datacijami.

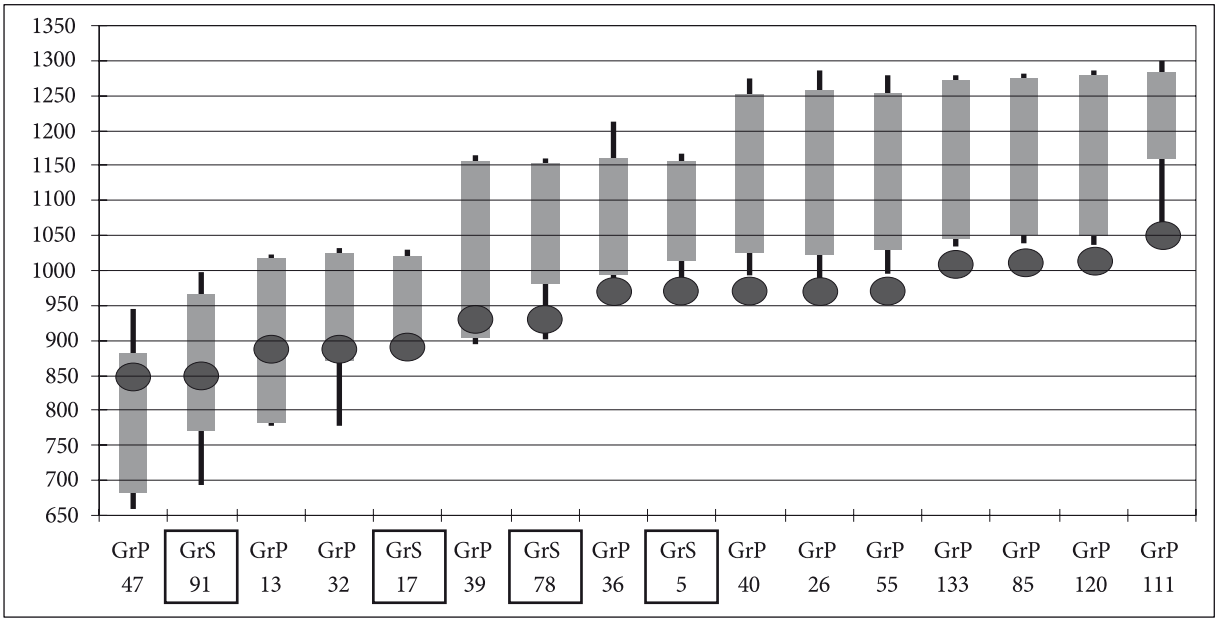
Grobišča s številnimi stratigrafskimi odnosi med grobovi, ki imajo zato bolje določljivo relativno kronologijo, se zdijo dobro izhodišče za uporabo bayesovske statistike. Naše izhodišče so bila stratigrafska zaporedja grobov s Sedla na Blejskem gradu in s St. Petra pri Spitallu na Zgornjem Koroškem (glej spodaj). Britanska univerza v Sheffieldu ponuja vsakomur, da si sam izdela bayesovsko statistiko svojega gradiva s pomočjo njihove javne spletne storitve BCal [http://bcal.sheffield.ac.uk, ki temelji na objavi: Buck C.E., Christen J.A. and James G.N. (1999). BCal: an on- line Bayesian radiocarbon calibration tool. *Internet Archaeology,* 7. (http://intarch.ac.uk/journal/issue7/buck/)].

BCal s pomočjo bayesovske statistike omogoča kalibracijo laboratorijskih C14 datacij v kombinaciji s predhodnimi arheološkimi kronološkimi podatki, jih umešča v posamične časovne odseke in pomaga raziskovati dolžino teh odsekov in njihova časovna razmerja. Gre za orodje, ki omogoča uporabo že znanih kronoloških opažanj in njihovo postopno dograjevanje. Avtorji zaradi nenatančne narave vhodnih in referenčnih podatkov priporočajo zaokrožanje datacij v rezultatih na desetletja, čeprav so koledarski datumi izračunani z natančnimi letnicami. Zanesljivost izračuna je treba preveriti z več ponovitvami, kjer ne spreminjamo svojih vhodnih nastavitev, vendar je vsakič drugačen že generator naključnih števil. Prav tako je koristno raziskati razmerje med predhodnimi kronološkimi informacijami in dobljenimi rezultati. Prvi namreč odločilno vplivajo na druge.

Moj lahkoverni namen je bil preprost. Stratigrafsko zaporedje grobov na blejskem Sedlu z verjetnim časovnim razponom in še verjetnejšim datumom konca uskladiti in preveriti z datacijami C14. Izkazalo se je, da o najdišču vem preveč, ker je ob vseh številnih podatkih relativne kronologije program preprosto zamrznil. Prijazno osebje mi je svetovalo, naj problem razstavim na bolj preprostejše dele in rešujem drugega za drugim. Rezultat je bil logičen. Tam, kjer sem postavil mejo, jo je program seveda upošteval, pri možnosti normalne razporeditve verjetnosti koledarskega datuma pa je vrh Gaussove krivulje prestavil proti neomejenemu delu koledarskega razpona. Ugotovil nisem ničesar takega, česar ne bi vedel že prej. Razen nečesa.

Grob 5 (*sl. 3* in *9*) je namreč nenadoma pokazal koledarsko verjetnost izven svojega dotedanjega 2Σ-razpona koledarske verjetnosti. Zanimalo me je, kaj to pomeni. Vse laboratorijske starosti C14 sem ponovno kalibriral s kalibracijskim program **OxCal** 4.1 (https://c14.arch.ox.ac.uk/oxcal/OxCal.html; opis: Bronk Ramsey 2009a). Uporabil sem kalibracijsko krivuljo IntCal09 in možnost 99,7 %, torej 3Σ-zanesljivosti. Program poleg tega omogoča tudi vpogled v surove podatke in ne šele v končni izdelek. Bayesovska statistika je grob 5 postavila v skrajni rob, ki ga še obsega 3Σ-razpon. Da spada tja, sem vedel že prej. Vendar sem sedaj ugotovil, da moram biti pozoren tudi na koledarske 3Σ-razpone, ki so lahko tudi za stoletja daljši od 2Σ-razponov. Hkrati sem se odločil, da uskladitev relativne kronologije in datacij C14 naredim "ročno", brez bayesovske statistike, ki v danem primeru lahko zgolj potrdi že znano.

Koliko je verjetno, da pravi koledarski datumi tičijo na robovih razponov, ki jih pokaže šele 3Σ-verjetnost? Adam Michczyński je izvedel analizo razmerij med poznanimi koledarskimi datumi in rezultati navideznih datacij C14 za iste datume. Delal je s tedaj veljavno kalibracijsko krivuljo IntCal04, ki se od sedanje IntCal09 za naše obdobje ne razlikuje. Ker običajne kalibracije podajajo rezultat v obliki grafikona večje in manjše verjetnosti, je meril časovno oddaljenost pravega datuma od vrha grafikona verjetnosti. Od njega je bilo kar 73 odstotkov vseh primerov oddaljenih za manj kot 35 let (Michczyński 2007, 395, sl. 3). Večja kot so odstopanja, manj je takih primerov. To seveda kaže, da gre pri grobu 5 za nekakšno neskladje. Podobno so se pokazala velika neskladja med časovnimi 2Σ-razponi datacij C14 in pričakovanimi koledarskimi starostmi pri grobovih s St. Petra, zaradi česar jih niso vključili v objavo (prijateljska informacija Kurta Karpfa).



Sl. 3: Koledarski razponi datacij C14 in arheološke datacije grobov (pike). Tanka črta je razpon 3Σ, debela 2Σ. GrP = grob, St. Peter pri Spittalu, Avstrija; GrS = grob, Sedlo na Blejskem gradu, Slovenija.
Fig. 3: Calendar spans of C^{14} datings and archaeological datings of graves (dots). The thin line denotes the 3Σ range, the bold line the 2Σ range. GrP = grave, St Peter at Spittal, Austria; GrS = grave, Sedlo at Castle Bled, Slovenia.

Tako je bilo treba začasno opustiti neposredno koledarsko datiranje grobov s pomočjo datacij C14. Ko smo nato grobove datirali po drugi poti (glej spodaj) in te datacije primerjali z datacijami C14, se je pokazala zanimiva slika (*sl. 3*). Glede relativne kronologije je ujemanje popolno, pri koledarskih starostih pa je drugače. Vse datacije grobov do druge četrtine 10. st. so umeščene znotraj 2Σ-razponov datacij C14, kar je v skladu s pričakovanji. Od tega časa dalje so vse datacije grobov povsem na robu 3Σ-razponov datacij C14, najmlajši celo samo še na robu najbolj teoretičnih možnosti. Tu gre za nek **sistematičen odklon od kalibracijske krivulje**, ki ne more biti posledica posamičnega slabega vzorca, napačne meritve v laboratoriju (gre za različne meritve v dveh laboratorijih, v Poznanju in Erlangenu) ali posebnih fizikalno-kemičnih razmer na najdišču (ker gre za dve najdišči).

Ko nastopijo problemi, so običajno mogoče različne razlage. Zelo mikavno ponuja že Michczyński, ki je opazil, da uporabljeni algoritmi in ravnina v kalibracijski krivulji, ki se konča s strmim padcem, potiskajo verjetnost datacije proti sredini ravnine. Realni koledarski datumi z začetka ravnine so zato prikazani kot bistveno mlajši in tisti s konca ravnine obratno kot bistveno starejši (Michczyński 2007, 395, sl. 4). To bi bila za naše odklone sprejemljiva razlaga, če bi imela kalibracijska krivulja ravnino na ustreznem mestu. Vendar je nima. Podobna ravnina se pokaže šele v obdobju približno od 1050 do približno 1200 in se začne 100 let prepozno, da bi bila taka razlaga mogoča.

Sistematičen pregled odstopanj je nedavno pripravil Christopher Bronk Ramsey. Naš primer bi morda najlažje pojasnili z napačno oceno razmerja med radioaktivnim ogljikom C14 v vzorcih in njihovem naravnem okolju (Bronk Ramsey 2009b, 1038–1039). Spremembe v sončni magnetni aktivnosti v kombinaciji z večjimi podnebnimi ohladitvami regionalno povečujejo dotok startosferskega C14. Za arheologe to pomeni, da je globalna kalibracijska krivulja sicer pravilna, vendar pa regionalno v določenih obdobjih lahko obstajajo pomembna odstopanja (prim. Kromer et al. 2001). To lahko razumemo tako, da je za vzhodne Alpe od druge četrtine 10. st. dalje (kako dolgo, je trenutno neznano) kalibracijska krivulja za severno hemisfero neustrezna in bi potrebovali lokalni popravek. Zdi se, da prostor odstopanja obsega vsaj še zahodno Panonijo, kar kaže več tamkajšnjih najdišč, kjer arheološka analiza gradiva kaže 10. st., datacija C14 pa je 100 let mlajša (prim. Kvassay 2008, 106). Prav verjetno je, da zgoraj omenjena ravnina kalibracijske krivulje med 1050 in 1200 to odstopanje nato še stopnjuje. Avtor tega prispevka lahko na problem samo opozori (za nasvete v zvezi z bayesovsko statistiko in s problemi pri datacijah C14 sem hvaležen Rachel Opitz).

4. RELATIVNA KRONOLOGIJA

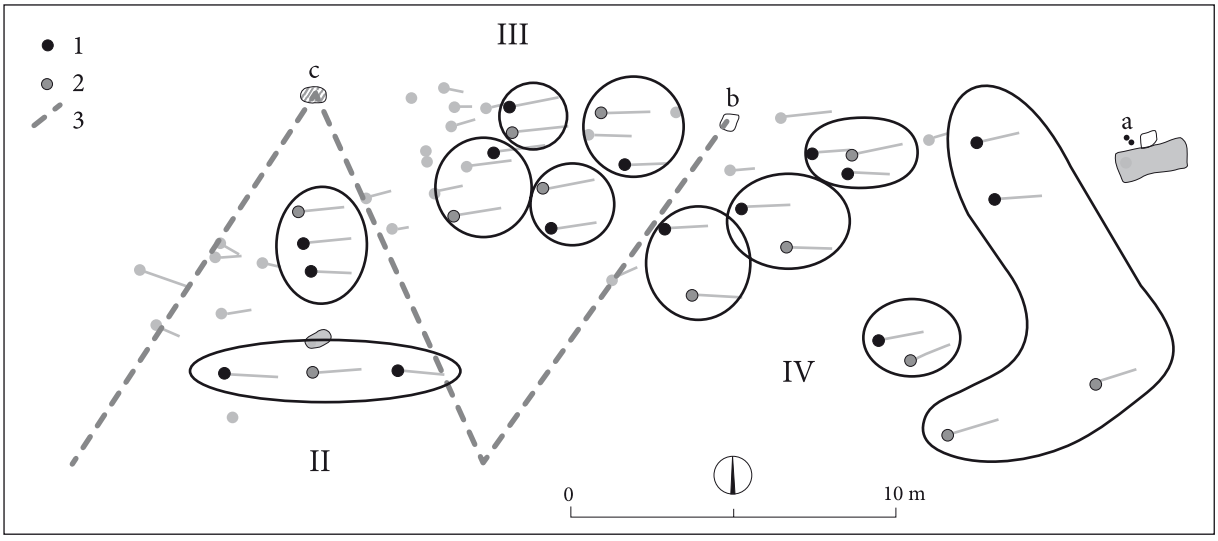
Bližnjic pri izdelavi kronologije torej ni. Tako v tem trenutku ni druge poti kot najprej sestaviti skupek kronološko povezanih najdišč in njihovih notranjih kronoloških členitev. Treba je torej sestaviti preplet relativnih kronoloških odnosov, ker ta upošteva vrsto objektivnih danosti in zmanjšuje neizogibno arbitrarno subjektivnost raziskovalca. Ta preplet je potem mogoče v enem kosu vstaviti v njegovo zgodovinsko okolje in ga vpeti v čas tam, kjer je mogoče in kakor je mogoče.

Žale pri Zasipu

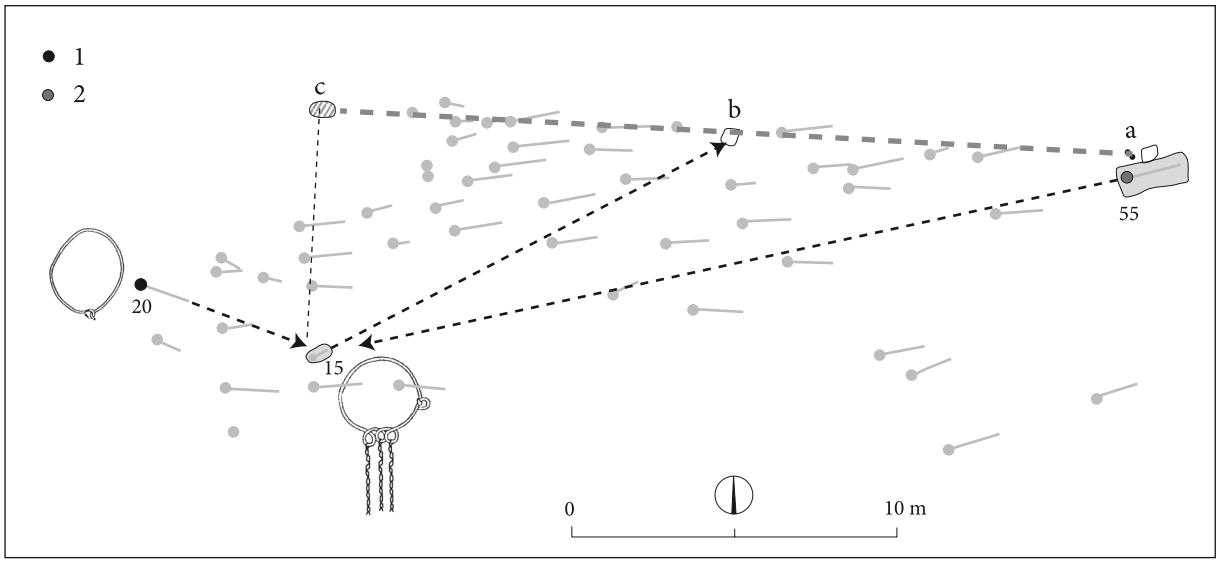
To je grobišče, ki spada v sklop blejskih zgodnjesrednjeveških najdišč. Bilo je raziskano v celoti in objavljeno (Knific, Pleterski 1993), vendar brez podrobnejše analize. Večina moških grobov je brez pridatkov, skoraj vsi grobovi odraslih žensk jih imajo. Od slednjih samo v enem grobu ni bilo naglavnih obročkov. Število odraslih žensk v grobovih nekoliko presega število odraslih moških, kar bi lahko pojasnili s tem, da so imeli nekateri moški več žena, najverjetneje zaporednih. Razporeditev moških in ženskih grobov kaže jasne pare, torej jedra družin posameznih generacij, ki so razporejene v prostoru od zahoda proti vzhodu (*sl. 4*). Vidno je postopno naraščanje števila družin v kraju. Družinsko-generacijska struktura grobišča se povsem ujema s strukturo razvoja zasipške poljske razdelitve (Pleterski 2011, 30–33). Zaradi tokratne analize je treba razložiti posebno razporeditev grobov prve generacije (*sl. 5*), ki za razliko od druge, tretje in četrte generacije ne ležijo skupaj. Severni rob grobišča se ujema s potekom črte, ki jo določata jami za kol ob grobu 55, in kamen, ki se mu grobovi izogibajo, na zahodu gre preko jame, ki je zapolnjena z rdečo ilovico. Ujemanje kaže, da gre za točke, ki so bile poznane v času kopanja grobov. Pomeni tudi, da so s temi točkami začeli urejati prostor grobišča (Pleterski 1995, 131–132; id. 2004).

Prvem rodu pripadajo otroški grob 15, ženski grob 20 in moški grob 55, ki sestavljajo eno družino. Kot najstarejše jih določajo pridatki: edini lonček celega grobišča v moškem grobu ter nakit v otroškem in ženskem grobu (tema prispevka). Otroški grob je usmerjen proti kamnu sredi severnega roba grobišča in ima zato povsem izjemen odklon proti severu. Leži ob pravokotnici na zahodni zaključek severne meje grobišča. Moški grob stoji na vzhodni meji, ženski na zahodni meji grobišča (gre za univerzalno simboliko, ki pa je tu ne bomo obravnavali). Vsi trije grobovi so tako sestavni del začetne ureditve grobiščnega prostora in zato ne tvorijo prostorsko sklenjene skupine. Oba grobova odraslih sta usmerjena proti otroškemu grobu, kar pomeni, da sta od njega mlajša.

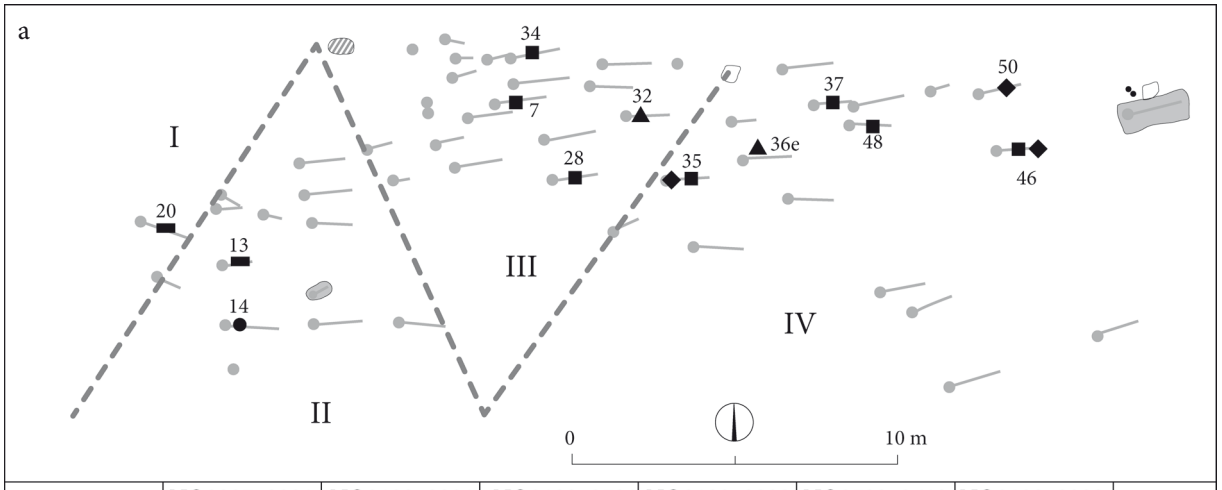
Spremembe predmetov v času se arheologom najprej pokažejo v otroških grobovih. Pokojniki, ki so pokopani v njih, so živeli le kratek čas in zato dajejo informacije o tem kratkem času. Če se pojavi nova vrsta nakita, bo seveda najprej prišla v zemljo



Sl. 4: Žale pri Zasipu, Slovenija. Družine in pokolenja. a – jama za steber, b – kamen, c – jama z rdečo ilovico, 1 – ženska, 2 – moški, 3 – meja med prostori posameznih pokolenj.
Fig. 4: Žale near Zasip, Slovenia. Families and generations. a – posthole, b – stone, c – pit with red clay, 1 – female, 2 – male, 3 – border between the areas of individual generations.



Sl. 5: Žale pri Zasipu, Slovenija. Grobovi prvega pokolenja. a – jama za steber, b – kamen, c – jama z rdečo ilovico, 1 – ženska, 2 – moški.
Fig. 5: Žale near Zasip, Slovenia. Graves of the first generation. a – posthole, b – stone, c – pit with red clay, 1 – female, 2 – male.



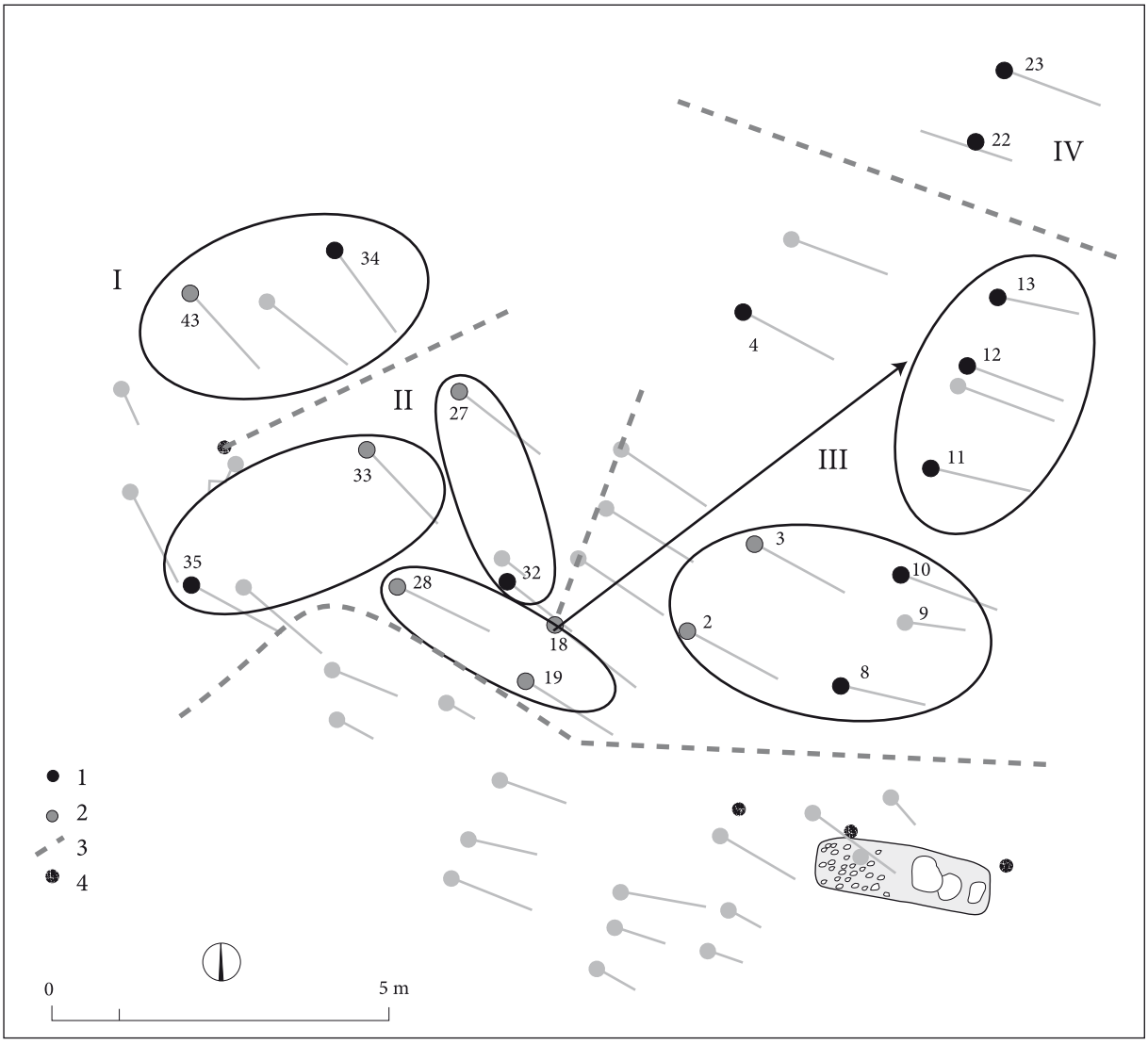
b	NO0205_0201	NO0100_0201	NO0100_0501	NO0100_0808	NO0500_0610	NO0100_0909	e
IV				■	■	■	■
III				■	■		
II		■	■				
I	■	■					

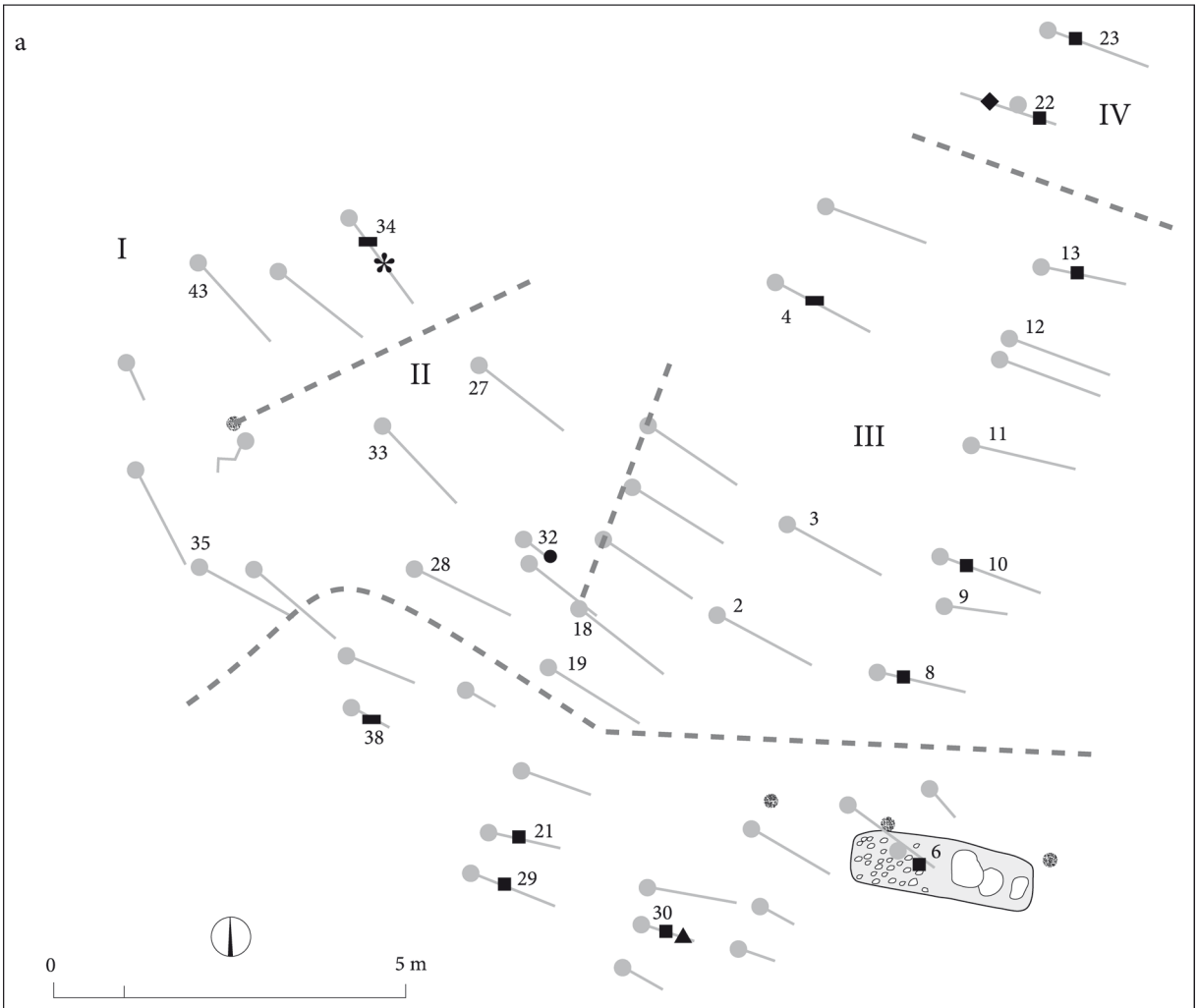
Sl. 6: Žale pri Zasipu, Slovenija. a – razporeditev tipov naglavnih obročkov v prostoru drugega, tretjega in četrtega pokolenja, b – relativna kronologija naglavnih obročkov po pokolenjih. e = emajl.
Fig. 6: Žale near Zasip, Slovenia. a – the distribution of different types of head circlets in the areas of the second, the third and the fourth generations, b – elative chronology of head circlets as they occur in the four generations. e = enamel.

v grobove otrok, ki umrejo pred svojimi starši. Podobno je z opustitvijo določene vrste predmetov. Ti so v času, ko umre otrok, še lahko v uporabi, čez leta, ko umrejo starši, pa ne več. Zato ima otroški grob 15 še naglavne obročke tipa NO0205_0201 kot edini na celotnem grobišču. Očitno je nastal, tik preden so to obliko prenehali uporabljati. Čeprav so ti obročki v grobu ohranjeni samo delno, jih je mogoče zanesljivo rekonstruirati. Podobno je z naglavnim obročkom v grobu 13, kjer je ohranjena le zanka prvega zaključka, vendar je hkrati jasno, da se je moral drugi končevati kot kaveljček. Če bi bil kakorkoli razkovan, ga v ozko zanko ne bi bilo mogoče vdeti. Razporeditev posameznih tipov naglavnih obročkov poteka od zahoda proti vzhodu (*sl. 6a*), kar je obenem tudi razporeditev od starejših k mlajšim (*sl. 6b*). Emajlirani predmeti se pojavijo šele pri grobovih četrtega pokolenja.

Dlesc pri Bodeščah

Grobišče je bilo raziskano v ohranjeni celoti. Severni rob je bil poškodovan pri kopanju peska pred drugo svetovno vojno. Čeprav je že objavljeno (Knific, Pleterski 1981), njegovo informacijsko bogastvo še zdaleč ni izčrpano. Kaže družinsko in generacijsko strukturo (*sl. 7*), ki je zelo podobna tisti na zasipških Žalah. Tudi na Dlescu je najprej začela pokopavati ena družina, število družin je v naslednjih generacijah naraščalo in struktura razvoja družin se prav tako povsem ujema s strukturo razvoja razdelitve polja (podrobneje: Pleterski 2011, 43–47). Grobišče se je širilo od zahoda proti vzhodu. Ko je izkoristilo pobočje ledeniške gomile, se je obrnilo proti severu, ker ga je z vzhoda omejevala njiva. Južni del grobišča sestavljajo otroški grobovi, ki so jih tam vkopavali





b	NO0100_0201	NO0100_0606	NO0100_0808	NO0500_0610	NO0100_0909	NO0800_0201	e
IV					?		?
III					?		?
II		?					
I							

Sl. 8: Dlesc pri Bodeščah, Slovenija. a – razporeditev tipov naglavnih obročkov v prostoru posameznih pokolenj; b – relativna kronologija naglavnih obročkov po pokolenjih. e = emajl.
Fig. 8: Dlesc near Bodešče, Slovenia. a – the distribution of different types of head circlets in the areas of individual generations; b – relative chronology of head circlets as they occur in the four generations. e = enamel.

←

Sl. 7: Dlesc pri Bodeščah, Slovenija. Družine in pokolenja. 1 – ženska, 2 – moški, 3 – meja med prostori posameznih pokolenj, 4 – stojka.
Fig. 7: Dlesc near Bodešče, Slovenia. Families and generations. 1 – female, 2 – male, 3 – border between the areas of individual generations, 4 – posthole.

ves čas trajanja uporabe grobišča in so zato za analizo topografske kronologije neuporabni.

Posledično to pomeni (*sl. 8a*), da ni razvidno, ali otroški grob 30 s svojimi naglavnimi obročki tipa NO0100_0808 in NO0500_0610 pripada tretjemu ali četrtemu pokolenju pokojnih. V njegovi soseščini je bila kot raztresena najdba najdena okrasna zaponka, ki je hkrati edini emajlirani predmet na grobišču. Zelo verjetno izvira iz groba 30. Zato tudi emajl lahko postavimo zgolj okvirno v čas tretje in četrte generacije.

S temi topografskimi podatki lahko sestavimo preglednico pojavljanja naglavnih obročkov (*sl. 8b*). Naglavni obroček v grobu 38 je le delno ohranjen, zato je pripadnost obročka tipu NO0100_0201 sicer najverjetnejša, vendar ni povsem zanesljiva. Obroček istega tipa ima tudi grob 4, ki ga po njegovi legi lahko prisodimo bodisi prvi bodisi drugi generaciji. Grob 34 ima tudi naglavni obroček zelo redkega tipa NO0800_0201. Oblika zaključkov locna ni razvidna, vendar je oblika locna, ki je sesukan iz več tanjših žičk, povsem značilna in ga je mogoče rekonstruirati po vzoru obročka z bohinjskih Žal pri Srednji vasi (Šmid 1908, t. II: 10).

Sedlo na Blejskem gradu

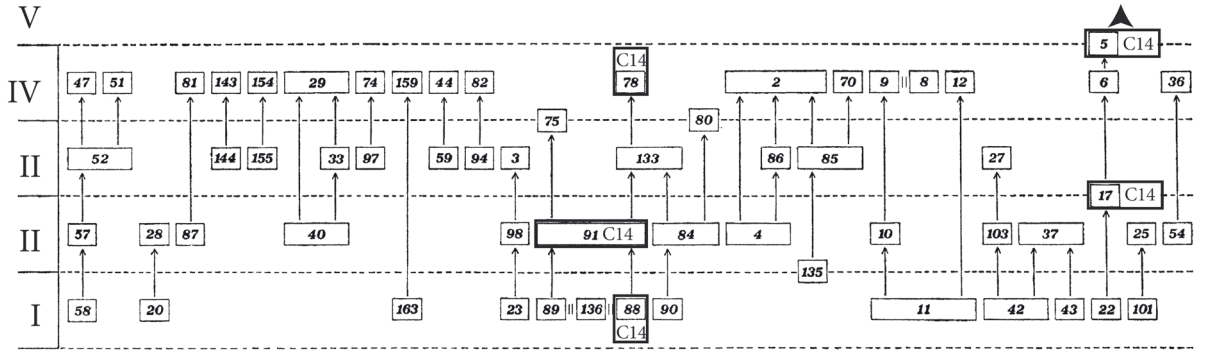
Grobišče ima izjemno bogato stratigrafijo, ker so ves čas pokopavali na istem prostoru. Zato je velika večina grobov v stratigrafskih odnosih (*sl. 9*). Analiza je pokazala, da so v času uporabe pokopališčnega prostora tam pokopali 4 generacije sosednje naselbine in še začetek pete, nato je bilo pokopavanje prekinjeno (podrobno: Pleterski 1982). Prav tako je bila že narejena preglednica pojavljanja posameznih oblikovnih tipov predmetov v času posameznega pokolenja (Pleterski 1982, sl. 5). Zato jo tu zgolj povzemamo v delu, ki se nanaša na naglavne obročke (*sl. 10*).

Razlika med preglednicama je le v tem, da je sedaj samostojno predstavljen naglavni obroček tipa NO0100_0406 iz groba 53 (Valič 1964, 23, t. XII: 6), ki je bil prej v preglednici pridružen tipu NO0100_0501. Slednjemu je še vedno pridružena različica NO01_0301 iz groba 170, torej z zaključkom v obliki kovane zanke, ki nima S-oblike (Valič 1969, 226, t. 2: 36,37). Prav tako sta v tej skupini obročka iz groba 4, ki imata na locen vdeto stekleno jagodo in verjetno nekovano S-zanko NO0101_0401 (Valič 1964, 14, t. I: 6,7). V slednjem grobu sta bila tudi poškodovana obročka z locnom tipa NO0405 (Valič 1964, 13, t. I: 4,5). Da imata oba obročka zaključka tipa 0201, je verjeten rekonstrukt.

V upanju, da bomo s pomočjo bayesovske statistike lahko prišli do absolutne datacije posameznih pokolenj, smo vzeli vzorce kosti iz dveh najdaljših stratigrafskih zaporedij (*sl. 9*). Žal se je izkazalo, da vsa okostja niso ohranjena. Tako je ostalo na voljo le 5 okostij, ki pripadajo različnim generacijam in zato še vedno dajejo podobo celote.

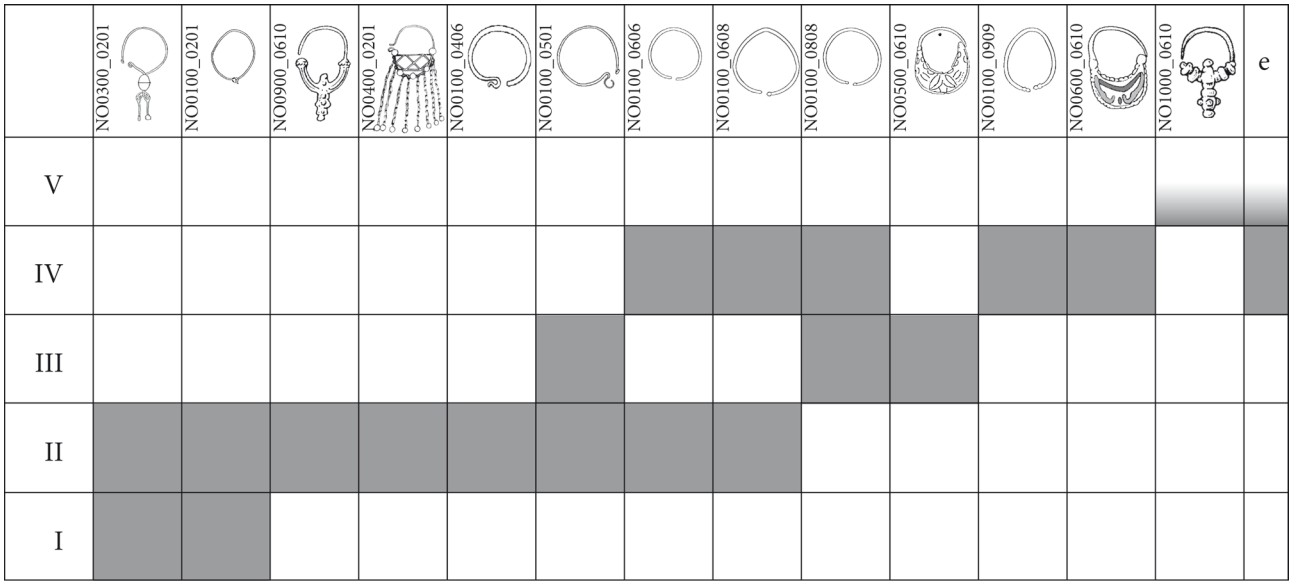
grob	vzorec	C14	2Σ	3Σ
GrS 88	Poz–46615	1015±30		
GrS 91	Poz–46617	1180±30	771–965	693–997
GrS 17	Poz–46614	1070±30	895–1021	885–1030
GrS 78	Poz–46614	1000±30	982–1153	901–1160
GrS 5	Poz–46612	975±30	1014–1155	985–1166

Pokazalo se je, da se laboratorijske starosti ujemajo s stratigrafskim zaporedjem, da je torej relativna kronologija grobov pravilna. Izjemo predstavlja vzorec iz groba 88, ki je stratigrafsko najstarejši, po starosti C14 pa se prepričljivo uvršča med mlajše.



Sl. 9: Sedlo na Blejskem Gradu, Slovenija. Stratigrafski odnosi in razporeditev grobov po pokolenjih. C14 = grob z datacijo C14.

Fig. 9: Sedlo at Castle Bled, Slovenia. Stratigraphic relations and the classification of graves into generations. C14 = grave with C^{14} dating.



Sl. 10: Sedlo na Blejskem Gradu, Slovenija. Relativna kronologija naglavnih obročkov po pokolenjih. e = emajl.
Fig. 10: Sedlo at Castle Bled, Slovenia. Relative chronology of head circlets as they occur in the individual generations. e = enamel.

Ker smo vzeli manjši odlomek kosti, kakršen je že bil pri okostju, in ker je antropološka analiza pokazala, da so izkopavalci večkrat združili kosti več oseb pod oznako enega groba (primerjaj: Leben-Seljak 1996, pril. 4.1.3.1), je verjetna domneva, da koščica v resnici pripada enemu od številnih okostij, ki so se kopičila na istem prostoru. Zato tega rezultata v nadaljevanju ne bomo upoštevali.

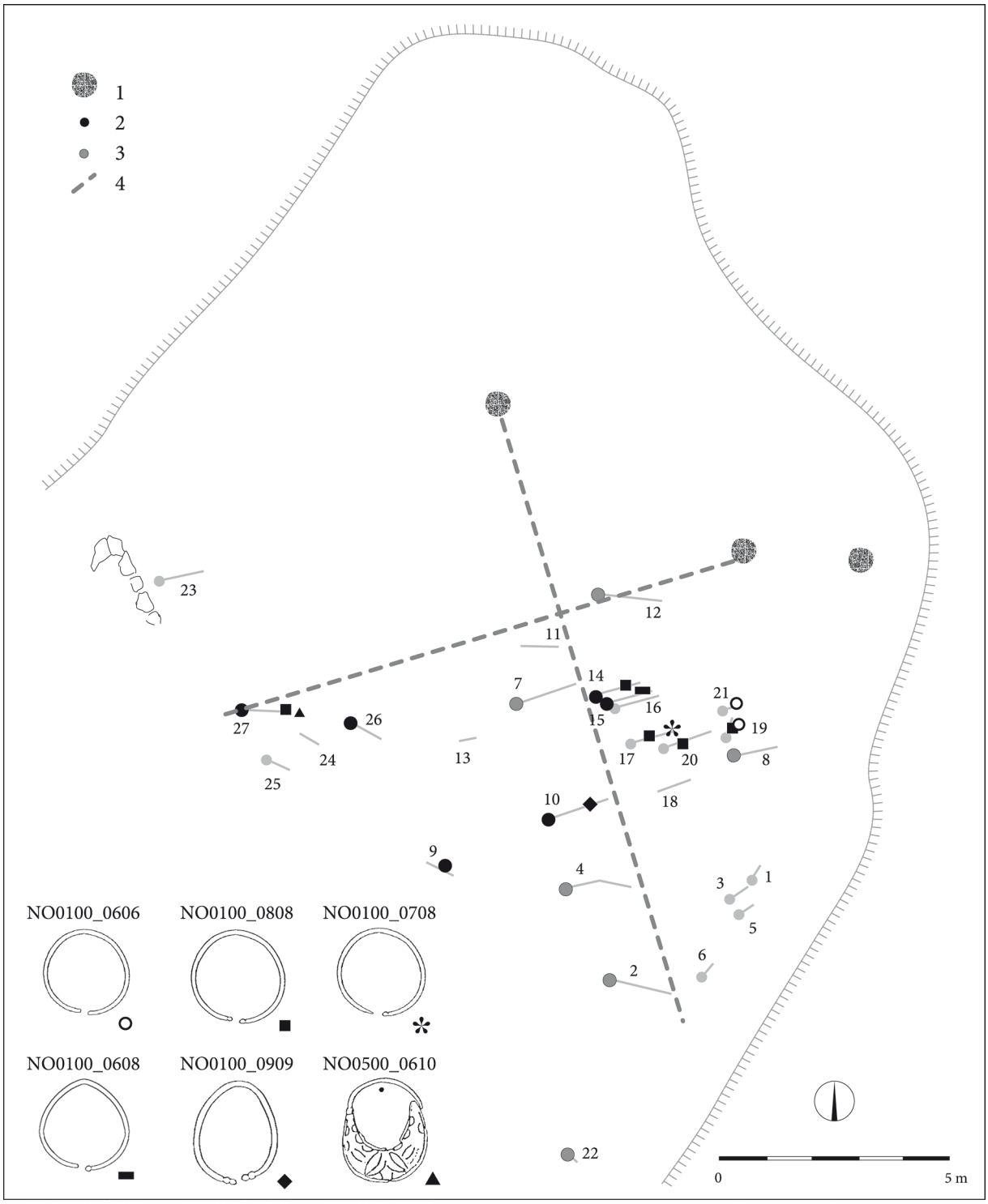
Mali grad v Kamniku

Raziskave kamniškega Malega gradu so nepričakovano odkrile tudi majhno zgodnjesrednjeveško grobišče. Raziskano je bilo v celoti. Objava (Sagadin 2001) je bila osredotočena na grobove in predmete v njih. Celostna analiza najdišča, ki je omogočila faziranje vseh izkopanin, je sestavnim delom grobišča dodala še več ostankov, med drugim tudi jame za lesene stebre (Štular 2007, 27–32; id. 2009, 47–49). Že Milan Sagadin je opazil, da so grobovi razporejeni vzdolž dveh pravokotno postavljenih linij (Sagadin 2001, 367, sl. 7). V izjemno podrobni obravnavi grobov, pokojnikov in grobiščnega prostora je Benjamin Štular opazil, da ena od teh linij sega do ene izmed prej omenjenih jam za lesene stebre (Štular 2007, 27, sl. 4). Če pravokotnico prestavimo med obe glavni vrsti grobov, se izkaže, da tudi ta sega do svoje jame za leseni steber. Prostorska struktura malograjskega grobišča je tako povezana z dvema velikima jamama za lesena stebra. Liniji, ki se nanju navezujeta, se pravokotno križata (*sl. 11*). Ob njiju so razporejeni skoraj vsi grobovi maloštevilnih odraslih oseb, ki so pripadale štirim, največ petim družinam. Lahko se samo strinjamo z mnenjem izkopavalca Milana Sagadina, da je pokopavanje trajalo le kratek čas (Sagadin 2001, 371), saj ni nobenih znakov, ki bi govorili, da je tu pokopana več kot ena generacija.

O stratigrafskih odnosih lahko govorimo samo v treh primerih (Sagadin 2001, 363–365). Prvi je nenavaden primer treh zaporednih pokopov ("grobovi" 14, 15, 16) v isto grobno jamo. Časovni razmak med dogodki ni mogel biti velik, ker je bila lega grobne jame pogrebcem vsakokrat znana do podrobnosti. V nedoločljivem stratigrafskem odnosu sta tudi grobova 17 in 20, ki vsebujeta naglavna obročka, ki sta zelo verjetno par (Sagadin 2001, 368), kar spet kaže, da med njima ni velike časovne razlike. V tretjem primeru otroški grob 19 delno prekriva otroški grob 21. Gostota otroških grobov je nedvomno namerna, zato je tudi do tega stratigrafskega razmerja lahko prišlo v krajšem času.

Slednji primer pa vendarle nakazuje še nekaj. V starejšem grobu 21 so bili trije naglavni obročki tipa NO0100_0606, četrti je bil v zasutju zgornjega groba 19, ki je sicer imel obroček tipa NO0100_0808. To bi morda kazalo, da tedaj obročki prvega tipa niso bili več v uporabi.

Podobno dvojica grobov 17 in 20 morda določa začetek uporabe naglavnih obročkov tipa NO0100_0708. Tak je namreč le v grobu 17. Če je



Sl. 11: Mali grad v Kamniku, Slovenija. Razporeditev tipov naglavnih obročkov. 1 – jama za lesen steber, 2 – ženska, 3 – moški, 4 – meja med prostori posameznih pokolenj (po Štular 2007, sl. 4).
Fig. 11: Mali grad in Kamnik, Slovenia. Distribution of different types of head circlets. 1 – posthole, 2 –female, 3 – male, 4 – border between the areas of individual generations (after Štular 2007, fig. 4).

ta mlajši od groba 20, bi to nakazovalo, da so se ti obročki uveljavili v mlajšem delu malograjske generacije, ki je tam pokopana. Grob 17 torej vsekakor dokazuje, da so bili obročki tipa NO0100_0708 in NO0100_0808 vsaj nekaj časa sočasno v uporabi, ker sta v tem grobu oba.

St. Peter pri Spittalu na Koroškem

Ob cerkvi sv. Petra v istoimenski vasici, ki je danes že skoraj predmestje Spitalla na Zgornjem Koroškem, so pri gradnji drenaže nepričakovano prišli na dan tudi zgodnjesrednjeveški grobovi. Okolni prostor je bil v manjši meri arheološko raziskan, in rezultati nedavno objavljeni (Karpf, Meyer 2010). Raziskanost je vendarle tolikšna, da omogoča zanesljiv pregled nad celoto in rekonstrukcijo njenega razvoja. Izjemna gostota grobov je ustvarila številna stratigrafska razmerja, ki kot sistem še niso bila analizirana. V številnih grobovih so se nahajali različni predmeti, v veliki večini primerov ženski nakit. Pomembna posebnost pokopališča je tudi v tem, da je pokopavanje trajalo neprekinjeno do 15. st. (Eichert 2010a, 183).

Stratigrafski odnosi grobov z zgodnjesrednjeveškimi pridatki

Kot "zgodnjesrednjeveški" so mišljeni grobovi pokojnih, ki so jih pokopali z iztegnjenimi rokami, vsi nad njimi ležeči mlajši grobovi imajo pokojnike z rokami, ki so prekrižane na prsih. Drža rok se je na pokopališču spremenila po 11. st., vsekakor pa do 13. st. (Eichert 2010a, 179).

Opažanja o stratigrafiji temeljijo na podatkih, ki so objavljeni v katalogu grobov in najdb (Eichert, Rogl 2010). Avtorja omenjata najočitnejše stratigrafske odnose, pri nekaterih navajata svoje domneve, preostalih ne omenjata. Dodajata shematične načrte grobov v izkopih in karte globin grobov (Eichert, Rogl 2010, t. 60–63), ki so zelo nazorne, vendar same ne morejo prikazati prepletenosti stratigrafskih odnosov. Fotografije okostij kažejo, da so bili obrisi grobnih jam opazni samo v zelo izjemnih primerih, sicer pa ne. Vsekakor ti obrisi niso bili risarsko dokumentirani niti ne opisani. Zato so tudi stratigrafski odnosi, ki jih opisujem v nadaljevanju, v določeni meri hipotetični, stopnja njihove verjetnosti pa je merljiva v sklopu vseh podatkov, ki jih obravnava pričujoča analiza.

Katalog stratigrafskih zaporedij (sl. 12)

Zdi se, da je grob 5 poškodoval grob 11, morda tudi 10. Polmesečasti obroček v grobu 11 je del zasutja in je tja očitno prišel iz groba 5 ali 10. Drugih starejših grobov na tem mestu ni bilo.

Po navedbi kataloga je grob 3 poškodoval spodaj ležeči grob 27, kar pa ni mogoče, ker je bilo dno slednjega 30 cm globlje. Podobno je grob 18 samo 10 cm globlji od groba 2, ki je nad njim in ga ni poškodoval. Do poškodbe groba 27 je verjetneje prišlo pri izdelavi groba 19. V katalogu je pri njegovem opisu ponovno navedeno, da je grob 3 poškodoval grob 27. Očitno gre za pomoto in naj bi pisalo, da je grob 19 poškodoval grob 27. Tudi grob 19 namreč leži pod grobom 3 in preko groba 28. Grob 28 je uničil grob 28A. Odlomek noža v grobu 28 bi lahko izviral iz groba 28A.

Zdi se, da grob 26, ki je poškodoval grob 29, leži pod grobom 18. Preko groba 18 leži grob 2.

Grobova 39 in 40 ležita vzporedno, vendar na različnih globinah. S fotografije (Rogl 2010, sl. 20) je razvidno, da je bila pri izkopavanjih grobna jama globljega groba 40 vidna in da je posegla v prostor groba 39. V jamo groba 39 so priložili lobanji starejših grobov 39B in 39C ter v jamo groba 40 lobanjo starejšega groba 39A. Če bi bil grob 39 mlajši od groba 40, bi zanesljivo poškodoval levi del groba 40, ki je očitno nepoškodovan. Nad grobom 40 je grob 21, nad obema dvojni(?) grob 12, 16.

Grob 36 je uničil grob 36A in leži preko grobov 36B in 47.

Grob 55 se očitno nahaja pod grobom 35.

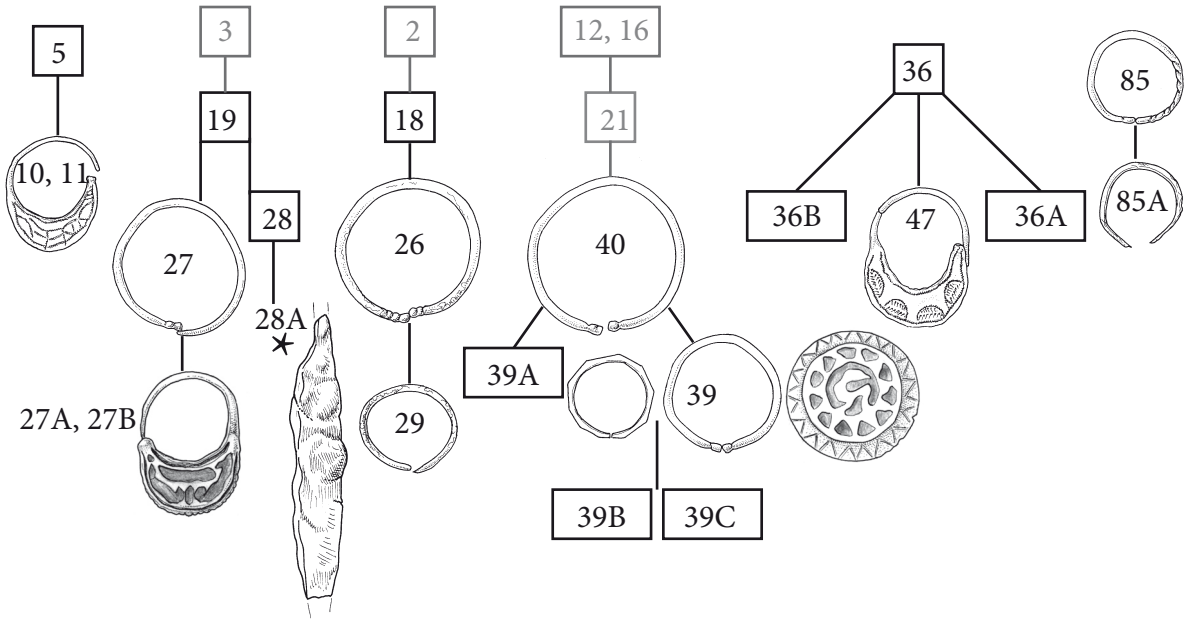
Videti je, da je grob 85 vsaj delno uničil grob 85A.

Grob 120 leži preko groba 120A in se nahaja pod grobom 80. Tega je poškodoval grob 101. Grob 80 je ohranjen od trebuha navzdol in na tem delu ni kosti rok, ki so v prekopanem gornjem delu, kar kaže, da so bile prekrižane na prsih.

Zdi se, da je grob 149 uničil grob 149A in leži pod grobom 144, oba pa pod grobom 132. Slednji je presekal grob 133. Pri desnem boku okostja v grobu 132 sta bila najdena dva prstana. Eden je bil še nataknjen na prst okostja, drugi je bil očitno del zasutja v neposredni bližini in ni jasno, iz katerega groba izvira. Izkopavalec Kurt Karpf dopušča možnost (informacija v pismu), da je pri dokumentiranju prišlo do zamenjave prstanov. Kar pomeni, da je uliti prstan pripadal grobu 132, pločevinasti pa je iz zasutja, kar je obratno, kot je v objavi. Preko groba 133 očitno leži tudi grob 126. Preko grobov 132, 133, 149 leži grob 90, ki ga je poškodoval grob 78, ki verjetno z okostjema 79 in 88 tvori skupinski grob.

Grob 138 je uničil grob 138A. Glavo okostja v grobu 138 je očitno poškodoval grob 125, ki leži pod grobom 109.

Grob 124 je uničil grob 124A, sam leži pod grobom 111, ta pod grobom 99, ki je uničil grob



Sl. 12: St. Peter pri Spitallu, Avstrija. Stratigrafska zaporedja in (delno idealizirani) predmeti v grobovih. Sivi so visokosrednjeveški in poznosrednjeveški grobovi. Zvezdica označuje rekonstruiran predmet.
Fig. 12: St Peter near Spitall, Austria. Stratigraphic sequences and (partly idealized) objects in graves. The grey graves are from the High or Late Middle Ages. Asterisk denotes reconstructed object.

99A. Grob 99 sega iz roba izkopa samo s spodnjim delom. Desnica je položena na trebuh, levica je bila očitno položena na prsi, ker ni bila odkopana.

Opažanja

Najdaljše stratigrafsko zaporedje zgodnjesrednjeveških grobov ima najmanj 5 zaporednih grobov.

V vseh primerih stratigrafskih zaporedij so obročki z več odebelitvami na konceh locna na mlajšem delu zaporedja ter na meji z visokosrednjeveškimi grobovi ali blizu nje in nikoli niso najstarejši člen stratigrafskega zaporedja.

Emajlirani nakit se nahaja v spodnjem delu stratigrafskih zaporedij, vendar ne vedno na najstarejšem mestu. Enako je z obročki z enojno odebelitvijo na konceh locna (tip NO0100_0808), ki so lahko celo še poznejši od emajliranega nakita.

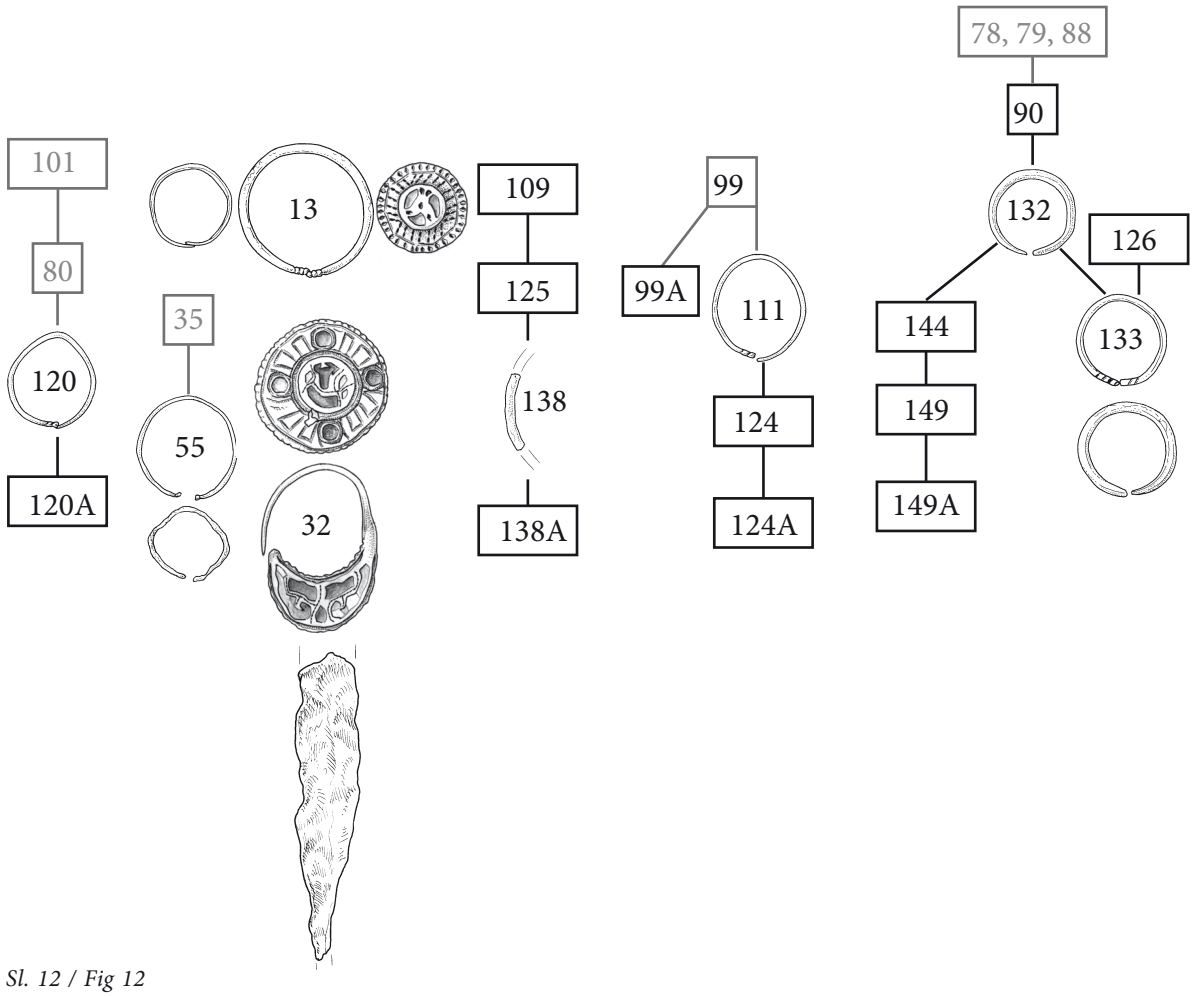
Kovani polmesečasti obročki (tip NO0500_0610) so najstarejši člen stratigrafskega zaporedja.

Na grobišču so bili najdeni kot raztresene najdbe tudi odlomki treh obročkov s kaveljčkom in kovano S-zanko (tip NO0100_0501). To bi nakazovalo, da pripadajo najstarejšim grobovom, ki pa so jih mlajši grobovi dodobra uničili.

Časovna razvrstitev grobov

Grobove lahko časovno razvrstimo s pomočjo različnih meril. Prvo merilo, ki je zgoraj podrobno opisano, so stratigrafska razmerja. Drugo merilo je pripadnost predmetov istemu oblikovnemu tipu. Kot tretje merilo je mogoče uporabiti tudi datacije, pridobljene po metodi radioaktivnega ogljika C14, tako je bilo datiranih kar 12 zgodnjesrednjeveških grobov (zahvaljujem se Kurtu Karpfu za prijateljsko pomoč, ko mi je prijazno dal na voljo rezultate laboratorijskih analiz, ki doslej še niso bili objavljeni v celoti).

grob	vzorec	C14	2Σ	3Σ
GrP 47	E–12039	1237±38	683–882	660–945
GrP 13	E–12035	1109±40	783–1019	777–1024
GrP 32	E–12036	1089±41	872–1025	778–1032
GrP 39	E–12038	1006±38	903–1155	895–1164
GrP 36	E–12037	971±40	994–1159	972–1213
GrP 40	E–13997	894±58	1025–1252	992–1275
GrP 26	E–13996	891±69	1023–1259	970–1287
GrP 55	E–13998	885±59	1030–1253	995–1278
GrP 133	E–14002	841±43	1046–1273	1035–1279
GrP 85	E–13999	831±43	1050–1275	1039–1281
GrP 120	E–14001	824±46	1050–1279	1036–1285
GrP 111	E–14000	795±45	1160–1284	1042–1299



← *Sl. 12 / Fig 12*

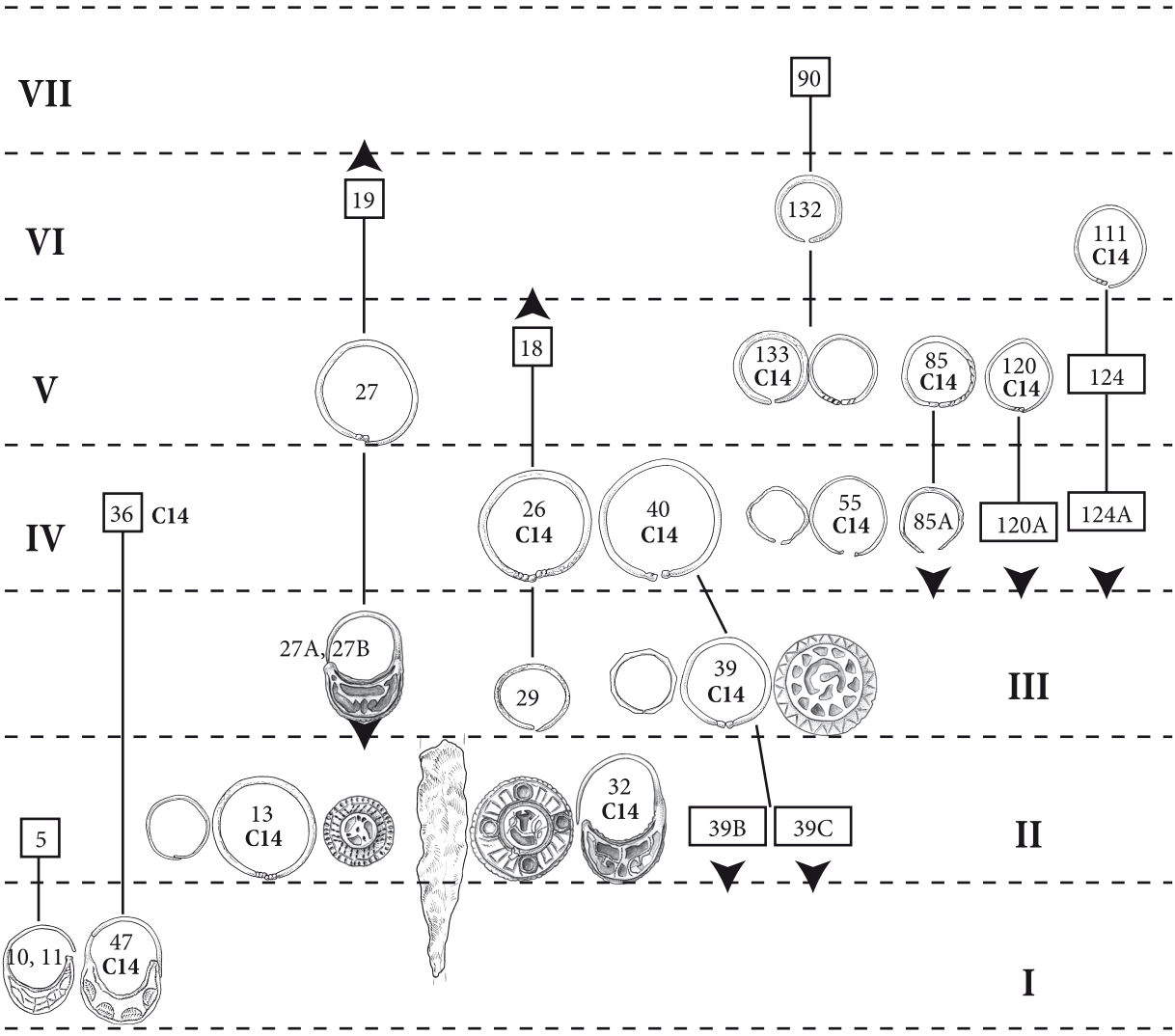
Čeprav te datacije za absolutno datiranje sicer večinoma niso uporabne (glej zgoraj, pogl. 3), očitno vendarle dobro kažejo relativno zaporedje grobov. Sestavljajo več časovno zaporednih skupin, predmeti v teh skupinah se ujemajo, zaporedje skupin je potrjeno tudi stratigrafsko. Tako je bilo mogoče izluščiti 7 "plasti" grobov (*sl. 13*). Najvišja nima dokazanih predmetov v grobovih.

S tem lahko sestavimo preglednico relativnega pojavljanja posameznih tipov naglavnih obročkov (*sl. 14*). Nenavadni obroček v grobu 85, ki je na risbi videti kot različica tipa NO0100_0809, naredi povsem drugačen vtis, ko ga držimo v roki. Povsem očitno postane, da gre za nebogljeno posnemanje locna z astragalnimi odebelitvami, torej tipa NO0700. Prav tako je videti upravičeno, da obročke tipov NO0100_0708 in NO0100_0709 združimo v eno skupino, saj se število odebelitev zaključka pri njih (še?) ne kaže kot določen kronološki pokazatelj.

Medsebojna kronologija obravnavanih najdišč
(*sl. 15*)

Za blejska najdišča je upravičeno pričakovati, da se "obnašajo" razmeroma sočasno in na skladen način, saj gre za skupen prostor s skupno zgodovino in pogoji življenja (primerjaj: Pleterski 2011). Kajti zelo verjetno je preskrbovanje pri istih obrtnikih in zato so se tudi vse spremembe pri uporabi nakita dogajale hkratno. Čeprav obsegajo Dlesc, Žale in Sedlo zelo podobne časovne razpone, med pokopi generacij na njih vendarle ni popolnega enačaja.

Pomembna razlika med zasipškimi Žalami in Dlescem je v tem, da na Dlescu četrti generaciji pripada le nekaj grobov: nič moških in zanesljivo ne vse ženske. Najverjetneje se je tedaj zgodil odločilen in množičen prehod k pokopavanju na cerkveno pokopališče. Mogoče je sklepati, da je šlo za odločitev, ki je bila obvezna za vse v župi Bled. Če je bilo res tako, se je ta prehod zgodil pri vseh blejskih vaseh približno istočasno. To bi



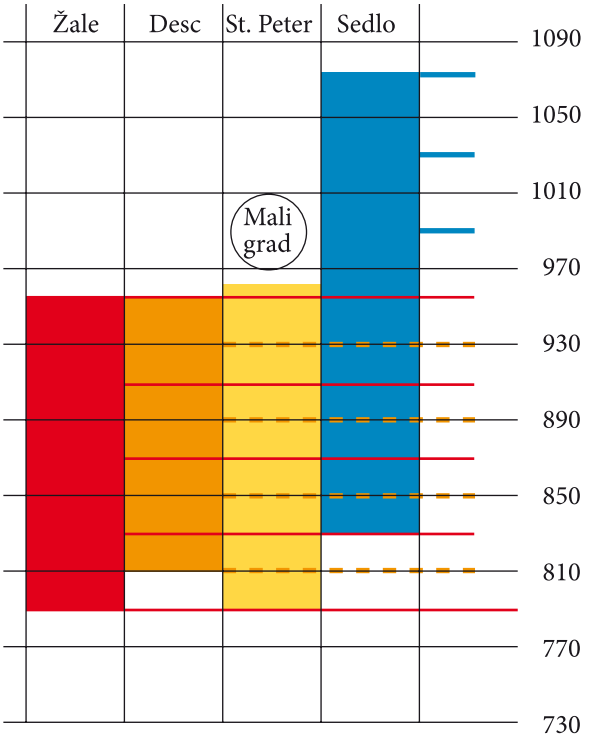
Sl. 13: St. Peter pri Spitallu, Avstrija. Stratigrafski odnosi ter razporeditev grobov in predmetov po "plasteh". C14 = grob z datacijo C14. Poenostavljeno, visokosrednjeveški in poznosrednjeveški grobovi ter stranska stratigrafska zaporedja so izpuščeni. Črna puščica kaže možnost zgodnejše oziroma poznejše datacije.

Fig. 13: St Peter near Spitall, Austria. Stratigraphic relations and the classification of graves and objects into "layers". C14 = grave dated with C14. The image is simplified; high and late mediaeval graves, as well as secondary stratigraphic sequences have been omitted. Black arrows indicate the possibility of an earlier or later dating.

Sl. 14: St. Peter pri Spitallu, Avstrija. Relativna kronologija naglavnih obročkov po "plasteh". e = emajl.

Fig. 14: St Peter near Spitall, Austria. Relative chronology of head circlets classified into different "layers". e = enamel.

	NO0100_0501	NO0500_0610	NO0100_0909	NO0600_0610	NO0100_0808	NO0700_0810	NO0100_0709	e
VI							■	
V						■	■	
IV			■		■			
III				■	■			■
II			■	■				■
I	■	■						



Sl. 15: Medsebojna kronologija najdišč in njihovih pokolenj oziroma "plasti".
Fig. 15: Relative chronology of all the sites and their generations or "layers".

posledično pomenilo, da so na Dlescu zgolj starejši grobovi četrte generacije. Ker je na zasipških Žalah pokopano celo četrto pokolenje, bi to primerjalno pomenilo, da se je pokopavanje na Dlescu začelo približno pol generacije pozneje kot na Žalah.

Ker je pojavljanje posameznih oblikovnih tipov naglavnih obročkov po posameznih generacijah med Žalami in Sedlom zelo skladno, so si te generacije očitno bolj ali manj sočasne. Res je, da ima otroški grob 15 na Žalah stari tip naglavnih obročkov NO0205, kakršnega nima noben grob na Sedlu, vendar to ni zadosten razlog, da bi začetek pokopavanja na Žalah postavili pred začetek pokopavanja na Sedlu. V tem primeru bi vsekakor pričakovali še vsaj nekaj grobov pete generacije na Žalah, a ni nobenega.

Starosti C14 enačijo generacije na Sedlu s "plastmi" grobov pri St. Petru: drugo generacijo s prvo plastjo, tretjo generacijo z drugo plastjo, četrto generacijo s tretjo plastjo in peto generacijo s četrto plastjo.

Malograjsko grobišče se po oblikovnih tipih naglavnih obročkov umešča med Sedlo na Blejskem gradu in najmlajše grobove St. Petra. Tipi, ki so na Sedlu v četrti generaciji, so tudi na Malem gradu. Vendar ima Mali grad tudi obročke tipa NO0100_0708, ki spadajo med zadnje predmete v St. Petru in jih na blejskem Sedlu še ni. Zdi se, da se pokopavanje na Malem gradu začne nekako tedaj, ko preneha na Sedlu, a vsekakor ne dolgo zatem. Trenutno lahko gradimo na domnevi, da se je to zgodilo v času četrte generacije St. Petra.

Relativni časovni razponi

Da smo pri vseh blejskih in malograjskem grobišču opazili posamezne generacije pokojnikov, je precej zanesljivo. Sedaj se seveda postavi vprašanje, *kako dolgo traja pokopavanje posamezne generacije*. Odgovor ni preprost, zanesljivo pa se ga ne sme poenostaviti in enačiti s povprečno življenjsko dobo tedanjih ljudi. Predstavljena grobišča so iz časa in prostora, ki že pozna osebno lastnino zemlje, ki je glavni vir preživljanja (obširno in podrobno: Pleterski 2011). V takih razmerah moramo imeti za mejnik med generacijami menjavo gospodarjev na zemljiški posesti, ker so ti tisti, ki so odločali o življenju in delu, ter nedvomno tudi o pokopavanju, kar je bilo v istem kraju povsem očitno usklajeno in dogovorjeno. Tedaj tudi ne gre za razmere kakršne vladajo v rodbinski zadrugi, kar pomeni, da si je naslednik lahko ustvaril družino šele po prevzemu posesti in ne že prej, kot v zadrugi. Do prevzema je tako običajno prišlo šele ob smrti starega lastnika, kot kaže pregovor: "Jaz tebi luč [mrtvaško], ti meni ključ." Kdor noče na to čakati, odide po svetu. Vsaj za poznejša stoletja srednjega in novega veka je na Slovenskem prevladovalo načelo ultimogeniture, torej prednost najmlajšega pri dedovanju (Vilfan 1996, 260). Vse to je podaljševalo čas med dvema prevzemoma. Ob upoštevanju različnih praktičnih primerov se verjetno ne bomo preveč zmotili, če za povprečen čas ene generacije (torej čas med dvema prevzemoma, med dvema gospodarjema, med dvema izbirama pokopavanja) vzamemo 40 let. To posledično pomeni, da je pokopavanje npr. na Sedlu s štirimi generacijami in začetkom pete trajalo približno 170 let. Obenem ni odveč poudariti, da je lahko razmak med generacijami v razmerah drugačne gospodarske osnove preživljanja in drugačne družbene organiziranosti bistveno krajši. V idealnih razmerah je omejitev samo še spolna nezrelost.

Na katere pokope v okviru posamezne generacije lahko računamo? V zgoraj opisanih razmerah se pokopavanje začne z umrlimi otroki, saj je znana

visoka umrljivost otrok v prejšnjih časih. Hkrati z njimi so pokopane ženske v rodni dobi, ki so umrle zaradi različnih porodnih in poporodnih zapletov. Pokopavanje se zaključuje s smrtjo preostalih stark in starcev. Pokopov vnukov ni, ti so lahko pokopani najprej pri naslednji generaciji. Za razumevanje grobiščnega prostora je pomembno tudi to, da so imeli otroci kot posebna družbena skupina tudi poseben pokopališčni predel, kar dobro ilustrirajo zgornji primeri.

Tak potek pokopavanja sicer pomeni, da so grobovi otrok večinoma starejši od grobov njihovih staršev. Pri časovni razlagi je zato treba upoštevati, da se določena vrsta predmetov pojavi najprej v otroških grobovih, če so bili ti prej v vsakdanji uporabi in nato namenjeni za grob. Enako velja za najpoznejše predmete. Starši so še imeli priložnost zamenjave za nove izdelke, prej umrli otroci pač ne.

In potek pokopavanja na cerkvenih pokopališčih? Grobišče ob zgornjekoroškem sv. Petru je bilo najverjetneje ves čas uporabe v zgodnjem srednjem veku osrednje pokopališče prostora z več naselji (prim. Meyer, Karpf 2010, 62–63). To pomeni bistveno več pokopov kot na grobišču posameznega kraja. Pomeni tudi stalen in razmeroma enakomeren dotok umrlih, če odmislimo izredne dogodke, kot so vojne, lakote in kuge. A vendar smo opazili enakomerno razvrščanje grobov v nekakšne "sloje" (glej zgoraj). Kaj je to?

Največje raziskano bajuvarsko grobišče Altenerding, kjer so stoletja pokopavali na istem prostoru prebivalce velikega središča, ima zato stotine stratigrafskih razmerij med stotinami dobro datiranih grobov. Za te grobove je bilo mogoče izdelati grafikon, ki kaže, kdaj se pojavi možnost stratigrafskega razmerja med dvema grobovoma. Pred 25 leti je skorajda ni, nato strmo doseže vrh in od 45 let dalje upada (Pleterski 2003, sl. 158). Ljudje so se torej približno tri desetletja izogibali posegu v grob. Morebitno pojasnilo ponuja stara uvera, po kateri šele po 30 letih postane mrtvec živemu človeku neškodljiv. O tem nam poroča zapis zagovora s konca 15. st. ali začetka 16. st. – *Die chunnen mir hewt als wenig geschaden als der man, der vor xxx Jaren ist pegrabenn* [ki mi lahko danes tako malo škodijo kot človek, ki je bil pokopan pred 30 leti] –, ki je bil v uporabi tudi v tedanji Ljubljani (Javor-Briški 1998, 9; Nabergoj 2001, 61). Mlajši zagovori postavljajo časovno mejo 32 let (Grafenauer 1943, 231; Makarovič 1995, 373). Čeprav ni dvoma, da so pogrebci poznali sredstva in načine, ki so jih lahko zaščitila v primeru zgodnejših posegov (kot jih npr. dokazuje jama grobov 14–16 na Malem gradu), pa so se temu očitno, če se je le dalo, izogibali. Zato ni presenetljivo, da se tudi na cerkvenem pokopališču oblikuje ritmično pokopavanje, ki je zaradi upoštevanja "tridesetletne nevarnosti" precej usklajeno z ritmom generacijskih menjav. Če tako za te "plasti" postuliramo vsakokratno trajanje 40 let, lahko sestavimo 280 let dolgo obdobje zgodnjesrednjeveških grobov.

Celoten skupek grobišč zato pokriva časovno obdobje, ki traja približno 320 let in čas s predmeti v grobovih 280 let. V nadaljevanju moramo izvesti zgolj še umestitev v koledar.

5. ABSOLUTNA KRONOLOGIJA

Prenehanje pokopavanja na grobiščih brez cerkve na Bledu kot *terminus ad quem*

Že zgoraj je bilo nakazano, da blejska grobišča brez cerkve prenehajo približno istočasno. Vzrok za opustitev takih grobišč je nedvomno uveljavitev formalne obveze pokopavati na cerkvenem pokopališču. Kako hitro se je ta obveza uveljavila, lahko sklepamo po razmerah na grobišču Sedlo na Blejskem gradu. Povedno je razmerje spolov pokojnih. Gledano v celoti je število moških in ženskih grobov uravnoteženo (Leben-Seljak 1996, 66). Vendar če gledamo samo grobove četrte in pete generacije (predstavljeni v: Pleterski 1982, sl. 9), je slika precej drugačna. Z antropološko analizo (Leben-Seljak 1996, pril. 4.1.3.1) in s pomočjo pridatkov je mogoče določiti 4 otroke, 1 neopredeljenega, 7 moških in 17 žensk. Če upoštevamo, da imata domnevna moška v grobovih 29 in 36 slabše izražene moške spolne znake in pri glavi naglavne obročke, ju verjetneje lahko prištejemo k ženskam. To bi potem pomenilo razmerje 19 ženskih grobov proti 5 moškim. En otroški grob (143) in en ženski grob (5) lahko sicer prištejemo že k peti generaciji, kar pa prav nič ne spremeni opažanja, da so že kar nekaj časa pred opustitvijo grobišča na njem prenehali pokopavati moške. To pomeni, da je opustitev pokopavanja vendarle bila postopna. Podoben pojav je bilo mogoče ugotoviti na bajuvarskem grobišču Altenerding, kjer je v zadnjih desetletjih uporabe grobišča število moških grobov drastično upadlo, najverjetneje zaradi prehoda k cerkvenemu pokopališču (Pleterski 2003, 645–646).

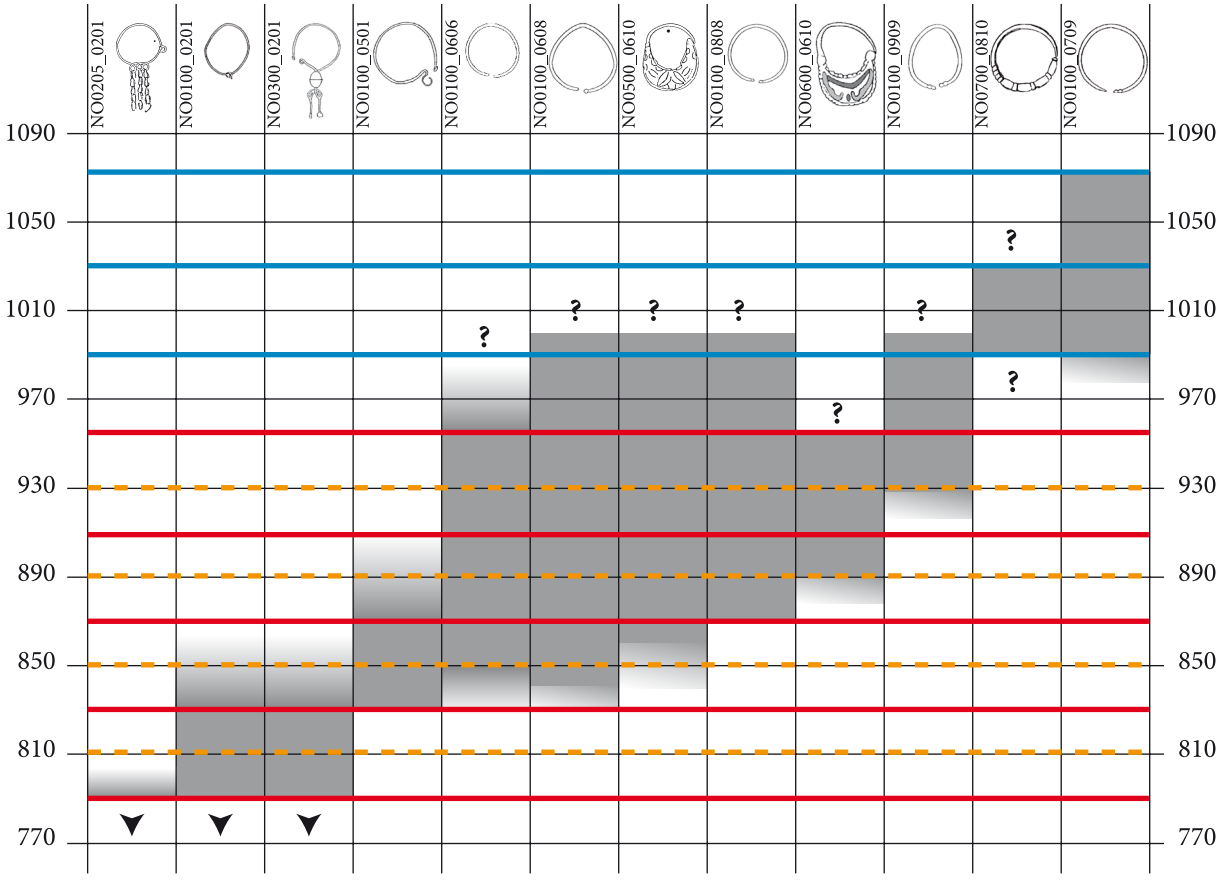
Kljub temu približna sočasnost opustitve blejskih vaških grobišč in prekinitev sredi življenja pokolenja nakazujeta, da se je na koncu zgodila

tudi formalna zapoved, kar je prav mogoče povezano s tem, da je blejski prostor prišel pod oblast srednjeveškega rimskega cesarstva (Pleterski 2011, 153–155). To se je na prostor južno od Karavank razširilo najverjetneje po bitki pri Augsburgu leta 955 in najkasneje do 973. Bogo Grafenauer omenja celo domneve, da bi to lahko bilo že okrog leta 950 (Grafenauer 1965, 139–140). Ker ni verjetno, da bi cesar Oton II., ko je takoj na začetku svojega vladanja 973 podelil freisinški škofiji Bledu bližnje škofjeloško gospostvo (Blaznik 1973, 11), dal ozemlje, ki je bilo zavzeto šele pred nekaj tedni ali meseci, se je to moralo zgoditi vsaj nekaj let pred tem. Leta okoli 960 so zato zelo verjeten čas, ko preneha blejsko pokopavanje stran od cerkvenega pokopališča. Ta čas se ujema tudi s prenehanjem naselbine na Pristavi pod Blejskim gradom, ki smo ga določili neodvisno (Pleterski 2010a, 164).

Kot mejo med četrto in peto generacijo na Sedlu zato predlagam leto 960 (ne pozabimo, da gre ves čas za zaokrožanje na desetletja!). To posledično pomeni, da se sedem "plasti" grobov St. Petra začne okoli 830 in konča okoli 1110. To se ujema z domnevo, da se tam pokopavanje začne s postavitvijo nove cerkve po 828 (prim.: Meyer, Karpf 2010, 62) in s siceršnjo analizo arheoloških najdb, ki kaže, da se je zgodnjesrednjeveška drža rok spremenila po 11. st. in vsekakor do 13. st. (Eichert 2010a, 179).

Referenčna tabela naglavnih obročkov

Ko poznamo relativno in absolutno kronologijo tako časovnih členov posameznih najdišč kot tudi njihovega celotnega sestava, je seveda mogoče s pomočjo pojavljanja posameznih oblikovnih tipov naglavnih obročkov po posameznih najdiščih (*sl. 6b; 8b; 10; 11; 14; 15*) sestaviti skupno referenčno tabelo naglavnih obročkov (*sl. 16*). Vanjo so vključeni zgolj pogostejši tipi, ker je samo zanje dovolj podatkov, da je mogoče časovne razpone njihovega pojavljanja (v grobovih! ni 100-odstotnega zagotovila, da je v



Sl. 16: Referenčna tabela naglavnih obročkov. Prikazani so ugotovljeni časovni razponi. Puščica kaže smer začetka pojavljanja posameznega tipa.
Fig. 16: A reference table for head circlets, showing the established time frames. Arrows indicate the direction of the beginning of occurrence of a type.

naselbinah enako) prikazati dovolj zanesljivo. Koledarski razpon, ki ga tako pokriva tabela naglavnih obročkov, sega od leta 790 do leta 1070.

Izjemoma je v tabeli tudi naglavni obroček NO0700, čeprav v naših primerih nastopa samo enkrat. Vključil sem ga zato, ker želim opozoriti nanj, in ker nedvomno dopolnjuje sliko najmlajšega dela tabele. Tudi na Blejskem otoku (Knific 2004, sl. 20: 3) in pri sv. Martinu v Mostah pri Žirovnici (Valič 1982, sl. 53) se pojavlja na cerkvenih pokopališčih. Ni ga na grobiščih brez cerkve.

Posamezna generacija ali "plast", ki pokriva 40 let, seveda ne kaže točnega časa začetka ali konca posameznega tipa. Ta dva sta zgolj nekje znotraj takega razpona. Kjer je bilo mogoče, sem skušal nakazati, ali je tak začetek/konec bliže začetku ali koncu 40-letnega obdobja. To še zlasti velja za obročke tipa NO0100_0909, ki se najprej pojavijo že v drugi "plasti" v St. Petru, torej teoretično takoj po 870. Vendar ker bi to pomenilo, da se pojavijo istočasno kot tip NO0100_0808, ki je na Bledu povsem nedvomno v uporabi že vsaj eno generacijo prej (glej zgoraj), jih je treba postaviti v sam konec druge navedene druge "plasti", torej najverjetneje po 900.

Podobno se obročki s kovanim polmesecem, torej tipa NO0500_0610, začnejo pojavljati v St. Petru teoretično že takoj po 830, kar je prav tako 40 let pred njihovim pojavom na Bledu. Zato je njihov začetek verjetnejši nekoliko pozneje, vendar vsekakor pred 860. Nekako tedaj se na Bledu konča obdobje uporabe obročkov tipa NO0300_0201. Rezultat naše analize, ki ga predstavlja referenčna tabela (*sl. 16*), po katerem obstaja kratko obdobje sočasnosti obročkov NO0300_0201 in NO0500_0610, ima potrditev v grobu 144 v Krunglu na Zgornjem Štajerskem, kjer sta bila najdena oba obročka skupaj v istem grobu (Kramer 1996, t. 36).

Zlasti konec uporabe tistih naglavnih obročkov, ki se pojavljajo tudi na kamniškem Malem gradu, ni dorečen, ker je bil splošni vzorec najmlajših grobov premajhen. To pomanjkljivost bo mogoče odpraviti v nadaljnjih raziskovalnih korakih (glej spodaj).

Natančnost sistema in nadaljnji koraki

Z dodajanjem novih najdišč v tabelo povezav se bo povečala izostrenost začetkov in koncev pojavljanja doslej časovno opredeljenih naglavnih obročkov. Izdelati bo mogoče kronologijo naglavnih obročkov, za katere to tu ni bilo mogoče, bodisi zaradi njihove maloštevilnosti, bodisi ker jih ni na zgornjih najdiščih. Dodati bo mogoče kronološke razpone drugih vrst predmetov, najprej prstanov, potem tudi steklenih jagod in okrasnih zaponk in morda še česa.

Verjetno je nestvarno pričakovati, da bi časovne mejnike posameznim tipom lahko določili natančneje kot z zaokrožanjem na deset let. Natančnost in zanesljivost sistema narašča s številom ugotovljenih povezav. Ocenjujem, da je zgornji sistem večinoma že dovolj zanesljiv za uporabo. Seveda so možni še manjši premiki v posameznih delih. Prav tako dopuščam možnost časovnega premika celotnega sistema, vendar ne več kot za deset let.

Zgodovina vseh dosedanjih arheoloških raziskovanj pa je v vsakem primeru pokazala, da je izpopolnjevanje kronologije stalen proces in nikoli enkratno, dokončno dejanje.

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A step towards the chronology of early medieval head ornaments in the Eastern Alps

Translation

The research* began as described in the methodological introduction (see below). We attempted to date graves with the radiocarbon (C^{14}) method, but it soon became evident that radiocarbon dating cannot be used as a shortcut. Moreover, several serious problems emerged. In order to obtain a useful result, our strategy and research methods needed to be changed drastically. The structure of this article roughly follows this cognitive path.

1. THE STATE OF RESEARCH AND METHODOLOGICAL STARTING POINTS

The two inevitable starting points of further archaeological analyses are the location of an archaeological find and its chronological determination. Chronology is never perfect and as such presents an evergreen subject of debate in archaeology. Early medieval archaeological material from the Eastern Alps is placed in terms of space and time between several geographic areas with their own independent chronologies. The most "mature", in the sense that it has been studied the most and that it is the most intertwined with numismatic and historical dates, as well as those derived from natural science disciplines, is undoubtedly the chronology of the late Merovingian period in Western Europe, but it ends in the first half of the 8th century. East of the Alps, there is the chronology of the Pannonian "Avaria" (Avar state) for the period from the end of the 6th century to the beginning of the 9th century. Thia refers to those finds that are called "Avar" in the careless archaeological jargon. Due to its imaginary ethnic content, this label has been avoided in recent years. There is a chronological system for Pannonia, supported by numerous finds of coins in graves, which describes the time after the arrival of the Hungarians. The finds classified within this system have been given several different names by archaeologists. Some prefer the expression "Bijelo Brdo Culture", others "finds from the period of the Árpád dynasty". This chronology of Pannonian Hungary starts in the 10th century and continues into the following centuries. All the chronologies (the above-mentioned as well as those in the following paragraphs) are based primarily on female jewellery and partly on male belt mounts. All of the other non-pottery objects are much rarer, demanding their own chronologies (e.g. chronologies of swords, spurs), and are less useful for the general chronological determination

* The article is a part of the P6 - 0064 programme Archaeological investigations and the J6 - 4057 project The Župna Cerkev Cemetery in Kranj, finaced by the Slovenian Research Agency.

of sites. Finds from Bohemia, Moravia, Slovakia, and Croatia are described by local systems, which could be labelled as still intuitive. This refers to chronological systems arbitrarily founded by individuals, who have arranged all their observations with the help of their intuition. Such a system is not necessarily fallacious and misguided. It is very likely that it is the only possible one, as long as there is a mass of barely tangible information to be dealt with. Nevertheless, it later demands constant reexamination whenever possible.

The chronology of early medieval archaeological material from the Eastern Alps is certainly one of such chronologies. Loose connections with the above-mentioned chronologies indicate that this material belongs to the time between the 7th/8th and the 10th centuries. Both time boundaries, however, are still blurred. In older literature it is referred to as "Carantania-Köttlach" Culture or cultural group. This expression will not be used in this article, because I consider the concept of archaeological culture exhausted and more misleading than not when applied to the time and space studied here (for more see Pleterski 2003, 653). The material was perceived as a chronological unit in all earlier publications (Korošec 1947, 110–113; overview Pleterski 2001a) – a small exception is the unresolved attempt of Jože Katelic, who tried to determine some of the earlier objects (Kastelic, Gabrovec 1950, 47; Kastelic 1960, 40) – and Paola Korošec, who was the first to suggest its division into an earlier (Carantanian) and later (Köttlach) group and to predict a transitional stage (Korošec 1961, 192–194). She placed the earlier stage in the time of the Avar-Slavic period (which would mean from the end of the 6th century to the beginning of the 9th), the beginning of the second stage in the middle of the 9th century, and its end at the end of the 10th century (Korošec 1970–1971, 100–101). This is not the place to discuss her seemingly failed attempt to define a special "pottery group", characterized by pots in graves. Despite the fact that she later published an extensive catalogue of sites and grave units, her arguments were burdened by a multitude of untransparent analogies (Korošec 1979). Thus, the first methodologically sound proof that her division was actually right was presented by Timotej Knific with his stratigraphic analysis of the cemetery in Pristava at Bled (Knific 1974).

There followed a short article by Jochen Giesler, in which he divided the material into three stages, but the documetnation for this that he announced has never been published. The self-critical observation that rather than solid dates, his chronological starting points are there to help to create a general idea ("diese Zeitansätze gegenwärtig noch eher Vorstellungshilfen als gesicherte termini darstellen") therefore remains valid (Giesler 1980, 96). He dated the first stage (pre-Köttlach) to the first half of the 9th century with its beginning around 800; the second stage (Köttlach I) to the second half of the 9th century and the first half of the 10th century; and the third stage (Köttlach II) from the second half of the 10th century to the mid-11th century (Giesler 1980, 95–96). In the following decades, his absolute chronology was subject to criticism, which demonstrated that much earlier dates are needed for the material (overview Eichert 2010b, 16, 168–171).

The most recent division, which only includes material from Austrian Carinthia, was proposed by Stefan Eichert. He divided it into three groups: A (660–780), which does not include the material from female graves and, in the author's estimation, only represents the top class of the society, B (740–830), and C (780–11th century). While group B encompasses material from both male and female graves, group C only includes female jewellery. The latter was divided into subgroups C1 (780–830), C2 (830–900), and C3 (900–11th century). The main temporal boundaries are predominantly based on political events (Eichert 2010b, 160–173). His division already demonstrates a consciousness that it is not necessary for the shape of types of objects to follow one another, they can also be parallel. This demands a completely different approach to a chronological analysis.

We need to ask ourselves whether the approach originating in the tradition of European prehistoric archaeology, which gives meaning to the chronological comprehension of material with the aid of chronological stages (with different names), is still the only or the best approach for the archaeology of early medieval archaeological material. More than three decades ago, Heiko Steuer pointed out the futility of looking for short chronological stages. This was illustrated by a model, which takes into account the time when a cpecific kind of objects is produced, the time when such objects are in circulation, and the lifetime of their users. While the span of time when these objects were placed in graves can hardly be shorter than 50 years, it is very likely that it is even longer (Steuer 1977). If only for this reason, chronological systems with stages are limited.

The main problem is well illustrated by the diagram of individual chronologically sensitive

characteristics of objects from the Altenerding cemetery (*Fig. 1*), which was used for burials from about 470 to about 690. It was possible to define 154 different characteristics. The lengths of the lines depict the periods of time when these characteristics are present in graves. The idea of chronological stages is certainly impossible without a silent assumption that there are temporally divided groups with the observed characteristics. The diagram displays no such groups. It merely shows that there are constant introductions of new characteristics as well as disappearances of old ones (Pleterski 2001b; id. 2003, 529–530). Surely, the introduction of new characteristics or their disappearance could be seen as a criterion and a boundary between different chronological stages. But why should the year 570 as a boundary be more justified then 580 or 590? True, certain boundaries between chronological stages of archaeological material can be confirmed independently (stratigraphy, natural science dating methods). This can be explained by the fact that these boundaries agree with periods of great changes to the observed characteristics; one such change can be seen in Altenerding approximately between the years 580 and 600. It is, however, difficult to predict these periods of changes in advance. Furthermore, such times of changes are not distributed evenly in time and also the gaps between them are usually longer than one would wish. Chronological stages created by archaeologists are in fact very arbitrary, as can be seen from the simple fact that they are rounded off in accordance with the way we measure time today (turn of a century, middle of a century, first or second half …). Dating *per analogiam* only strengthens and deepens the assumed chronological divisions.

If our goal is to create a chronology, then the **strategy of our research** will consider the abovementioned observations to the highest degree. A way of thinking that demands the division of material into chronological groups will be avoided. We shall focus on the time of "duration" of individual types of objects. Such types will be defined predominantly with the aid of their shapes and therefore labelled as shape types. Since we will be doing the defining, this belongs among empirical types and it is not at all necessary that it should agree with any real or cultural type (definitions: Djindjian 2001, 43; Klejn 1988, 509–511). While it is impossible to avoid this risk, it is good to be aware of it. The time span of a shape type will be determined by placing it into the chronologically measurable context of a find. Such a context is provided by sites with good stratigraphy and topographical chronology (known by the clumsy name horizontal stratigraphy – Pleterski, Belak 2005, 35). In this way it will be possible to create a relative chronology of the observed shape types. An attempt will be made to determine its calendar age using the currently available dates established by the radiocarbon method (henceforth: C^{14} dating). It has been proven by a study of East Alpine early medieval pottery that such a procedure can be performed. It was possible to classify the pottery and to determine time spans of the established shape types by C^{14} dating. The result is a chronological reference table of individual shape types (Pleterski 2010a). This is the first European regional chronology of early medieval pottery created using this method. The first tests have proven its usefulness (Pleterski 2010b; Magajne 2011; Vinder 2011).

It is reasonable to study such objects that are simple to classify, change with time, are sufficiently general and common so that they are widely distributed, while at the same time it is likely that a given shape type appears at approximately the same time. With their help, it will later be possible to chronologically determine other objects not studied during this first step. In the time and space studied, it is female jewellery that meets these criteria most closely. Female jewellery is chronologically sensitive, not as varied as fibulae, and most often it can be found in graves. Since objects belonging to the same shape type could be used both as earrings (attached to ears) as well as temple rings (attached to the head independently of ears), I am going to use the expression **head circlets** (or just the short form circlets).

2. THE CLASSIFICATION OF HEAD CIRCLETS (NO)

The criteria for classification will be the shape of the hoop and the shape of its ends (*Fig. 2*). The cross-section of the hoop is also chronologically significant during the period in question, its thickness increasing with time. While this does not necessarily mean that there are no thin sections in the later periods of time, it means that there are no thick sections in the earlier periods of the time in question. This observation does not hold true outside the space and time in question, or at least has not been proven yet.

An interesting feature of head circlets with no loops and hooks is whether they are left- or right-handed. This means that their ends are not in the same plane. The circlet is shaped like one turn of a helix. When laid on a horizontal surface, one end is higher, while the hoop away from it turns either to the left or to the right. Therefore, it is possible to talk about left- and right-handed circlets. As a rule (which means there are exceptions) in the same grave head circlets come in pairs, and one pair consists of one left- and one right-handed circlets. If a pair of rings, one left- and one right-handed, identical in size, shape, and manufacture, is found in two different graves, then it is most likely that this is one pair, divided between two owners. This of course implies a chronological connection between the graves.

(For the shape, appendages and ends of the hoop see the table with the *Fig. 2*)

The classification (*Fig. 2*) certainly do not describe all the possibilities, they are rather an open system which can be optionally supplemented. A description will be given of each individual shape type with the help of the characteristics in tables in the following order: **NO** (= head circlet) **00** (code of hoop shape) **00** (code of hoop appendages) **_00** (code of the first hoop end) **00** (code of the second hoop end).

A double zero means there is no information about the characteristic in question. If there is a combination of any loop and a hook, the hook is considered the second end.

3. A C^{14} DATING EXPERIMENT

While calendar spans established by C^{14} dating can last several centuries, a normal early medieval grave was made in a day. Is it then at all possible to obtain at least an approximate calendar age of a grave, more accurate than dating with the existing intuitive chronologies? For interpreting C^{14} dates, researchers well versed in statistical methods rely more and more on Bayesian statistics, which enables them to create chronological analyses with several C^{14} dates and to connect them with the known relative chronological data. Calendar age is represented as a probability, relative age as preliminary data (Bronk Ramsey 2009a). A site where stratification of C^{14} dates is possible therefore offers the possibility to narrow down a wide calendar range of one individual C^{14} date, due to its relation to other dates.

Cemeteries with many stratigraphic relations between graves and therefore with good relative chronologies thus seem a good starting point to use Bayesian statistics. Our starting points were stratigraphic sequences of graves from the cemeteries Sedlo at Castle Bled and St. Peter near Spittal in Upper Carinthia (see below). The University of Sheffield in Great Britain offers everybody the possibility of creating Bayesian statistics of their own material with their public online radiocarbon calibration tool BCal [http://bcal.sheffield.ac.uk, based on the publication: Buck C.E., Christen J.A. and James G.N. (1999). BCal: an on- line Bayesian radiocarbon calibration tool. *Internet Archaeology,* 7. (http://intarch.ac.uk/journal/issue7/buck/)].

With the help of Bayesian statistics, **BCal** enables calibration of laboratory C^{14} dates in combination with preliminary archaeological chronological data, places the dates in separate temporal segments, and is an aid in investigating the length of these segments and their chronological relations. It is a tool that enables the use of previously known chronological observations and their gradual upgrading. Due to the imprecise nature of input and reference data, the authors recommend rounding off the dates to decades, despite the fact that the calculated calendar dates are in exact years. The reliability of the calculation needs to be verified by several repetitions with unchanged input settings, because each time there is a different generator of random numbers. It is also useful to investigate the relation between the preliminary chronological information and the results obtained, since the former can have great influence on the latter.

My naïve purpose was simple. The stratigraphic sequence of graves at the Sedlo cemetery at Bled, which has a reliable time span and an even more reliable date of its end, needs to be coordinated and verified with C^{14} dates. It appeared that I simply know too much about the cemetery, since the program simply froze when faced with all the information on its relative chronology. The friendly staff suggested that the problem should be broken down into simpler parts, each solved one by one. An obvious result then followed. The program of course respected the set limits, and where a normal distribution of probable calendar dates was possible, the peak of the Gaussian curve moved towards the unlimited part of the calendar range. Nothing was revealed that I had not already known. Except for one thing.

Grave 5 suddenly displayed calendar probability outside of its previous 2Σ range of calendar

probability. I was wondering what this meant. I re-calibrated all the laboratory C^{14} dates with the **OxCal** 4.1 calibration software (https://c14.arch.ox.ac.uk/oxcal/OxCal.html; description: Bronk Ramsey 2009a). I used the IntCal09 calibration curve and 99.7% (3Σ) probability. The software used offers insight into the raw data, not merely the finished product. Bayesian statistics placed grave 5 at the very limit of the 3Σ range. I had already known that it belongs there. But then I knew that I should also pay attention to those 3Σ calendar ranges that can be even centuries longer than 2Σ ranges. At the same time I decided to arrange the relative chronology and C^{14} dates "manually", without Bayesian statistics, which can in the above described case only reaffirm what is already known.

How likely is it that real calendar dates are at the limits of the ranges shown only by the 3Σ probability? Adam Michczyński analysed the ratios between known calendar dates and the results of C^{14} dating for the same dates. The then valid IntCal04 calibration curve he used does not differ from the present IntCal09 for the period in question. Results of calibrations are usually presented in a diagram showing higher and lower probability, and therefore he measured how far the real date was from the top of the diagram of probability. 73% of all cases were less than 35 years away from it (Michczyński 2007, 395, Fig. 3). The higher the deviation is, the less such cases there are. This is certainly a warning that there must be some discrepancy in the case of grave 5. Similar large discrepancies between the 2Σ time spans of C^{14} dates and the expected calendar dates were discovered, in the case of the graves from St. Peter and for this reason they were not included in the publication of the site (information from Kurt Karpf).

Thus, it was temporarily necessary to give up the idea of establishing calendar dates of graves directly with the C^{14} method. However, when dates of the graves had been established in another way (see below), and when these dates were compared to the C^{14} dates, an interesting picture emerged (*Fig. 3*). When it comes to relative chronology, the agreement is complete. It is different with calendar dates. As expected, the dates of all the graves up to the second quarter of the 10th century are within the 2Σ range of C^{14} dates. Later, the dates of all the graves are at the very limit of the 3Σ range of C^{14} dates, the latest date is even at the limit of purely theoretical possibilities. This is such a **systematic deviation from the calibration curve** that it cannot possibly be a consequence of an individual bad sample, an erroneous measurement in the laboratory (measurements were made in two different laboratories, in Poznań and in Erlangen), or specific physical or chemical factors at the site in question (we are talking about two different sites).

When problems occur, there are usually several different possible explanations. A tempting one was offered by Michczyński, who observed that the algorithms used and the plateau of a calibration curve that ends with a steep fall mean that dates are more likely to migrate towards the middle of the plateau. Calendar dates from the beginning of the plateau are therefore represented as considerably younger and those from the end of the plateau as considerably older (Michczyński 2007, 395, Fig. 4). This could be an acceptable explanation for our deviations, if there was a plateau at the right part of the calibration curve. But there is not. Such a plateau exists only in the time period from approximately 1050 to approximately 1200; 100 years too late to make this explanation possible.

A systematic overview of the deviations has recently been made by Christopher Bronk Ramsey. The simplest explanation for our case may be that the estimation of the ratio between radioactive carbon C^{14} in samples and in their natural environment is not correct (Bronk Ramsey 2009b, 1038–1039). Fluctuations in the magnetic activity of the sun together with major decreases of temperature can cause a regional increase in the influx of stratospheric C^{14}. For archaeologists this means that while the global calibration curve is correct, there can be important regional offsets in certain periods (cf. Kromer et al. 2001). It is possible that in the Eastern Alps the northern hemisphere calibration curve is incorrect from the second quarter of the 10th century (at the moment unknown for how long) and that a local correction is needed. It seems that the area affected by this offset includes also (at least) the western part of Pannonia, where there are several sites where archaeological analysis of material indicates the 10th century, while C^{14} dates are 100 years younger (cf. Kvassay 2008, 106). It is very likely that the above-mentioned plateau of the calibration curve between the years 1050 and 1200 further increases this offset. The author of this article can do little more than to point out this problem. (I am grateful to Rachel Opitz for her advices about Bayesian statistics and the problems of C^{14} dating).

4. RELATIVE CHRONOLOGY

So there are no shortcuts to a chronology. At this moment, the only way is to create a group of chronologically connected sites and their internal chronological divisions. A combination of intertwined relative chronological relations needs to be created. A series of objective characteristics must be taken into account and the inevitable subjectivity of the researcher will therefore be lessened. Such a combination can then be inserted in one piece into its historical environment and dated wherever and however possible.

Žale near Zasip

This is one of the early medieval cemeteries of Bled. It has been fully excavated and published (Knific, Pleterski 1993), but without a more thorough analysis. While the majority of the male graves contain no grave goods, they are present in almost all the graves of the adult females. Only one of them contained no head circlets. The number of burials of adult women slightly exceeds the number of adult males. The explanation may be that some men had several – most likely consecutive – wives. The arrangement of the graves clearly shows pairs of males and females – cores of families belonging to individual generations, arranged spatially from west to east (*Fig. 4*). It is evident that the number of families in the village gradually increased. The family and generational structure of the cemetery perfectly matches the structure of the development of arable land division in the village of Zasip (Pleterski 2011, 30–33). This analysis demands an explanation for the special arrangement of the graves of the first generation (*Fig. 5*), which – unlike the graves of the second, the third, or the fourth generation – do not lie together. The graves avoided the area of a stone, which, together with two postholes near grave 55, defines a line matching the north edge of the cemetery and on the west a pit filled with red clay. This correspondence implies that the points mentioned were known at the time the graves were dug. It also means that these points were used at the very beginning of organization of the cemetery area (Pleterski 1995, 131–132; id. 2004).

Child grave 15, female grave 20, and male grave 55 belong to one family, which represents the first generation. They are determined as the earliest by their grave goods: the only small pot in a male grave in the entire cemetery and the jewellery in the graves of the woman and the child (the subject of this article). The child grave is oriented towards the stone in the middle of the northern edge of the cemetery, which is an exceptional deviation towards the north. It lies next to a line perpendicular to the western end of the northern boundary of the cemetery. The male grave is on the eastern boundary, the female on the western boundary of the cemetery (this universal symbolism need not be discussed here). These three graves are thus a constituent part of the original layout of the cemetery area and as such do not form a spatially closed group. Both adult graves are oriented towards the child grave, which means that they are later.

How objects change with time can first be seen in the graves of children. The people buried in them only lived for a short period of time and as such give us information about this short period. If a new type of jewellery occurs, it will clearly first end in the graves of those children who died before their parents. The same is true when a certain type of objects ceases to be in use. Such objects may still be in circulation at the time of a child's death, but no longer at the time of the parents' death. Child grave 15 is thus the only one in the cemetery that still contains head circlets of the NO0205_0201 type. The grave had been created very shortly before the type ceased to be in use. Although the circlets in this grave are only partly preserved, a reliable reconstruction is possible. A similar case is the head circlet from grave 13, where only the loop at one end is preserved, but the other end had to end in a hook. If it were to have been forged in any broader form, it would not fit into the narrow loop.Different types of head circlets are distributed from west to east (*Fig. 6a*), and this is the distribution from earlier to later types (*Fig. 6b*). Enamelled objects occur in the graves of the fourth generation.

Dlesc near Bodešče

The entire preserved part of the cemetery has been archaeologically investigated. The northern edge was damaged by a sandpit before the Second World War. Despite the fact that the cemetery has already been published (Knific, Pleterski 1981), the abundance of information it offers has not yet been fully utilised. The family and generational structure it exhibits (*Fig. 7*) is very similar to that of Žale near Zasip. The burials at Dlesc also started with one family and the number of families

increased in the next generations. The structure of the development of families also perfectly matches the structure of the development of the arable land division (for more detail see Pleterski 2011, 43–47). The cemetery expanded from west to east. After the slope of a glacial mound had been used, it turned towards the north, where it was limited by a field on the east. The southern part of the cemetery consists of graves of children, who were buried there throughout all the period of utilisation of the cemetery and therefore cannot be used for the analysis of topographic chronology.

Therefore (*Fig. 8a*) it cannot be said whether the child grave (no. 30) with head circlets of the NO0100_0808 and NO0500_0610 types belongs to the third or to the fourth generation of the deceased. A decorative fibula was found in its vicinity, which was the only enamelled object in the cemetery. It most likely originates from grave 30. Therefore, the use of enamel can be roughly dated to the time of the third and the fourth generations.

With this topographic information, a table of the occurrence of head circlets can be made (*Fig. 8b*). The head circlet from grave 38 is only partially preserved, and while it most likely belongs to the NO0100_0201 type, this is not completely certain. There is a circlet of the same type as in grave 4, which can be atributted, according to its position, either to the first or to the second generation. Grave 34 also contains a head circlet of the very rare NO0800_0201 type. While the shape of the hoop ends is not discernible, the hoop is absolutely typical, made of several thin twisted wires, and can be reconstructed with the help of a circlet from the Žale cemetery near the village of Srednja vas in Bohinj (Šmid 1908, Pl. 2: 10).

Sedlo at Castle Bled

The cemetery has an extremely rich stratigraphy, because burials constantly took place in the same location. The large majority of the graves thus displays stratigraphic relations (*Fig. 9*). The analysis showed that at the time the cemetery area was in use, 4 generations and the beginning of a fifth from the neighbouring settlement were buried there. After that, the burials ceased (for more detail see Pleterski 1982). A table already exists, showing the occurrence of the shape types of objects in the periods of different generations (Pleterski 1982, Fig. 5). Here, only the part concerning head circlets is republished (*Fig. 10*).

The only difference between the two tables is that here, the head circlet of the NO0100_0406 type from grave 53 (Valič 1964, 23, Pl. 12: 6) is presented independently, while in the previous table it was placed together with the NO0100_0501 type. The NO01_0301 variant from grave 170, i.e. with an end in the shape of a forged loop, but without an S-shape, is still presented together with the NO0100_0501 type (Valič 1969, 226, Pl. 2: 36,37). In the same group, there are two circlets of the NO0101_0401 type from grave 4: with a glass bead on the hoop and probably an unforged S-shaped loop (Valič 1964, 14, Pl. 1: 6,7). In the same grave, there were also two damaged circlets with the hoop of the NO0405 type (Valič 1964, 13, Pl. 1: 4,5). A plausible reconstruction is that the ends of these two circlets belonged to the 0201 type.

In the hope that Bayesian statistics would help us to obtain absolute dates for individual generations, samples of bones were taken from the two longest stratigraphic sequences (*Fig. 9*). Unfortunately all the skeletons were not preserved. There were only 5 available skeletons, but since they belong to different generations, they can still give us a picture of the whole.

Grave	Sample	C^{14}	2Σ	3Σ
GrS 88	Poz–46615	1015±30		
GrS 91	Poz–46617	1180±30	771–965	693–997
GrS 17	Poz–46614	1070±30	895–1021	885–1030
GrS 78	Poz–46614	1000±30	982–1153	901–1160
GrS 5	Poz–46612	975±30	1014–1155	985–1166

The dates obtained in the laboratory matched the stratigraphic sequence, which means that relative chronology of the graves is correct. One exception is the sample from grave 88, which is stratigraphically the earliest, while C^{14} dating places it convincingly among later examples. The bone fragment taken for analysis was small and had been lying near the skeleton. The anthropological analysis showed that the excavators sometimes combined the bones of different people as actually belonging to the same grave (cf. Leben-Seljak 1996, Appendix 4.1.3.1). Therefore, it is reasonable to assume that the tiny bone in fact belonged to one of the many skeletons deposited at that same spot and the result will not be considered in the following part of the article.

Mali grad in Kamnik

The investigation of the Mali grad castle in Kamnik unexpectedly revealed a small early medieval cemetery. It has been fully excavated. The publication (Sagadin 2001) focused on the graves and the objects in them. With a through analysis of the site of Mali grad, which enabled all the excavated objects to be placed in phases, more remains were added to the constituent parts of the cemetery, including postholes (Štular 2007, 27–32; id. 2009, 47–49). Milan Sagadin already noticed that the graves were arranged along two perpendicular lines (Sagadin 2001, 367, Fig. 7). In his extremely thorough study of the graves, the deceased individuals, and the cemetery area, Benjamin Štular noticed that one of these lines reaches one of the above-mentioned postholes (Štular 2007, 27, Fig. 4). If a perpendicular line is drawn between the two main rows of graves, it also reaches another posthole. The spatial structure of the Mali grad cemetery is thus connected with two large postholes. The two lines connected with them intersect perpendicularly (*Fig. 11*). Almost all the graves of the few adults, which belong to four, maximum five families, are arranged along these two lines. We cannot but agree with the opinion of the excavator Milan Sagadin that burials here only took place over a short period of time (Sagadin 2001, 371). There are no reasons to believe that more than one generation was buried here.

There are only three cases in which we can speak of stratigraphic relations (Sagadin 2001, 363–365). The first one is an unusual case of three successive burials ("graves" 14, 15, 16) in the same grave pit. Each time, the position of the grave pit was perfectly well known to those carrying out the burial, which means that the interval of time between these burials cannot have been long. The stratigraphic relation of graves 17 and 20 also cannot be determined. They contain two head circlets, probably a pair (Sagadin 2001, 368), which is another indicator that there is no maior time difference between them. In the third case, child grave 19 partly covers child grave 21. The proximity of both graves must have been intentional, which means that this stratigraphic relation must also have been created in a short period of time.

But the last example indicates one more thing. The earlier grave 21 contained three head circlets of the NO0100_0606 type, while the fourth example was in the fill of grave 19 above, which also contained a NO0100_0808 type circlet. This might be an indicator that circlets of the first type were then no longer in use.

Similarly, the pair of graves 17 and 20 might be an indicator for the beginning of use of head circlets of the NO0100_0708 type. Such a circlet was only present in grave 17. If grave 17 is later than grave 20, this could indicate that these circlets were used by the younger part of the population buried at the Mali grad cemetery. In any case, however, grave 17, which contains circlets of the NO0100_0708 and NO0100_0808 types, proves that at least for a certain period both types were in use at the same time.

St. Peter near Spittal in Carinthia

Near the church of St. Peter in a village of the same name, nowadays practically a suburb of the town of Spitall in Upper Carinthia, early medieval graves were unexpectedly unearthed during the construction of a drainage system. The surrounding area has been archaeologically investigated to a lesser extent and the results have recently been published (Karpf, Meyer 2010). Nevertheless, the area has been investigated to an extent that enables a reliable overview over the whole and the reconstruction of the development. The extraordinary density of graves created many stratigraphic relations, that have not yet been analysed as a system. There were various objects in many graves, mostly female jewellery. An important specific feature of this graveyard is that the burials lasted continuously until the 15th century (Eichert 2010a, 183).

Stratigraphic relations of the graves with early medieval grave goods

The graves are defined as "Early medieval" where the individuals were buried with their arms straight by their sides. In all the later graves above them, the arms of the deceased are crossed on the chest. The position of the arms in burial in this graveyard changed after the 11th century, and definitely by the 13th century (Eichert 2010a, 179).

The observations about stratigraphy are based on the data published in the catalogue of graves and finds (Eichert, Rogl 2010). The most obvious stratigraphic relations have been pointed out by the authors, sometimes together with their assumptions, while the rest are not mentioned. There are schematic plans of excavated graves and maps

of grave depths (Eichert, Rogl 2010, Pls. 60–63), which despite being explicit, cannot by themselves display the intertwined stratigraphic relations. Photos of skeletons indicate that the outlines of grave pits were discernible only in exceptional cases. In any case, no drawings or descriptions of the outlines were made. While the stratigraphic relations described below are therefore to a certain extent hypothetical, the degree of their reliability is measurable within the framework of all the information covered by this analysis.

Catalogue of stratigraphic sequences (*Fig. 12*)

It seems that grave 11 and perhaps also grave 10 were damaged by grave 5. The crescent circlet in grave 11 was in the fill of the grave and must have come either from grave 5 or 10. There were no other earlier graves in this spot.

According to the catalogue, grave 3 damaged the grave 27 lying beneath it, but this is not possible, because the base of the latter grave was 30 cm deeper. Similarly, grave 18 is only 10 cm deeper than grave 2 lying above it, but was not damaged by it. Grave 27 was probably damaged when grave 19 was dug. In the description of grave 19 in the catalogue, it is stated again that grave 27 was damaged by grave 3. This is evidently a mistake and what is meant is that grave 19 damaged grave 27, because grave 19 also lies under grave 3 and above grave 28. Grave 28 destroyed grave 28A. The fragment of a knife in grave 28 could have originated in grave 28A.

It seems that grave 26, which damaged grave 29, lies under grave 18. Grave 2 lies above grave 18.

Graves 39 and 40 are parallel to each other, but at different depths. The photo (Rogl 2010, Fig. 20) clearly shows that during the excavation, the grave pit of the deeper grave 40 was visible and that it extended into the area of grave 39. Two skulls from the earlier graves 39B and 39C were put in the pit of grave 39, and the skull from the older grave 39A into the pit of grave 40. If grave 39 had been later than grave 40, it would certainly have damaged the left part of grave 40, but it is evidently undamaged. Above grave 40 is grave 21, and above both of them the double (?) grave 12, 16.

Grave 36 destroyed grave 36A and lies above graves 36B and 47.

It is evident that grave 55 was under grave 35.

It seems that grave 85 at least partially destroyed grave 85A.

Grave 120 lies above grave 120A and seems to be under grave 80, which was damaged by grave 101. Grave 80 has been preserved from the abdomen down. The arm bones were in the destroyed upper part, which means they were crossed on the chest.

It seems that grave 149 destroyed grave 149A and was under grave 144, while both were under grave 132. The latter cut through grave 133. Two finger rings were found next to the right hip of the skeleton in grave 132. One of them was still on a finger of the skeleton. It seems that the other one was in the fill in the immediate vicinity and it is not clear which grave it came from. The excavator Kurt Karpf allows the possibility (the information comes from a letter) that the rings might have been confused during the documentation process. That would mean that the cast ring belonged to grave 132, while the sheet metal ring is from the fill; vice-versa than in the publication. It seems that also grave 126 lies above grave 133. Grave 90 lies above graves 132, 133, 149. Grave 90 was damaged by grave 78, which was probably a joint grave together with skeletons 79 and 88.

Grave 138 destroyed grave 138 A. It seems that the head of the skeleton in grave 138 was damaged by grave 125, which lies under grave 109.

Grave 124 destroyed grave 124A. Grave 124 lay under grave 111, which lay under grave 99, which destroyed grave 99A. Only the lower part of grave 99 extends into the excavation area. The right hand lies on the abdomen and the left arm must have been on the chest, because it was not recovered.

Observations

The longest stratigraphic sequence of early medieval graves includes at least 5 successive graves.

In all the cases of stratigraphic sequences, circlets with several thickenings at both ends of the hoop are in the later part of the sequence, next to the high medieval graves. They are never the oldest link in a stratigraphic sequence.

Enamelled jewellery is always in the lower part of a stratigraphic sequence, but never in the earliest grave. The same can be said about the circlets with a single thickening at the ends of the hoop (type NO0100_0808), which can be even later than enamelled jewellery.

Forged crescent circlets (type NO0500_0610) present the earliest link of the stratigraphic sequence.

Fragments of three circlets with a hook and a forged S-shaped loop (type NO0100_0501) were

found in the graveyard ouside the graves. This could mean they belonged to the earliest graves, which were completely destroyed by later ones.

The chronological arrangement of graves

Graves can be chronologically arranged using different criteria. One of them, which has been described in detail above, is stratigraphic sequences. Another criterion is whether the objects belong to the same shape type. As the third criterion, radiocarbon dates can be used. Twelve early medieval graves were dated in this way. (I am grateful to Kurt Karpf for his kind help in giving me the results of laboratory analyses, which have not yet been fully published).

Grave	Sample	C^{14}	2Σ	3Σ
GrP 47	E–12039	1237±38	683–882	660–945
GrP 13	E–12035	1109±40	783–1019	777–1024
GrP 32	E–12036	1089±41	872–1025	778–1032
GrP 39	E–12038	1006±38	903–1155	895–1164
GrP 36	E–12037	971±40	994–1159	972–1213
GrP 40	E–13997	894±58	1025–1252	992–1275
GrP 26	E–13996	891±69	1023–1259	970–1287
GrP 55	E–13998	885±59	1030–1253	995–1278
GrP 133	E–14002	841±43	1046–1273	1035–1279
GrP 85	E–13999	831±43	1050–1275	1039–1281
GrP 120	E–14001	824±46	1050–1279	1036–1285
GrP 111	E–14000	795±45	1160–1284	1042–1299

Although these dates generally cannot be used for absolute dating (see above, section 3), it seems that they are a good indicator of the relative sequences of graves. They form several chronologically successive groups. Objects in these groups match, and the sequence of the groups is stratigraphically confirmed. In this way, it was possible to determine 7 "layers" of graves (*Fig. 13*). There is no evidence that there were any objects in the graves of the uppermost layer.

On this basis, a table of the relative occurrence of individual types of head circlets can be made (*Fig. 14*). In the drawing, the plain circlet from grave 85 looks like a variation of the NO0100_0809 type, but the impression is quite different when it is viewed in person. It becomes evident that this is a poor imitation of the hoop with astragal-shaped thickenings, i.e. the NO0700 type. It also seems justified to place the circlets of the NO0100_0708 and NO0100_0709 types in the same group, because the number of thickenings at the ends of the hoop is not (yet?) a chronological indicator.

The mutual chronology of the sites in question (*Fig. 15*)

It is reasonable to expect that the sites at Bled would "behave" in a relatively contemporary and harmonious way, because we are talking about a common area with common history and life conditions (cf. Pleterski 2011). It is likely that all the objects were provided by the same craftsmen and therefore all the changes in jewellery would have occured at the same time. Although the time spans of the Dlesc, Žale, and Sedlo cemeteries are very similar, the burials of generations do not display the completely same character.

An important difference between the cemeteries of Dlesc and Žale near Zasip is that there are only a few graves in the fourth generation at Dlesc: no males and certainly not all of the females. Most likely it was at this point that the decisive mass transition to using church graveyards happened. It can be assumed that this decision was compulsory for everybody in the Bled *župa* (the then relevant territorial unit). If this is true, the transition happened at approximately the same time in all the villages. That would mean that the Dlesc cemetery only contains the earlier graves of the fourth generation. Since at Žale near Zasip the entire fourth generation is buried there, it could be said that burials at Dlesc started about half a generation later than at Žale.

Since the occurrence of individual shape types of head circlets in different generations at Žale matches that at Sedlo, it seems that the generations are more or less contemporary. While it is true that child grave 15 at Žale contains an old head circlet type, NO0205, which cannot be found in any grave at Sedlo, this is not an adequate reason to place the beginning of burials at Žale before the beginning of burials at Sedlo. In that case, at least some graves of the fifth generation would be expected at Žale, but there are none.

Radiocarbon dates have linked the generations at Sedlo with the "layers" of graves at St. Peter: the second generation with the first layer, the third generation with the second layer, the fourth generation with the third layer and the fifth generation with the fourth layer.

With respect to the shape types of head circlets, the Mali grad cemetery can be placed between

Sedlo at Castle Bled and the youngest graves at St. Peter. The types that belong to the fourth generation at Sedlo are also present at Mali grad. However, Mali grad also contains circlets of the NO0100_0708 type, which belong among the last objects at St. Peter and are not yet present at Sedlo. It seems that burials at Mali grad began at about the same time they ceased at Sedlo – certainly not long after that. At the moment, we can work with the assumption that this happened in the period of the fourth generation at St. Peter.

Relative time spans

Individual generations of the deceased can certainly be observed at all the cemeteries of Bled and also in Kamnik. The question is, *how long do the burials of one generation last?* The answer is not clear, and it should certainly not be simplified and equated with the average life span of people in that period. The cemeteries presented above belong to a time and space where personal ownership of land, the main source of existence, was already known (extensively and in detail: Pleterski 2011). In such conditions, it is the change in the owner of the land that should be understood as a boundary between generations. It was they who made decisions about life and work and therefore undoubtedly also about burials. It is evident that burials in each village were consistent and agreed upon. We are not talking about family cooperatives; the successor can found his own family only after he takes over the land. Usually, that did not happen before the death of the previous owner, as illustrated by the saying: "I give you the light [i.e. the light lit at the death of a person], you give me the key". Whoever does not want to wait, leaves to wander the world. At least during the later centuries of the Middle and Modern Ages, the principle of ultimogeniture prevailed in Slovene territories, i.e. the priority of the youngest son when it comes to inheritance (Vilfan 1996, 260). All this lengthened the time between two generations. Since several practical examples have been considered, it will probably not be too erroneous if 40 years is taken as the average time of one generation (i.e. the time between two successions, between two masters of the land, between two choices of burials). Consequently, this means that burials at Sedlo, for instance, with four generations and the beginning of the fifth, lasted for approximately 170 years. It should also be emphasized that the gap between generations is much shorter in conditions with a different economic basis for survival and with a different social organization. In perfect conditions, the only limit is sexual immaturity.

What kind of burials can be expected in the time of one generation? In the above-described conditions, the first burials are those of deceased children, due to the high mortality rate in the past, as well-known. Women in childbearing age who died because of complications in childbirth and after it are buried with them. The last burials are those of the remaining old men and women. There are no burials of grandchildren; they can be buried with the next generation. An important fact for the understanding of cemetery areas is that children as a special social group had their own part of the graveyard, as it is well illustrated by the above-described examples.

This indicates that the graves of children are generally earlier than the graves of their parents. While making chronological interpretations, it should be taken into account that a given type of object, if it was taken from everyday use, first appears in the graves of children. The same goes for the latest objects. While parents still had the opportunity to acquire new types of objects, their children who died before them did not.

And church graveyards? The Carinthian graveyard at St. Peter was probably the central graveyard of an area with several settlements during the full time of its existence in the Early Middle Ages (cf. Meyer, Karpf 2010, 62–63). This means it contains many more burials than a cemetery belonging to one setlement would. It also means a constant and relatively steady influx of the dead, if we disregard extraordinary events like wars, famine, and plagues. Nevertheless, the grouping of graves into some sort of "layers" has been observed (see above). What does this mean?

The largest archaeologically excavated Bavarian cemetery of Altenerding, where inhabitants of a large centre buried their dead in the same area for centuries, displays hundreds of stratigraphic relations between hundreds of well-dated graves. It was possible to create a diagram that indicates when the possibility of a stratigraphic relation between two graves occurrs. There is almost no such possibility before a period of 25 years, then it steeply reaches its peak and decreases after a period of 45 years (Pleterski 2003, Fig. 158). This means that intrusions into a previous grave were avoided for approximately three decades. A possible explanation may be found in the old belief that

only after 30 years does a dead person becomes harmless to living ones. An incantation from the end of the 15th or the beginning of the 16th century – *Die chunnen mir hewt als wenig geschaden als der man, der vor xxx Jaren ist pegrabenn* [That can cause me as little harm today as a man buried 30 years ago] – which was used in that time in Ljubljana, among other places, speaks of this belief (Javor-Briški 1998, 9; Nabergoj 2001, 61). Later, incantations set the limit at 32 years (Grafenauer 1943, 231; Makarovič 1995, 373). Although there can be no doubt that gravediggers had means and ways of protecting themselves in the event of earlier intrusions into graves (e.g. as demonstrated by grave pit 14–16 at Mali grad), these intrusions were still, if possible, avoided. Therefore it is not surprising that even in the church graveyard, burials were rhythmic and because of the belief in the "thirty year danger" matched the rhythm of generation changes. If we postulate that each of these "layers" lasted 40 years, a 280-year period of early medieval burials results.

All the cemeteries in question thus cover a long period of time, which lasted approximately 320 years, while the period with artifacts in graves lasted 280 years. In the following pages, this period needs only to be placed on the calendar.

5. ABSOLUTE CHRONOLOGY

The end of burials in the cemeteries without a church at Bled as *terminus ad quem*

Above, it has already been stated that the Bled cemeteries without a church all ceased to be in use at approximately the same time. There can be no doubt that the reason for abandoning these cemeteries was the enforcement of the formal obligation to bury people in church graveyards. How long it took for this obligation to come into effect can be inferred from the situation at the Sedlo cemetery at Bled Castle. The gender ratio of the deceased is eloquent. Overall, the number of male and female graves is balanced (Leben-Seljak 1996, 66). A different picture, however, is shown by the graves of the fourth and fifth generations (presented in Pleterski 1982, Fig. 9). With the help of anthropological analysis (Leben-Seljak 1996, Appendix 4.1.3.1) and grave goods it is possible to determine 4 children, 1 person of undefined gender, 7 males, and 17 females. Considering the fact that the alleged males in graves 29 and 36 displayed poorly expressed male sex characteristics, and that there were head circlets near their heads, they can probably also be counted among the women. In this case, the ratio would be 19 female vs. 5 male graves. While one child grave (143) and one female grave (5) can already be attributed to the fifth generation, this does not change the observation that there had been no male burials in this graveyard for quite some time before it was abandoned. This implies that the burials there ceased gradually. A similar phenomenon could be found at the Bavarian cemetery of Altenerding, where the number of male graves fell drastically in the last decades of its use, probably because of the shift to the church graveyard (Pleterski 2003, 645–646).

Nevertheless, the approximate contemporaneity of the abandonment of the Bled village cemeteries and the fact that burials ceased in the middle of the life of a generation indicate that in the end there had been a formal command. It is very likely that this is connected with the medieval Holy Roman Empire taking control over the Bled area (Pleterski 2011, 153–155). The Empire probably expanded to the south of the Karavanke Mountains after the battle of Augsburg in 955 and certainly by 973. Bogo Grafenauer even mentions assumptions that this could have happened around 950 (Grafenauer 1965, 139–140). In 973, at the very beginning of his rule, Emperor Otto II granted the Škofja Loka manor, which lay close to Bled, to the Diocese of Freising (Blaznik 1973, 11). It is not very likely that the Emperor would have donated land conquered only weeks or months ago and therefore the conquest must have happened at least several years earlier. Thus, it is most likely that at Bled, burials in places other than church graveyards ceased in the years around 960. It has been independently determined that the Pristava settlement under Bled Castle was abandoned at the same time (Pleterski 2010a, 164).

Hence, I propose the year 960 as the boundary between the fourth and the fifth generation at the Sedlo graveyard (it should not be forgotten that all the dates are rounded off to decades!). Consequently, this means that the seven "layers" of graves at St. Peter would begin around 830 and end around 1110. This agrees with the assumption that burials there started after 828, when a new church was built (cf. Meyer, Karpf 2010, 62), and also with the analysis of archaeological finds, which indicates that the early medieval position of arms changed after the 11th century, and certainly by the 13th century (Eichert 2012, 179).

The reference table of head circlets

After we are familiar with the relative and absolute chronology not only of chronological constituent parts of individual sites but also of their entire systems, it is indeed possible to create a reference table of all head circlets (*Fig. 16*) based on the occurrence of individual shape types of head circlets at various sites (*Figs. b6; 8b; 10; 11; 14; 15*). The table only includes frequent types; the ones that can provide us with enough information to create reliable time spans of their occurrence (in graves! – as it cannot be said with 100% certainty that the situation is the same in settlements). The calendar span of the table of head circlets thus covers the time period from 790 to 1070.

An exception is the head circlet NO0700, which is included in the table despite the fact that it only occurs once. The reason it has been included is because I want to draw attention to it, and because it undoubtedly complements the picture created by the latest part of the table. This type has also been found in church graveyards on Bled Island (Knific 2004, Fig. 20: 3) and at St Martin in Moste near Žirovnica (Valič 1982, Fig. 53). It does not occur in cemeteries without a church.

Certainly, one generation (or "layer"), which covers 40 years, does not indicate the exact time for the beginning or end of a type – these dates are somewhere within its time span. Where possible, I tried to suggest whether the beginning/end of a type is closer to the beginning or the end of the 40-year period, especially with the circlets of the NO0100_0909 type, which first appear as early as the second "layer" at St. Peter – theoretically just after 870. But that would mean that they are contemporary to the NO0100_0808 type, which had undoubtedly been in use at least one generation earlier at Bled (see above). The circlets of the NO0100_0909 type should therefore be placed at the very end of the second "layer", most likely after 900.

Similarly, circlets with forged crescent, i.e. the NO0500_0610 type, theoretically appear at St. Peter just after 830, some 40 years earlier than at Bled. It is, therefore, more likely that they begin to occur a little later, but certainly before 860. At approximately that time, the NO0300_0201 type circlets are no longer found at Bled. According to the results of our analysis, represented by the reference table (*Fig. 16*), there was a short period of contemporaneity of the NO0300_0201 and NO0500_0610 types, confirmed by grave 144 in Krungl in Upper Styria, where the two types were found together in the same grave (Kramer 1996, Pl. 36).

Especially unclear was the end of the use of those circlets which also appear at the Mali grad site in Kamnik, because the sample of the latest graves was too small. It will be possible to eliminate this drawback with further research (see below).

The accuracy of the system and further steps

Adding new sites to the table of connections will increase the exactness of the dates for the beginning and end of the appearance of the already dated circlets. It will be possible to create a chronology of those head circlets that are either not present or so few in number at the above-mentioned sites that their chronological placement is not possible. It will be possible to include the chronological spans of other kinds of objects, primarily (finger) rings, and then also glass beads, fibulae, and perhaps other items.

It is probably unreasonable to expect that the dates for the beginning and end of individual types could be established more exactly than rounded off to ten years. The accuracy and reliability of the system will increase with the number of established connections. In my estimation, the above-described system is in general already reliable enough to use. Minor changes to individual sections are certainly possible. I also allow the possibility of chronologically shifting the entire system, but not for more than ten years.

In any case, the history of all the so-far conducted archaeological researches has demonstrated that completing a chronology is a constant process, never an act finished at one point.

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