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NAKLADA, ZAGREB, 2012, 74 STR.

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Recenzija / Review

Primljeno / Received: 23. 2. 2012.

Prihvaćeno / Accepted: 13. 4. 2012.

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U knjizi naslovljenoj Priručnik za iskopavanje, rukovanje i analizu ljudskih skeletnih ostataka iz arheološkoga konteksta autorica Petra Rajić Šikanjić, znanstvena suradnica u Institutu za antropologiju u Zagrebu, na ukupno 74 stranice opisuje metode, pravila i kriterije kojih bi se trebalo držati u ophođenju s ljudskim koštanim materijalom pronađenim tijekom arheoloških istraživanja. U tekstu se opisuje cjelokupan proces kroz koji prolaze skeletni ostaci od pronalaska na terenu do analize u laboratoriju, a sve je to popraćeno sa 71 ilustracijom, 7 tablica i 85 referencija korištene literature. Knjiga je podijeljena u tri osnovna poglavlja: 1. Iskopavanje ljudskih skeletnih ostataka, 2. Osnove osteologije i odontologije, 3. Analiza ljudskih skeletnih ostataka. Svakomu poglavlju priložen je i popis korištene literature.

Nakon uvodnoga dijela (str. 1–2) dolazi poglavlje Iskopavanje ljudskih skeletnih ostataka (str. 3–15) u kojemu se razmatra iskopavanje i dokumentiranje koštanoga materijala na arheološkome terenu te procedura nakon iskopavanja i tijekom rada u laboratoriju. Svaki od tih koraka detaljno je obrazložen

In the 74 pages of this book, Priručnik za iskopavanje, rukovanje i analizu ljudskih skeletnih ostataka iz arheološkoga konteksta (Manual for Excavation, Handling and Analysis of Human Skeletal Remains in the Archaeological Context), its author Petra Rajić Šikanjić, a research associate at the Anthropology Institute in Zagreb, describes the methods, rules and criteria which should be observed in dealing with human bone materials found during the course of archaeological research. In the text, she outlines the entire process applied to skeletal remains, from discovery in the field to laboratory analysis, and this is all accompanied by 71 illustrations, 7 tables, and 85 references to the relevant works consulted. The book is divided into three basic chapters: 1. Excavation of human skeletal remains, 2. Basic osteology and odontology, 3. Analysis of human skeletal remains. A list of works consulted is appended to each chapter.

The introduction (pp. 1-2) is followed by the chapter on "Excavation of human skeletal remains" (pp. 3-15), which covers the excavation and documenta-

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uz popratne ilustracije u boji, a opisane su i vrste ukopa, tehnike arheološkoga iskopavanja, oprema potrebna za iskopavanje, kao i procedura iskopavanja samoga skeleta. Slijedi opis procesa dokumentiranja ukopa (grobni obrasci, crteži, fotografiranje) i metode podizanja i pakiranja kostiju. Posljednji dio odlomka posvećen je postupcima koji se provode u osteološkome laboratoriju (pranje, sušenje i pakiranje opranih kostiju), ali i radnjama koje se obavljaju nakon provedene analize (npr. pisanje antropološkoga izvještaja). Taj posljednji dio iznimno je važan jer se navodi popis arheološke dokumentacije (grobni formulari, fotografije ukopa i nalaza, plan groblja i, ako postoji, preliminarni izvještaj s podacima o dataciji i stratigrafiji) koja je potrebna antropologu da bi mogao načiniti izvještaj, a vrlo je često manjkava ili uopće nije dostavljena zajedno s kostima.

U drugome poglavlju, Osnove osteologije i odontologije (str. 17–35), donose se kratke osnove osteologije (discipline koja proučava kosti) i odontologije (discipline koja proučava zube). Taj dio priručnika započinje definiranjem standardnoga anatomskog položaja i ravnina u tijelu te izraza za smjer i položaj određenih koštanih elemenata. U istome odlomku ukratko je prikazana građa ljudskoga kostura i pojedinih kostiju, ali i podjela kostiju s obzirom na veličinu i oblik. Autorica zatim opisuje svaku kost za-

tion of bone materials in archaeological fieldwork and the procedures applied after excavation and during laboratory work. Each of these steps is outlined in detail and accompanied by colour illustrations. The types of burials, archaeological excavation techniques, the necessary excavation gear and the procedures for excavating skeletons themselves are also described. This is followed by a description of the process to document a burial (grave entry form, sketches, photographs) and the methods for extracting and packing bones. The final part of this section is dedicated to the procedures implemented in the osteology laboratory (washing, drying and packing washed bones), as well as the activities carried out after analysis is conducted (e.g. writing anthropological reports). This last part is exceptionally important, as it cites the list of archaeological documentation (grave data forms, photographs of burials and goods, necropolis/cemetery layout and, if it exists, the preliminary report with data on dating and stratigraphy) necessary to anthropologists in order to compile a report, which is very often deficient or not even delivered together with the bones.

The second chapter, “Basic osteology and odontology” (pp. 17–35), contains a brief outline of basic osteology (the study of bones) and odontology (the study of teeth). This part of the manual begins with a definition of the standard anatomical position and flat surfaces in the body and the terms for direction and position of specific skeletal elements. This same section contains a brief overview of the components of the human skeleton and individual bones, as well as a specification of bones given their size and shape. Rajić Šikanjić then describes each bone separately, from the skull bones through the trunk bones to the long and tiny bones, using Croatian and Latin terms comparatively. In the section of the chapter dedicated to teeth, she describes the teeth and explains the classification into deciduous and permanent teeth, as well as the classification based on type (incisors, canines, premolars and molars), specifying the traits of each individual tooth type.

The third, last section, “Analysis of human skeletal remains” (pp. 37–64), is also the most extensive. The chapter begins with an outline of the fundamental features of human bone and dental materials given their state of preservation and taphonomic characteristics. This is followed by a description of the methods for determining the sex of adults based on morphological differences between the male and female skeleton (particularly in the cranium and pelvis), the measuring methods to determine sex and the methods for determining the sex of children. Next is a description of the method to determine

sebno, od kostiju glave preko kostiju trupa do dugih i sitnih kostiju, koristeći usporedno hrvatske i latinske nazive. U dijelu poglavlja posvećenom zubima opisuje građu zuba i objašnjava podjelu na mliječne i trajne zube, ali i podjelu s obzirom na vrstu (sjekutići, očnjaci, pretkutnjaci i kutnjaci) navodeći karakteristike svake pojedinačne vrste zuba.

Treći, posljednji dio, Analiza ljudskih skeletnih ostataka (str. 37–64), ujedno je najopsežniji. Na početku poglavlja iznose se temeljne značajke ljudskoga koštanog i dentalnog materijala s obzirom na stanje očuvanosti i tafonomske karakteristike. U nastavku se opisuju metode određivanja spola u odraslih osoba temeljene na morfološkim razlikama između muškoga i ženskoga kostura (posebice na području glave i zdjeličnoga obruča), metričke metode određivanja spola i metode određivanja spola u djece. Slijedi opis metoda za određivanje dobi u djece (razvoj i nicanje zuba, duljina dugih kostiju, srastanje epifiza) i u odraslih osoba (morfologija preponske kosti i zglobne plohe preponske kosti, lubanjski šavovi, sternalni krajevi rebara i istrošenost zuba). U dijelu pod naslovom Paleopatologija navode se i objašnjavaju brojne patološke promjene koje se javljaju na ljudskim kostima kao što su kongenitalne i zarazne bolesti, bolesti zglobova, koštane traume, metaboličke bolesti i tumori. Važno je istaknuti da je svaka spomenuta patologija popraćena fotografijama snimljenima na koštanome materijalu koji je analizirala sama autorica. Nakon dijela u kojemu se obrađuju patološke promjene na kostima opisuju se bolesti zuba: kariozne i periapikalne lezije, kamenac, zaživotni gubitak zuba i hipoplazija zubne cakline. Razmatraju se i metrički podaci kao što su mjere i dimenzije određenih kostiju, ali i nemetričke karakteristike, npr. metopske suture ili otvori na distalnome kraju nadlaktične kosti. Poglavlje završava opsežnim uputama o tome kako napisati antropološki izvještaj, a na kraju se navode i dodatne analize koje se mogu provesti na koštanome materijalu (radiokarbonsko datiranje, stabilni izotopi i analiza DNK-a).

Iako nevelik, ovaj priručnik na vrlo pristupačan način obrađuje metode postupanja s ljudskim osteološkim materijalom iz arheološkoga konteksta. Ta je tema u hrvatskoj arheologiji donedavno bila zanemarena i većina arheologa nije joj posvećivala dovoljnu pozornost. Ljudske su kosti, kao i drugi arheološki artefakti poput keramike i nakita, neprocjenjiv izvor informacija u našem pokušaju rekonstrukcije svakodnevnoga života arheoloških populacija.

Nakon knjige Bioarheologija – demografija, zdravlje, traume i prehrana starohrvatskih populacija Marija Šlausa (2006) ovaj je priručnik prvi hrvatski

the age of children (development and emergence of teeth, length of long bones, ossification of epiphysis) and adults (morphology of pelvic girdle and its joint surfaces, skull sutures, sternal tips of ribs and dental wear). The section on “Palaeopathology” cites and explains the numerous pathological changes that appear on human bones, caused by congenital and infectious diseases, joint ailments, bone trauma, metabolic illnesses and tumours. It is important to stress that each of these pathologies is accompanied by photographs of bone materials analyzed by the author herself. The section dealing with pathological changes on bones is followed by a description of dental ailments: carious and periapical lesions, plaque, eventual lifetime loss of teeth and hypoplasia of tooth enamel. Metric data are considered, such as the measures and dimensions of specific bones, but also non-metric characteristics, e.g. metopic sutures and apertures on the distal ends of upper arm bones. The chapter closes with extensive instructions on how to write an anthropological report, and in the end an additional analyses is specified which may be conducted on bone materials (radiocarbon dating, stable isotopes and DNA analysis).

Although modest in length, this manual very accessibly covers the methods for dealing with human osteological material in the archaeological context. Until recently, this topic was neglected in Croatian archaeology and most archaeologists did not accord it sufficient attention. Human bones, like other archaeological artefacts such as pottery and jewellery, are an inestimable source of information in our attempts to reconstruct the everyday lives of archaeological populations.

After the book on bioarchaeology, Bioarheologija – demografija, zdravlje, traume i prehrana starohrvatskih populacija (Bioarchaeology – The Demographics, Health, Trauma and Diet of Early Croatian Populations), by Mario Šlaus (2006), this manual is the first Croatian attempt to summarize in one place the rules and procedures for dealing with human skeletal remains found during the course of archaeological research, from the moment of observing skeletons in grave pits to laboratory analysis and storage in depots. Rajić Šikanjić has dealt with human skeletal materials both as a field archaeologist and as a laboratory bioarchaeologist, and her many years of experience are reflected in the multidisciplinary approach to the topic addressed by this manual.

Although no similar works exist in Croatia – besides the already mentioned book by Šlaus – several excellent manuals dealing with the same problem have appeared at the wider, global level over the past dec-

pokušaj da se na jednome mjestu sažmu pravila i procedure postupanja s ljudskim skeletnim ostacima pronađenima tijekom arheoloških istraživanja, i to od trenutka uočavanja kostura u grobnoj raci do analize u laboratoriju i pohrane u depo. Autorica se ljudskim skeletnim materijalom bavila i kao arheologinja na terenu i kao bioarheologinja u laboratoriju i to se njezino višegodišnje iskustvo vidi u multidisciplinarnome pristupu temi primijenjenome u ovome priručniku.

Iako u Hrvatskoj ne postoji slično djelo, osim već spomenute knjige Marija Šlausa, u svijetu je posljednjih desetak godina, posebice na engleskome govornom području, objavljeno nekoliko izvrsnih priručnika koji se bave istom problematikom. Uz pionirsko djelo D. R. Brothwella *Digging up bones: the excavation, treatment, and study of human skeletal remains* (Cornell University Press, Cornell, 1981) svakako treba spomenuti knjige *The Human Bone Manual* T. D. Whitea i P. A. Folkensa (Academic Press, London, 2005), *Human Remains in Archaeology: A Handbook* C. A. Roberts (Council for British Archaeology, York, 2009) i *The Archaeology of Human Bones* S. Maysa (Routledge, London, 2010). Navedena djela vrlo su slična po svojem sastavu i metodama koje obrađuju (osnove osteologije, rad na terenu, rad u laboratoriju), a od Priručnika za iskopavanje, rukovanje i analizu ljudskih skeletnih ostataka iz arheološkoga konteksta razlikuju se opsegom: svaka od spomenutih knjiga ima više od dvjesto stranica. Knjiga Petre Rajić Šikanjić mogla bi se po svojem opsegu usporediti s priručnikom *Human Bones in Archaeology* autorice Ann Stirland (Osprey Publishing, Oxford, 1999) s kojim dijeli i tu odliku da je predočeni koštani materijal u cijelosti obradila sama autorica.

Imajući na umu iznimno aktualnu tematiku priručnika, posebice unutar arheološke i antropološke struke, može se zaključiti da je autorica na jezgrovit i pristupačan način s pomoću brojnih slikovnih priloga u potpunosti uspjela predočiti postupke koje valja poduzeti kad se dođe u kontakt s ljudskim skeletnim ostacima pronađenima u arheološkome kontekstu. Priručnik je u prvome redu namijenjen studentima arheologije i antropologije, zatim diplomiranim arheolozima i antropolozima koji se u svojem radu često susreću s tom vrstom materijala, ali i svima zainteresiranima za tu tematiku.

ade, particularly in the English-speaking countries. Besides the pioneering work by D. R. Brothwell, *Digging up Bones: the Excavation, Treatment, and Study of Human Skeletal Remains* (Cornell: Cornell University Press, 1981), other books that certainly merit mention are *The Human Bone Manual* by T. D. White and P. A. Folkens (London: Academic Press, 2005), *Human Remains in Archaeology: A Handbook* by C. A. Roberts (York: Council for British Archaeology, 2009) and *The Archaeology of Human Bones* by S. Mays (London: Routledge, 2010). These works are very similar in terms of composition and the methods they explain (basic osteology, fieldwork, laboratory work), but they differ from Priručnik za iskopavanje, rukovanje i analizu ljudskih skeletnih ostataka iz arheološkoga konteksta in terms of extent: each of these books has over two hundred pages. In terms of volume, the book by Petra Rajić Šikanjić may be compared to the manual *Human Bones in Archaeology* by Ann Stirland (Oxford: Osprey Publishing, 1999), and another similarity is that Stirland also entirely processed the bone materials herself.

Keeping in mind the exceptionally current topic covered by the manual, particularly within the archaeological and anthropological fields, one may conclude that with the help of numerous illustrations, the author concisely and accessibly succeeded in fully presenting the procedures which should be observed when coming into contact with human skeletal remains in the archaeological context. This manual is first and foremost intended for students of archaeology and anthropology and professional archaeologists and anthropologists, who often encounter this type of material in their work, but also anyone with an interest in this subject matter.

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