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STUDII – RESEARCHES

Ульвия Сафарова

О некоторых типах макролитических орудий из неолитических поселений Гасансу I и II

Key words: Azerbaijan, Shomutepe culture, Neolithic settlement, macrolithic tools, querns, grinders, mortars, pestles.

Cuvinte-cheie: Azerbaidjan, cultura Shomutepe, aşezare neolitică, unelte macrolitice, pietre de măcinat, răşniţe, mortare, piuliţe.

Ulviyya Safarova

Certain types of Macrolithic Tools from the Neolithic Sites of Hasansu I and II

The study examines the assemblages of macrolithic tools from the Neolithic settlements of Hasansu I and II within the framework of the food-producing economy of early farming communities. Stone tools played a fundamental role in plant processing – primarily cereals – as well as in the treatment of mineral resources such as ochre and salt and in the manufacture of another types of stone tools. The assemblage includes grinding slabs, hand stones, querns, mortars, pestles, and other heavy-duty macrolithic tools made from volcanic, sedimentary, and metamorphic rocks. These raw materials were either intentionally shaped through grinding, pecking and flaking or utilized without prior shaping. Beyond typological classification, the study applies macroscopic use-wear analysis to identify functional patterns and reconstruct operational sequences. The diversity of grinding systems – characterized by reciprocal, circular, irregular, and percussive motions – demonstrates a technologically flexible and functionally differentiated processing system associated with food production and craft activities. Comparative analysis reveals close typological, quantitative and raw material strategy parallels with early settlements of Shomutepe culture dated to the beginning of the 6th millennium BCE, contributing to a clearer understanding of regional technological traditions during the initial stages of agricultural economy.

Ulviyya Safarova

Unele tipuri de unelte macrolitice provenite din siturile neolitice Hasansu I şi II

Studiul examinează ansamblurile de unelte macrolitice din aşezările neolitice Hasansu I şi II în contextul economiei bazate pe producţia de alimente a comunităţilor agricole timpurii. Uneltele de piatră au jucat un rol fundamental în prelucrarea plantelor – în special a cerealelor –, precum şi în tratarea resurselor minerale, cum ar fi ocrul şi sarea, şi în fabricarea altor tipuri de unelte de piatră. Ansamblul este format din răşniţe/plăci, ciocane, piuliţe, pisăloge şi alte unelte macrolitice, realizate din roci vulcanice, sedimentare şi metamorfice. Aceste materii prime au fost fie modelate intenţionat prin şlefuire, cioplire şi aşchiere, fie utilizate fără a fi modelate în prealabil. Dincolo de clasificarea tipologică, studiul aplică analiza macroscopică a uzurii de utilizare pentru a identifica tiparele funcţionale şi a reconstitui secvenţele operaţionale. Diversitatea sistemelor de măcinare – caracterizate prin mişcări reciproce, circulare, neregulate şi percutante – demonstrează un sistem de prelucrare flexibil din punct de vedere tehnologic şi diferenţiat din punct de vedere funcţional, asociat cu producţia de alimente şi activităţile meşteşugăreşti. Analiza comparativă relevă paralele strânse din punct de vedere tipologic, cantitativ şi al strategiei privind materiile prime cu aşezările timpurii ale culturii Shomutepe, datate la începutul mileniului al VI-lea a.Chr., contribuind la o înţelegere mai clară a tradiţiilor tehnologice regionale din etapele iniţiale ale economiei agricole.

Введение

В производящем хозяйстве земледельческих общин периода неолита огромную роль играли каменные орудия, с помощью которых осуществлялась переработка растений (в первую очередь, зерновых), и других ресурсов (таких как охра, соль др.), а также оформлялись орудия труда. В ранних земледельческих ком-

плексах каменные орудия для измельчения и растирания веществ, являются одними из самых значимых артефактов для изучения домашнего хозяйства, воспринимавшиеся исследователями как неоспоримое свидетельство domestikacji зерновых [Wright 1991, 19].

В условиях становления производящего хозяйства, основанного на земледелии, возросла

роль зерно обрабатывающей отрасли хозяйства на неолитических поселениях Азербайджана, представленных памятниками шомутепинской культуры. Одними из таких поселений являются памятники Гасансу I и II, расположенные в Агстафинском районе Азербайджана (рис. 1), выявленные и изученные, доктором исторических наук, профессором Н.А. Мусейбли [Müseybli *et al.* 2010; Müseyibli *et al.* 2011; Müseyibli *et al.* 2012]. Как и другие поселения шомутепинской культуры данные памятники представляют собой два искусственных холма (тепе, телля), возвышающихся над равнинной местностью в окружении посевных полей. Высота первого холма 3,5 м, второго – 2,5 м. Круглые в плане холмы площадью 0,5 га каждая, расположены на расстоянии 50 м друг от друга [Müseybli *et al.* 2010, 32].

Внедрение технологий, необходимых для дробления, растирания, шлифования и измельчения различных материалов восходит к ранней предыстории. Согласно С.А. Семенову «помол зерна возник так же рано, как собирание и потребление злаков» [Semenov 1974, 276]. Остатки диких злаковых (пшеницы и ячменя) были выявлены на поверхности зернотерки из поселения эпохи верхнего палеолита – Охало II (Израиль), относящегося к 19500 г. до н.э. [Piperno *et al.* 2004]. Существует мнение, что растирание и связанные с ним орудия появились в палеолите и использовались для изготовления красок и лишь позже, на заре возникновения земледелия, стали служить для обработки растений [Wright 1991, 22; Dubreuil 2001, 73].

На исследуемых поселениях обработка зерновых была обеспечена известным набором инструментов, в частности зернотерками, курантами, пестами для дробления и растирания зерна, ступками для обрушивания половы и размельчения подсушенных зерен злаков.

Представленная в данном исследовании типологическая классификация терочных камней из раннеземледельческих поселений Гасансу I и II базируется, прежде всего, на морфологических особенностях изучаемых артефактов, с учетом их функционального назначения, установить которое помогают макроследы на их поверхностях, возникшие в ходе утилизации и/или оформления. С этой целью были при-

менены научные методы, включающие морфологический анализ, функциональный анализ на основе изучения макроследов и построение аналогий на основе материалов других раннеземледельческих комплексов, изученных в разные периоды на территории Южного Кавказа [Narimanov 1987; Abibullaev 1982; Kiguradze 1976; Abuladze 2017; Quliyeva 2016; Hamon 2008; Hamon 2012; Hamon 2022; Kadowaki 2020; Kadowaki 2022].

Схема морфологического анализа макролитических орудий состоит из следующих критериев: 1) сохранность, 2) сырье, 3) форма орудия, 4) метрические данные, 5) локализация зон сработанности, 6) характер следов использования.

При исследовании данной категории артефактов обращает внимание отсутствие единой разработанной терминологии, сильно различающаяся в зависимости от региона и культурной составляющей находок. В странах Америки, к примеру, для обозначения верхнего камня зернотерки исследователи применяют испанский термин *mano*, а для нижнего, стационарного камня термин *metate* [Adams 2002, 99-127]. В англоязычной литературе в большинстве классификаций используются соответственно термины *handstone* или *grinders* и *querns* или *slabs* [Wright 1992, 61].

В предлагаемом обзоре терочные камни анализируются без учета обработанных ими веществ, что требует применения специальных анализов, провести которые оказалось невозможным ввиду того, что коллекция орудий изучались через несколько лет после их изъятия. Видимые следы на каменных орудиях оставляет обработка охры, что, однако, не исключает использования орудий и в других операциях.

Макроследы на изучаемых каменных орудиях, были проанализированы исходя из исследований о кинематическом взаимодействии орудия с обрабатываемым материалом, так как в зависимости от типа движения руки (типа взаимодействия) формируются зоны износа с характерными следами использования. Первый тип – это растирание, помол обрабатываемого вещества, осуществляемый посредством горизонтального движения на плоскости (вперед-назад или по кругу). Второй же тип

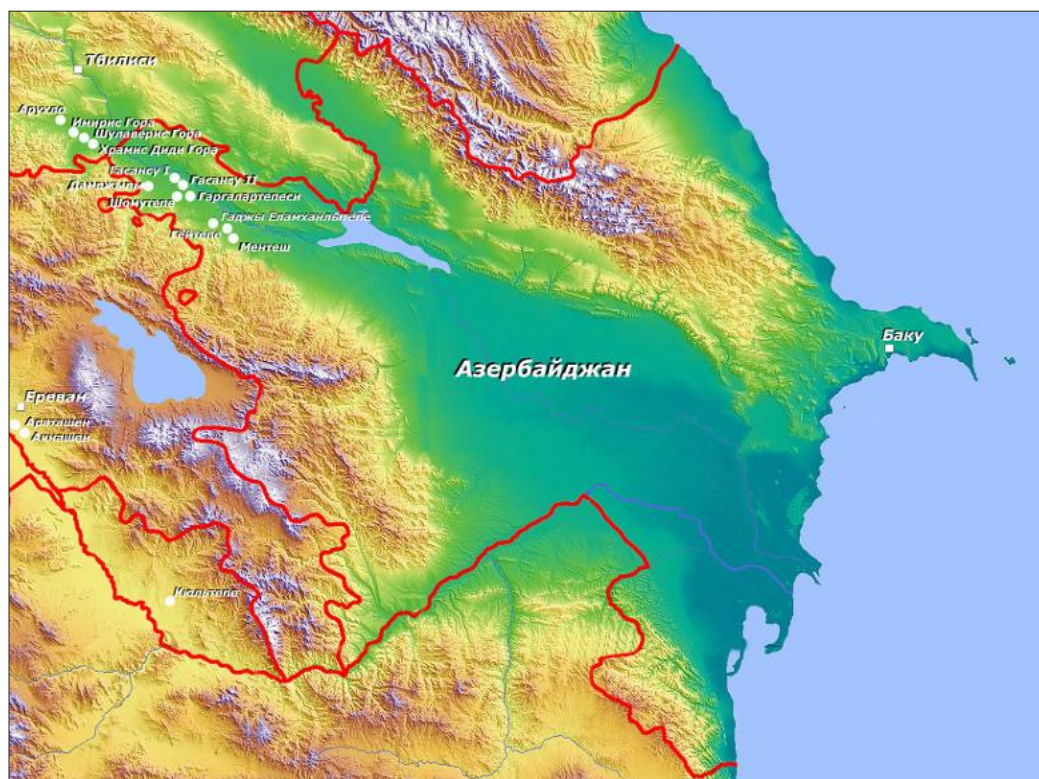


Рис. 1. Местоположение памятников Гасансу I и II и других неолитических поселений Южного Кавказа, упомянутых в исследовании.

Fig. 1. Location of the sites Hasansu I and II and other related Neolithic sites of South Caucasus.

связан с вертикальным движением или с ударными операциями. Следовательно, выделены два функциональных типа орудий: активные, воздействующие на объект (например, куранты, песты) и пассивные, подвергающиеся воздействию (например, зернотерки, ступы). Дополняя друг друга, они образуют орудийные наборы для выполнения единой функции – измельчения материала в мелкую фракцию [Beaune 1989]. Таким образом, в каждой категории выделяем две субкатегории: камни активного и пассивного способа использования посредством растирания обрабатываемого вещества между рабочими поверхностями орудий (зернотерки и терочки) и посредством дробления (ступки и песты). Остановимся на каждой из категорий орудий.

Абразивные орудия

Измельчение веществ в мелкую фракцию определяет функциональную составляющую терочных камней [Dubreuil 2001, 73]. Абразивный износ, достаточно четко определимый

при визуальном осмотре артефактов, формирует главный морфологический признак абразивных орудий – гладкую, блестящую, пришлифованную рабочую поверхность. Гладкую рабочую поверхность терочных камней следует дифференцировать от окатанной, естественной поверхности камня [Stepanova 2015, 9].

Зернотерки/терочные плиты (*grinding querns/slabs*) представляют собой стационарную или пассивную часть инструментария для измельчения. Широкая в плане, вогнутая или прямая в поперечном сечении рабочая зона данных орудий может сохранять эллипсоидные или продольные линейные следы, в зависимости от кинематики движения руки. Согласно классификации макролитических орудий, разработанной К. Райт для коллекций из неолитических поселений Ближнего Востока, круговые движения формируют зернотерку (*grinding quern*), а продольные – плиту (*grinding slab*) [Wright 1992, 63]. Наиболее изношенная часть орудия соответственно имеет наибольшую глубину. Измельчение обычно

осуществляется параллельно той плоскости, на которой лежит орудие. Семенов отмечает, что рабочие плоскости плит и курантов, служивших для растирания зерна, были равномерно заглажены именно ввиду обрабатываемого материала, мягкость которого не могла оказывать мощного абразирующего действия на курант или пест и обратно, как это наблюдалось при помоле руды [Semenov 1969, 9]. Поэтому время от времени поверхности плит-зернотерок мастера специально насакали (пикетировали). Согласно этнографическим наблюдениям женщины, стоя на коленях и слегка наклонив плиту вперед, измельчали продукты на молотильных камнях. Саму плиту фиксировали мелкими камнями или песком.

Из материалов обоих памятников Гасансу известно 14 экземпляров стационарных терочных орудий, 4 из которых обнаружено на Гасансу II [Safarova 2023, 17]. Сохранность изделий слабая, большинство из них имеет сильно изношенный вид, о чем косвенно свидетельствует факт отсутствия на памятнике достаточного количества целых экземпляров. Однако, не исключена, преднамеренная поломка орудий, связанная с неустановленными ритуалами или смертью хозяина. Преобладание неполных и фрагментированных артефактов затрудняет точное определение форм и первичных метрических данных рассматриваемых орудий. Заготовки довольно широкие (от 17 до 21,5 см), при толщине от 4 до 7 см (рис. 2). Длина полностью сохранившегося экземпляра составляет 40 см (рис. 2,1). Все обнаруженные на поселениях Гасансу стационарные терочные камни следует отнести к седловидным плитам, так как они имеют вогнутые рабочие поверхности в продольном и в поперечном направлении. Иногда они ограничены небольшой кромкой на сохранившемся конце, образовавшейся в результате интенсивного использования. Эти орудия использовались только для возвратно-поступательного движения. В соответствии с морфологией орудий можно выделить продолговатые плиты подпрямоугольной (n=2) и зауженной к дистальному концу (n=3) форм.

Особо среди них выделяется изделие треугольной формы с шлифованной рабочей зоной, размерами 17×16×5 см и весом 1935 г.

Подобные орудия в коллекциях шомутепинских памятников определены как рабочие плиты, так как макроследы не позволяют точно выделить их функциональную составляющую [Kadowaki 2021, 108].

Все фрагментированные экземпляры плит и большинство неполных изделий на поселении изготовлены преимущественно из вулканических пород – везикулярного базальта серого и черного цветов (n=12), а единственный целый экземпляр со следами охры на рабочей поверхности – из андезита (n=1). Присутствует один неполный артефакт, сырьем для которого выступает осадочная порода – песчаник (рис. 2,3). На базовой и боковых частях некоторых из них видны сглаженные следы сколов оформления и пикетажа. Рабочие поверхности гладкие, шлифованные, зачастую с блеском. Естественная шероховатая, пористая поверхность везикулярного базальта не нуждалась в постоянной обработке пикетажем, обеспечивая высокую эффективность измельчения без дополнительных усилий. Возможно, благодаря этим качествам базальт был предпочтительнее остальных видов сырья при изготовлении зернотерок/плит, хотя не следует отбрасывать вероятность культурной традиции.

В археологии Азербайджана зернотерки являются частыми находками при изучении раннеземледельческих поселений. Из нижнего неолитического культурного слоя нахичеванского Кюльтепе I известны сотни находок зернотерок (46 из которых целые), изготовленных из пористых и плотных камней и представленных различными формами [Abibullaev 1982, 58-59]. Данные из поселений шомутепинской культуры среднего течения реки Куры демонстрируют схожую картину в выборе сырья и в морфологии орудий [Abuladze 2017, 262, fig. 2; Kadowaki 2020, 226, fig. 12.1; Kadowaki 2021, 108]. И. Нариманов выделяет две основные группы зернотерок в зависимости от формы: овально-удлиненные и четырехугольных очертаний. Сырьем для них также служил «пористый камень темно-серого цвета» [Narimanov 1987, 105-106]. 92% зернотерок из современных раскопок в Арухло I были также изготовлены из базальта [Abuladze 2017, 264]. В большинстве своем из базальта (77%) были

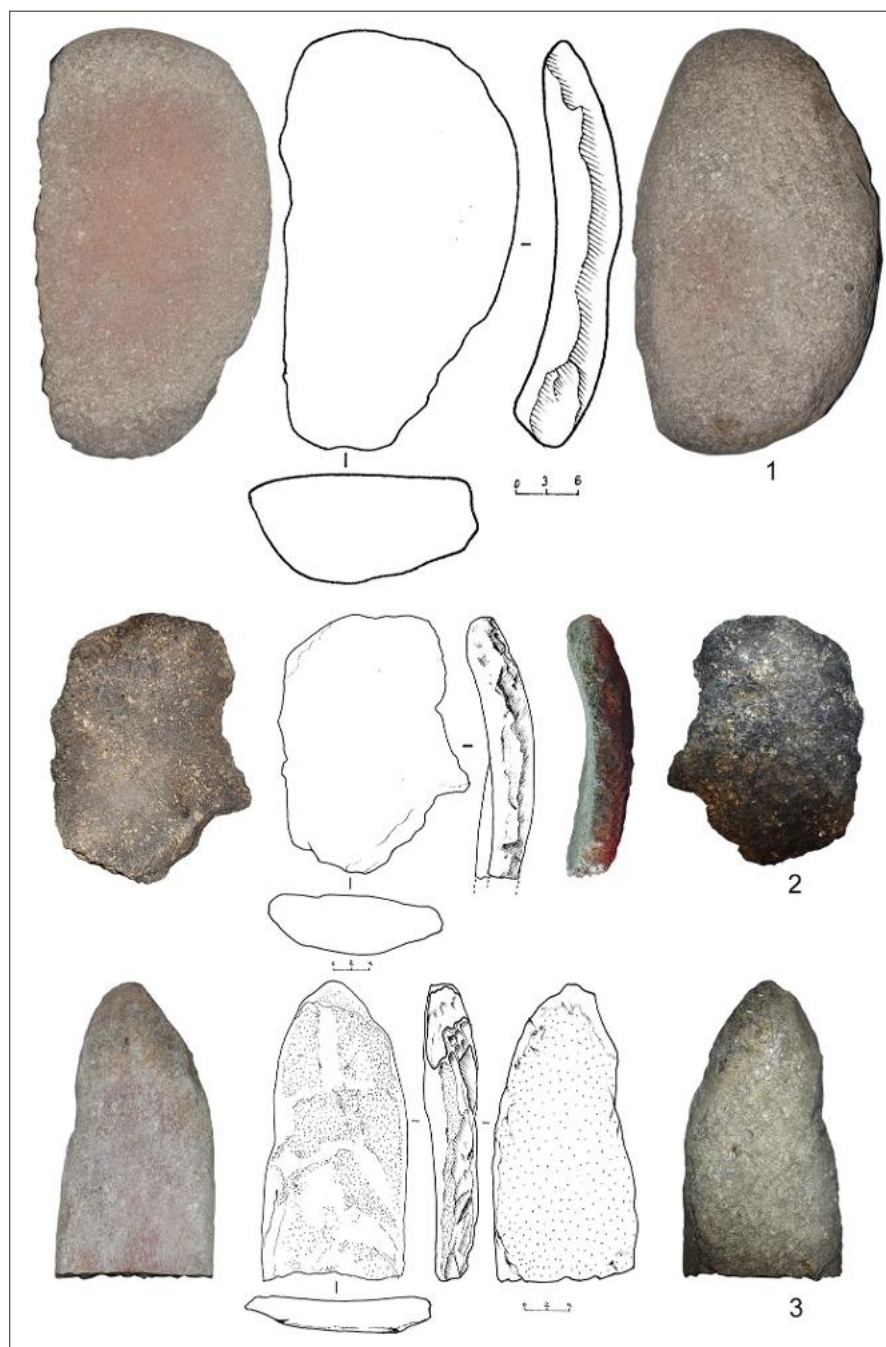


Рис. 2. 1-3 – терочные плиты.

Fig. 2. 1-3 – grinding slabs.

изготовлены зернотерки/плиты в немногочисленной коллекции (всего 12 изделий) из поселения Акнашен-Хатунарх [Намон 2022, 170]. Подобная традиция в выборе сырья для данной категории орудий из неолитических поселений Южного Кавказа прослеживалась и в последующие эпохи [Намон 2012, 169]. Однако, на поселении Геойтепе предпочтитель-

ным сырьем для орудий, связанных с производством продовольствия, включая куранты, терочники, плиты, был андезит [Kadowaki 2020, 237]. Хотя, исследователь не исключает возможную разницу в классификации схожего сырья по разным критериям в зависимости от специалиста [Kadowaki 2020, 253]. Примечательно, что метрические данные нижних

молотильных камней из указанных выше коллекций в большинстве своем отличаются от показателей орудий из ассамбляжа поселений Гасансу большими габаритами [Hamon 2008, 93, tab. 4; Abuladze 2017, 264, tab. 2; Kadowaki 2020, 233, fig. 12.7; Quliyeva 2016, 35-37]. Коллекции макролитических орудий из памятников раннего этапа шомутепинской культуры, таких как Гасансу, Гаджи Эламханлы и Акнашен, характеризуются незначительным количеством зернотерок, особенно целых, по сравнению, например с развитой фазой, представленной материалами Гейотепа (43 экз.) [Kadowaki 2020, 224, table 12.1] и Арухло (108 экз.) [Abuladze 2016, 262].

Куранты и терочники. В субкатегорию камней активного использования входят верхние камни зернотерок (двуручные куранты, *grinders*) (27 экз.) и терочники (ручные камни *handstones*) (32 экз.), использовавшиеся против плоской поверхности плит и зернотерок. Уплотненная, пришлифованная рабочая поверхность данных орудий сформирована в результате сообщаемого рукой человека возвратно-поступательного, кругового или хаотичного движения на плоскости, о чем свидетельствует направление линейных следов утилизации. Разделение орудий данной категории является условным и определяется размерами и направлением движений при утилизации. К двуручным курантам относятся, как правило, тяжелые орудия для возвратно-поступательного движения на плоскости, имеющие зачастую продолговатую форму с поперечно расположенными линейными следами утилизации. Плоско-выпуклые в разрезе орудия, в англоязычной литературе называемые «батонovidными» (*loaf-shaped*), представляют собой наиболее подходящий инструмент для использования в гипотетическом наборе с седловидными типом нижних камней. Форма курантов из Гасансу в основном овальная продолговатая (14 экз.) (рис. 3,2), с меньшим количеством подпрямоугольных форм (8 экз.) (рис. 3,1). Поперечные сечения преимущественно плоско-выпуклые и плоские в случае двухсторонних орудий (4 экз.). Рабочая их часть в ходе утилизации приобрела гладкую, почти зеркальную поверхность. Куранты чаще всего отличались выпуклой спинкой, в двух

случаях довольно высокой, которая обеспечивала надежный захват пальцами рук. На поселении Гасансу встречаются также куранты-песты (3 экз.) (рис. 3,1), со следами толчения и разминания на концах орудий. Среди батонovidных курантов, следует выделить одно аккуратно оформленное орудие (16×9,5×5 см), в центральной части плоских широких сторон которого имеется по одному ступкообразному углублению, диаметром 4-5 см, глубиной 1-1,5 см (рис. 4,3). Подобное орудие отмечено в коллекции поселений Шомутепе [Arkhundov 2012, 70, inv. № 82] и Хатунарх-Акнашен [Hamon 2022, 174], как пример, многофункционального использования. Подобные «зернотерки» отмечены на поселениях Имирис-гора, Дех-луран [Kiguradze 1976, 164].

Ко второму типу отнесены терочники, отличающиеся от курантов, меньшими размерами, что позволяло использовать их не только для возвратно-поступательного, но также для кругового и хаотического движений. Округлые, овальные или подтреугольные очертания орудий зависели от естественных форм камней. Один круглый высокий терочник диаметром 12 см выявлен в коллекции Гасансу II [Safarova 2023, 30, рис. 4, 2]. Из 32 орудий лишь 12 сохранились полностью, 14 экземпляров сохранились наполовину. Как и в случае с курантами, терочники имеют в большинстве случаев плоско-выпуклую форму в разрезе (рис. 3,3-7), что указывает на их одностороннее использование. Бифасиальных орудий в коллекции всего 5 экземпляров. Судя по целым орудиям, они с легкостью могли использоваться одной рукой. В единичных случаях, терочники имеют следы других видов использования, таких как разбивание и дробление, что позволяет рассматривать их как полифункциональные инструменты, включая комбинации терочник/пест (рис. 3,7), терочник/булыжник для дробления (*hand stone/crushing cobble*) (рис. 3,4). Общие размеры данных орудий варьируются от 8 до 23 см в длину и от 7 до 14 см в ширину, но эти параметры во многом зависят от типа камня; их толщина, как правило, находится в диапазоне от 3 до 8 см.

Сырьем для терочников на поселениях Гасансу выступал везикулярный базальт темных цветов, окатанные валуны речного плот-

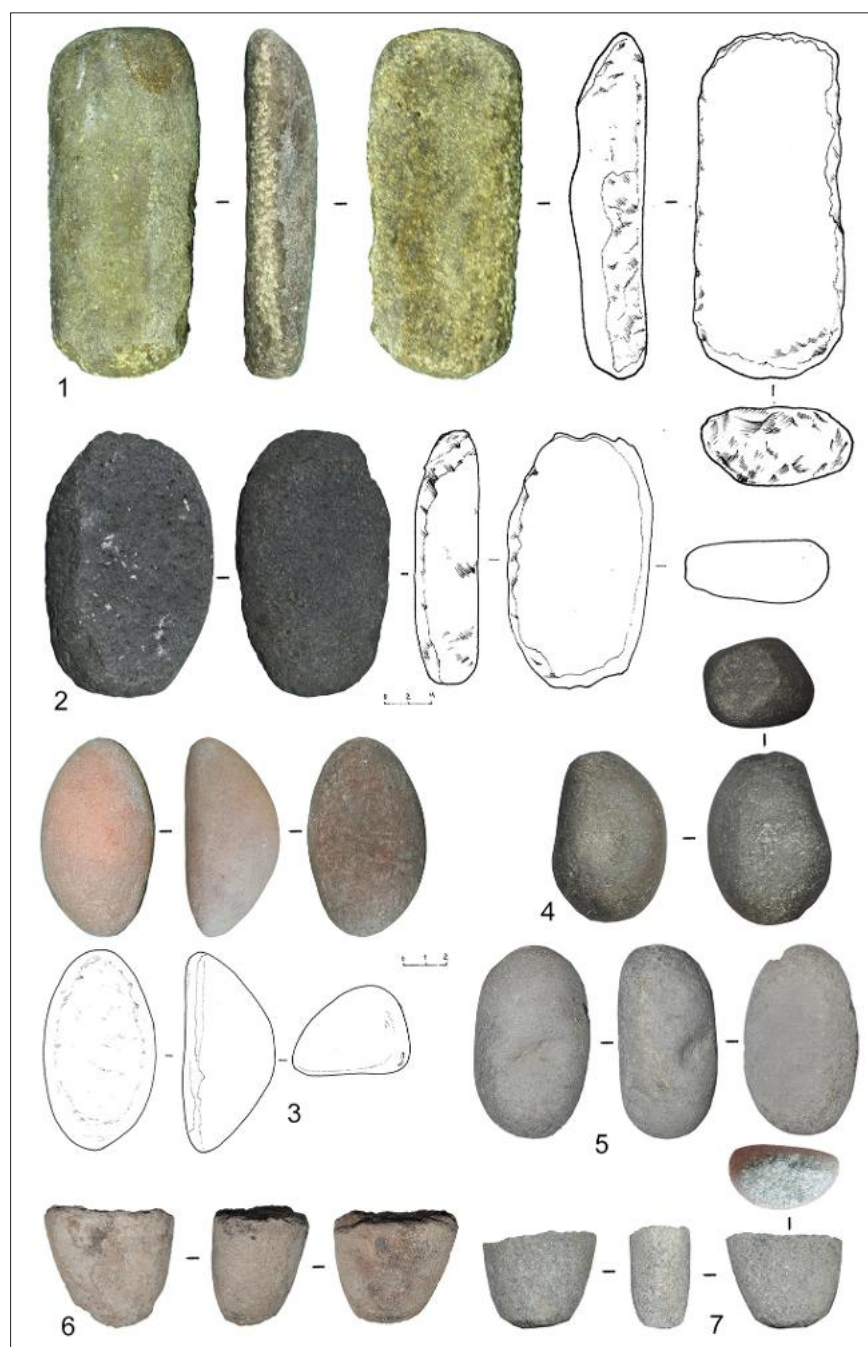


Рис. 3. 1– курант-пест, 2 – двусторонний курант; 3, 5, 6 – терочки; 4 – терочник-булыжник для разбивания; 7 – терочник-пест.

Fig. 3. 1–grinder-pestle; 2 – bifacial grinder; 3, 5, 6 – handstones; 4 – handstone/crushing cobble; 7 – handstone-pestle.

ного галечника и реже песчаник и гранит. Подобные орудия были выявлены на многих памятниках шомутепинской культуры. Во многих случаях использовалось аналогичное сырье, только в разных пропорциях. Например, в Арухло I большинство курантов было оформлено на базальте [Abuladze 2017, 262].

Тезис о совместном употреблении терочников с нижними плитами сформировал среди исследователей постулат о необходимости соотношения размеров рабочих поверхностей зернотерок и курантов. При работе с коллекцией из Гасансу, максимальная ширина целых нижних плит составляет 20-21 см, в то время

как длина полностью сохранившихся курантов (10 экз.) составляет 16-23 см. Таким образом, даже если куранты были немного меньше рабочей поверхности плит, ими можно было работать на всю их поверхность. К сожалению, на исследуемом памятнике целые терочные плиты представлены слабо, что весьма ограничивает примеры метрических данных, все это затрудняет построение статических сравнений.

Согласно периодизации раннеземледельческих поселений Южного Кавказа, разработанной Т. Кигурадзе, корытообразные зернотерки, наряду с односторонними и двусторонними курантами являются наиболее ранними формами терочных орудий [Kiguradze 1976, 158]. На второй ступени появляются массивные каменные ступы [Kiguradze 1976, 161]. Далее на третьей стадии появляются седловидные зернотерки, которые сосуществуют с корытообразными [Kiguradze 1976, 163]. На четвертой же стадии появляется «зернотерка» с плоской поверхностью со ступкообразным углублением посередине [Kiguradze 1976, 164]. К. Хамон, основываясь на своих исследованиях, приходит к заключению о наибольшей архаичности именно седловидных зернотерок (*saddle-shaped querns*) [Hamon 2008, 109; Hamon 2022, 184]. Однако, материалы других коллекций, более многочисленных, не подтверждают эти выводы [Abuladze 2017, 265]. На поселениях Гасансу выявлены остатки лишь седловидных терочных плит во всех культурных слоях, мощностью в более чем 3 м, а также «зернотерки» со ступкообразным углублением. Как видно из указанных сведений, на поселениях Гасансу указанные виды зернотерок и курантов сосуществует одновременно. Отметим, что в целом формы макролитических орудий оставались неизменными на протяжении долгого времени. Прогресс орудий можно проследить, скорее всего, в размерах орудий и их количестве на поселениях, в соответствии с возрастающими потребностями его обитателей.

Ударные орудия

Ступки. Одними из характерных орудий раннеземледельческих поселений Южного Кавказа являются ступки и песты – парные орудия, функция которых связана с дроблением и измельчением. Ступки являлись ос-

новными орудиями для обрушивания половы и размельчения подсушенных зерен злаков, эффективность которых была доказана экспериментальными исследованиями [Liu 2015, 829]. Ступки, согласно Дж. Адамс создаются с углублением, в котором размещается вещество, обрабатываемое пестиком с использованием комбинации движений: дробления, перемешивания или растирания [Adams 2002, 127]. Ступки из изучаемых поселений можно отнести к типу «валунных» [Wright 1992, 66]. Одно из орудий оформлено на речном валуне андезита овальной формы (26,5×19,5×16×14 см). В его центральной части оформлено углубление, имеющее диаметр 9,5×10 см. Глубина углубления 6,5 см. Поверхность углубления гладкая, полированная, со следами охры (рис. 4,1). Вместе со ступой был обнаружен небольшой пест [Müseyibli *et al.* 2010, 34, fig. 1].

Вторая ступа оформлена на крупной конкреции пористого камня (базальт?) высотой 17 см, шириной 21 см. Сохранившаяся длина камня 24 см. Несмотря на слом, углубление орудия диаметром 15 см, глубиной 11 см осталось сохранным. Углубление, сужающееся ближе ко дну, имеет гладкую поверхность. Вместе с тем, рабочая поверхность ступки имеет осадок неизвестного вещества желто-серого цвета. На поверхности самой ступки наблюдаются пятна охры. Поверхность камня сохранила следы обработки в виде крупных сколов, которые впоследствии были сглажены шлифовкой. От этого камень хотя и гладкий, но тем не менее, не округлый (рис. 4,2). Подобные изделия характерны и для других памятников шомутепинской культуры [Hamon 2008, 96; Hamon, Melikhsetian 2022, 174; Kadowaki 2020, 227; Kadowaki 2021, 108].

Песты. Песты, как орудия активного использования, были предназначены для измельчения веществ в мелкую фракцию посредством точечных ударов. Специфическая кинематика движения при работе с пестом приводит к формированию смятости, а также сколов, что свидетельствует об использовании их в наборе с каменными ступами [Adams 2002, 139].

Песты в коллекции поселений Гасансу насчитывают 18 предметов, из которых 8 – целые экземпляры. Большинство пестов на изучае-

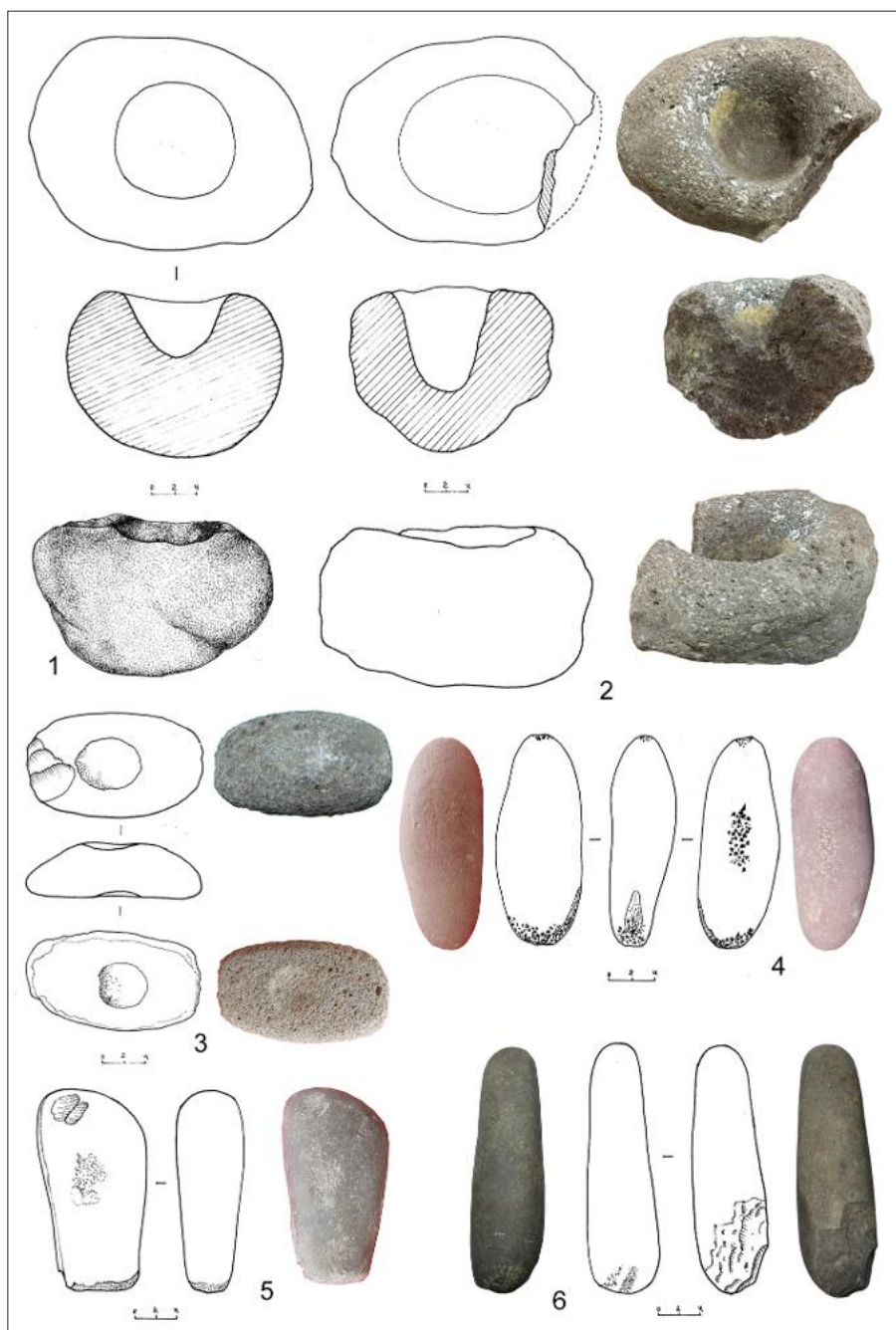


Рис. 4. 1-2 – ступки; 3 – курант со ступкообразным углублением; 4-6 – пестики.

Fig. 4. 1-2 – mortars; 3 – grinder with a mortar shaped distortion; 4-6 – pestles.

мом памятнике имеют продолговатую форму и один или два рабочих конца или полюса. Сломанные орудия чаще всего представляют собой поперечные или реже продольные фрагменты рукояти с одним из рабочих концов. Целые экземпляры по форме были разделены на цилиндрические однополярные песты (рис. 4,6), конические с сужающимся рабочим кон-

цом (рис. 4,4-5). В поперечном разрезе чаще всего овальные, встречаются также округлые экземпляры. Отмечен пест с выбоинами от точечных ударов на центральной части плоских сторон (рис. 4,4), что указывает на полифункциональное использование.

Песты различаются не только по форме, но и по габаритам. Размеры пестов различны,

не превышая длину 24 см, а ширину 9 см. Размер песта чаще всего связан с его функцией – соответственно: большие и тяжелые песты использовались для дробления материалов, в то время как мелкие и легкие – для измельчения и растирания. В качестве сырья для изготовления пестов на изучаемых поселениях использовались речные окатанные камни мелкозернистых пород: встречается андезит, базальт, гранит, единично представлен известняк.

Орудия различаются также по технике изготовления. Некоторые из них использовались без дополнительной модификации, используя природную удлинённую форму сырья (9 экз.). Другие же имеют следы оформления, в виде крупных сколов, нанесённых вдоль одной из продольных сторон заготовки, создающие задуманную форму рукояти (4 экз.).

Планиграфия находок макролитических орудий свидетельствует о том, что зернотерки и их верхние камни, равно как и ступки, чаще всего обнаруживаются внутри жилищ, возле очагов [Narimanov 1987, 15, 21, 25], а также во дворах, и в придомных пространствах [Narimanov 1987, 19; Kadowaki 2020, 24, fig. 3.12; Kadowaki 2021, 27, fig. 2.24; Abuladze 2017, 281, fig. 3; Quliyeva 2016, 34, şəк. 1]. Также зачастую они обнаруживаются в заполнении стеновых конструкций [Abibullev 1982, 58] и в очагах, в качестве камней для нагрева [Badalyan *et al.* 2010, 197; Quliyeva 2016, 36].

Сырьевые стратегии. Заготовками для макролитических орудий, применяемых в процессе обработки пищевых и других продуктов на поселениях Гасансу, выступали валуны, гальки и плиты различных горных пород вулканического, осадочного и метаморфического происхождения. Хотя точные источники сырья еще не установлены, однако большинство фрагментов имеют гладкие, округлые поверхности, что указывает на их происхождение из аллювиальных отложений, возможно с террасы рек Гасансу и Агстафачая. Источники сырья, использовавшиеся на протяжении всего периода существования поселений Гасансу, судя по отсутствию явных изменений, оставались стабильными.

Технические приемы оформления макролитических орудий. Изучаемые орудия труда на поселениях Гасансу оформлялись посред-

ством различных методик (ударной техники, шлифования, пикетажа) или использовались без обработки. Базовые части и периферия терочных плит, ступ и пестов оформлены ударной техникой и затем пришлифованы. Пикетажная (точечная), абразивная и полировальная техники достигли своего расцвета в период неолита, с помощью которых оформлялось большинство макролитических орудий [Semenov, Korobkova 1983, 76]. Главными материалами пригодными для обработки данными техническими приемами были вулканические зернистые породы (базальт, андезит, диорит, порфир), а также сланцы и песчаник.

Обработка пищевых продуктов и пигментов. Согласно Г.Ф. Коробковой зернообрабатывающее производство раннеземледельческих обществ Южного Кавказа вырабатывало муку, а не крупу, как в Северо-Западном Причерноморье [Korobkova 1987, 33].

Количество ступок и пестов на поселениях Гасансу значительно уступает показателям зернотерок/плит, курантов и терочников, что свидетельствует о том, что последние представляют собой основной орудийный комплекс для обработки пищи на поселениях Гасансу. Как показывают данные таблицы 1, орудия труда для обработки пищи (плиты, куранты, терочники) были развиты уже на ранних этапах поселений Гасансу, то есть развитие технологии обработки пищевых продуктов, предшествовало самому заселению, что может говорить о культурных заимствованиях или миграциях. Отсутствие находок подобных орудий в местных позднемезолитических слоях памятника Дамджылы, где были выявлены лишь два ударных орудия (разбивальники) [Nishiaki 2025, 117], может свидетельствовать о внезапном появлении данной каменной индустрии на неолитических поселениях шомутепинской культуры в начале VI тыс. до н.э. в регионе Южного Кавказа.

Следует подчеркнуть, что шомутепинские поселения более поздних этапов демонстрируют значительное увеличение не только количества, но и размеров орудий, предназначенных для обработки пищевых продуктов. Безусловно, объяснение этому кроется в увеличении численности населения, что является лучшим свидетельством успешной адаптации

Глубина(м)	Зернотерки/плиты	куранты	терочники	ступки	песты	ИТОГО
0-0,2	1	1			1	3
0,2-0,4	1	1	3		2	7
0,4-0,6	1, 1(очаг)		5		1	8
0,6-0,8	1	3	2, 1(ж)		2	9
0,8-1	1	1	2		1	6
1-1,2	1	2, 4(ж)	2 (ж), 1		1, 2(ж)	13
1,2-1,4		2	3, 1(ж)		1(ж)	7
1,4-1,6	1,1(ж),1(ж)	1	1		1	6
1,6-1,8		3	3	1	2	9
1,8-2	1	2	2		1	6
2-2,2	1	3	3		1	8
2,2-2,4					2	2
2,4-2,6	1	2	1	1	1	6
2,6-2,8		1(я)				1
2,8-3						0
3-3,2	1	1	2			4
ИТОГО	14	27	32	2	19	94

Таблица 1. Поглубинная фиксация типов орудий на поселениях Гасансу.

Table 1. Depth distribution of tool types at the Hasansu sites.

и пищевых стратегий, которых придерживались жители неолитических поселений бассейна реки Куры.

Обработка пигментов играла определенную роль в домашнем хозяйстве неолитических поселений Гасансу, о чем свидетельствуют пятна охры на рабочих поверхностях некоторых орудий. Не исключено повторное использование орудий для обработки пищи. Использование (или повторное использование) макролитических инструментов для измельчения пигментов – ещё одно наблюдение, которое соответствует другим археологическим контекстам неолита Южного Кавказа [Hamon 2008; Hamon 2012].

Выводы

Разнообразие типов и форм терочных камней из коллекции памятников Гасансу, их интенсивное использование указывают на то, что они не были «временными» инструментами, а применялись для хозяйственных нужд в условиях постоянного поселения. Данные категории инструментов, за исключением ступ, встречаются на протяжении всей стратигра-

фической последовательности, но в разных пропорциях. Их распределение свидетельствует об относительной стабильности выполняемых занятий (переработка пищи, изготовление инструментов) и, более того, о сохранении устойчивой системы жизнеобеспечения и хозяйственной деятельности в течение длительного периода заселения памятника.

Комплекс каменных орудий труда, используемых для обработки пищевых и других продуктов в ударно-абразивных операциях на памятниках Гасансу, в целом схож с домашним инвентарем других поселений шомутепинской культуры Южного Кавказа, по использованному сырью, типам орудий и их количеству [Hamon 2008; 2012; 2022; Kadowaki 2020; 2021]. Особенно близкими оказались данные из Гасансу I и II, с материалами из поселений раннего этапа шомутепинской культуры (Гаджиэламханлы тепе (Азербайджан) и Акнашен-Хатунарх (Армения)) для которых установлена низкая частотность терочных плит/жерновов (особенно полных экземпляров) и ступ, наряду со значительным количеством верхних терочных камней. Вероятно,

что ударно-абразивная каменная индустрия на указанных поселениях основывалась на схожей организационной модели, включавшей добычу сырья, производство самих орудий и их использование. Это сходство особенно заметно на фоне различий с мезолитом региона, несмотря на ограниченность мезолитических находок на Южном Кавказе.

Таким образом, богатый комплекс макролитических орудий труда на памятниках Гасансу, свидетельствует о внезапном появлении

ударно-абразивной каменной индустрии в начале VI тыс. до н.э. Особенно примечательно, что данные инструменты (жернова, куранты, терочники, ступы и пестики) появляются одновременно с началом культивирования злаков. Такое внезапное появление этих типов инструментов на Южном Кавказе контрастирует с их долгосрочным развитием в Леванте и Верхней Месопотамии, которое началось ещё в эппалеолите [Wright 1991].

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Ancient archaeological finds related to weaving in Azerbaijan

Key words: Azerbaijan, early production, grave monuments, cattle-breeding, ancient weaving, clothing, home crafts, spindle whorls.

Cuvinte-cheie: Azerbaidjan, producție timpurie, monumente funerare, creșterea vitelor, țesutul antic, îmbrăcămintea, meșteșugurile casnice, fusaiole.

Najaf Museibli

Ancient archaeological finds related to weaving in Azerbaijan

As a result of archaeological excavations conducted in Azerbaijan, numerous finds related to the weaving art have been discovered in monuments dating from the Neolithic to all subsequent periods. These are tools with piercing functions such as spindle whorls, needles, awls and pins made of clay and bone, and rarely from stone. In the Bronze Age, piercing tools were also made of metal. Traces of fabrics woven in various ways on ceramic products dating from the Neolithic, Chalcolithic and Bronze Ages are indicators of the widespread development of this art form in ancient Azerbaijan. Thus, the “bagging method” used in the production of pottery indicates that the bag, which is a woven product, was also applied in the field of pottery. At the same time, direct remains of fabric were also discovered during the excavations. Although the remains of fabric discovered in grave monuments are very poorly preserved, they indicate that weaving was one of the main craft forms in the region. Some examples of clothing found among the petroglyphs are also a certain source of information about ancient weaving.

Najaf Museibli

Descoperiri arheologice antice legate de țesut în Azerbaidjan

În urma săpăturilor arheologice efectuate în Azerbaidjan, au fost descoperite numeroase vestigii legate de arta țesutului în situri datând din neolitic și din toate perioadele ulterioare. Este vorba despre unelte ca fusaiole, ace, știfturi și ace de cusut realizate din lut și os, și mai rar din piatră. În epoca bronzului, străpungătoarele erau confecționate și din metal. Urmele de țesături amprentate, în diverse moduri pe obiecte ceramice datând din Neolitic, Chalcolithic și Epoca Bronzului, indică dezvoltarea pe scară largă a acestei forme de artă în Azerbaidjanul antic. Astfel, „metoda de împachetare” utilizată în producția de ceramică indică faptul că punga, care este un produs țesut, a fost aplicată și în domeniul ceramicii. În același timp, în timpul săpăturilor au fost descoperite și rămășițe directe de țesături. Deși rămășițele de țesături descoperite în monumentele funerare sunt foarte slab conservate, ele indică faptul că țesutul era una dintre principalele forme de artizanat din regiune. Unele exemple de îmbrăcăminte găsite pe petroglife reprezintă, de asemenea, o sursă sigură de informații despre țesutul antic.

Introduction

In the second half of the 7th millennium BC, the ceramic Neolithic Age appeared in the territory of Azerbaijan and the rapid development of the production economy began. The expansion of farming and cattle breeding gave impetus to the intensive development of a number of household crafts – stone working, bone working, pottery, weaving, etc. The tools of the trade, both in rock carvings discovered in the territory of Azerbaijan and unearthed as a result of archaeological excavations, indicate that the weaving craft was widely used in this region at all stages of ancient history.

People of that time primarily used wool and other natural materials to make clothes, headgear and footwear to meet their clothing needs. Besides, woven and knitted products were also widely used in everyday life, such as in the covering the floor of houses [Abibullaev 1982, 222-223; Narimanov 1987, 155].

In connection with the expansion of production, numerous finds related to the weaving craft have been discovered in both residential areas and graves of all subsequent periods, starting from the Neolithic period. These are tools with piercing functions such as spindle whorls made of clay

and bone, and rarely of stone, as well as needles, awls, pins. All these tools differ very little in typology across periods. Their functions remained unchanged for centuries. Both plant-based (flax, fiber, reed, etc.) and animal-based (wool) raw materials were used in weaving.

Materials and discussion

Neolithic Age

In the Gobustan petroglyphs dating back to the Mesolithic and Neolithic Ages, some of the human figures appear to have worn some kind of covering around their waists. These coverings were most likely made of animal skin or woven from wool or wood fiber [Dzhafarzade 1973, 14]. These paintings are the oldest visual evidence of the clothing of hunter-gatherer people in Azerbaijan.

The remains of both weaving tools and wickerwork products have been discovered in the monuments of the Industrial Neolithic – the first farming – cattle-breeding period. The oldest such examples are known from the Kultepe I settlement, dating back to the second half of the 7th millennium BC – the 6th millennium BC, near the city of Nakhchivan. During excavations here, three biconical-shaped spindle whorls made of plant mixed clay were discovered (fig. 1,1). Moreover, in several Neolithic graves (No. 46, 66, 76) in the settlement, was found remains of hopsack on the skeletons. According to the author of the excavation, O. Habibullayev, the dead in these graves were buried wrapped in hopsack woven from plant fibers [Abibullayev 1982, 39, 41, 45, 75, 223].

Analogue of the biconical clay spindle whorls discovered at Kultepe I are known from coeval monuments in Western Asia. For example, dozens of such whorls were discovered at the Haji Firuz settlement in the Urmia basin [Narimanov 1987, 155]. This type of

spindle whorls has also been found at Kultepe settlement in northern Mesopotamia [Bader 1989, 154-155]. Conical stone spindle whorls have been found in the Hassun culture in Northern Mesopotamia. Stone spindle whorls of the same type have been found in the Yarimtepe II settlement of the late Halaf culture. At the same time, the number of clay spindle whorls found here were more than 30. Only three of them are conical, the rest are biconical in shape [Munchaev, Merpert 1981, 230].

No spindle whorls are known from other Neolithic monuments of Northern Azerbaijan. The Nakhchivan region, in the Araz River basin,

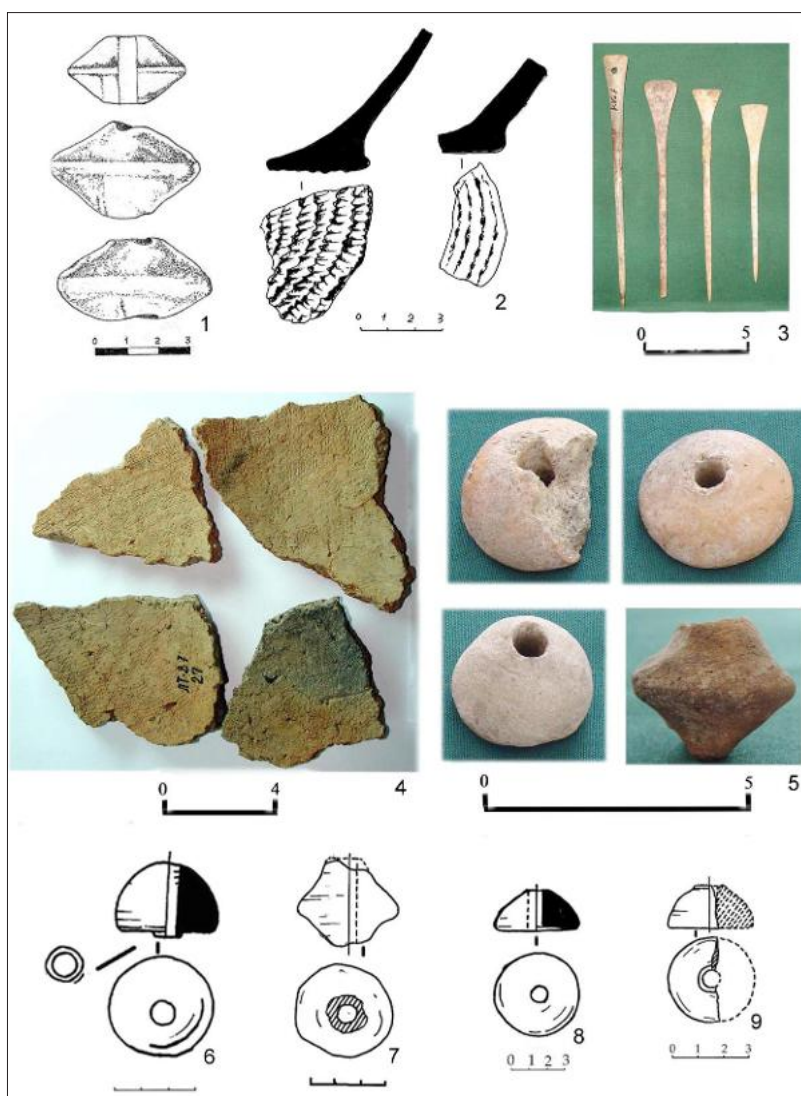


Fig. 1. 1 – Spindle whorls from Kultepe I [Abibullayev 1982]; 2 – Pottery vessel fragments with traces of a bast mat under it from Hasansu I; 3 – Bone pins from Beyuk Kesik; 4 – Vessel fragments with traces of fabric inside from Leilatepe; 5-6 – Clay Spindle whorls from Beyuk Kesik [Müseybli 2020].

is geographically located in the immediate sphere of influence of the cultural traditions of Western Asia – Urmia, Northern Mesopotamia, and Eastern Anatolia. Therefore, the discovery of spindle whorls at the Kultepe I settlement in Nakhchivan can undoubtedly be considered as a result of the cultural influences of Western Asia.

During excavations of Neolithic settlements in Northern Azerbaijan, remains of woven mat made of plant fibers were repeatedly found on the floors of houses. In the settlements of the Middle Kura basin, special mats were woven on which clay pots were shaped and dried. In every monument excavated in this region, pottery vessels with traces of these mats under their seats were discovered [Narimanov 1987, 155-156]. At Hasansu settlement in Agstafa district (late 7th-6th millennium BC), 5 cm thick mat remains were discovered on the floor of one of the houses. Such thickly woven mats ensured that the floors of the houses were kept dry and warm. Traces of the mat remains under the seat of the pottery fragments discovered at this monument (fig. 1,2) are clearly observed [Müseyibli *et al.* 2010, 32; Museibli 2023, fig. 6. 3, 4].

It is not an exception that the bone tools with piercing functions, such as the awl-like tools and the pencil-like pointed tools, which are rarely encountered in Neolithic monuments, were used in the weaving process. It is not an exception that the bone tool with a serrated, saw-shaped end was used in combing wool.

Chalcolithic period

Textile products of the Chalcolithic period in Azerbaijan have been discovered mainly from the monuments of the Leilatepe culture (end of the 5th millennium BC – first half of the 4th millennium BC). This culture is closely related to Northern Mesopotamia-Eastern Anatolia and the production traditions of these regions. It is from the monuments of this period that archaeological remains related to weaving are found in large numbers in Azerbaijan. The monuments where archaeological weaving products have been discovered are mainly the eponymous monuments of Leilatepe, Beyuk Kesik, and Galayeri settlements.

Triangular bone pins with a flat top were discovered in the Leilatepe and Beyuk Kesik set-

tlements. Some of them had a hole in the flat top. Therefore, they can also be conditionally called needles. It can be assumed that these pin/needle-type tools were used in the weaving process (fig. 1,3).

The pottery vessels of this culture were formed on a potter's wheel made with plant mixed clay, and in rare cases from pure clay. However, vessels made of sand-mixed clay were formed by hand. Several vessel fragments made of sand-mixed clay discovered at the Leilatepe settlement have traces of very fine woven fabric on their inner surface (fig. 1,4). This, in turn, indicates that woven fabric was used in the production of such vessels [Aliev, Narimanov 2001, 44].

These findings are evidence that the “bagging” method was also used in the production of Leilatepe culture ceramics. The kneaded clay was placed on a cloth bag filled with sand and shaped into a jar, and the vessel was formed on top of this bag. After the clay was dried or baked, the sand was emptied, resulting in a perfect pottery vessel. At this time, traces of the woven sack remained on the inner surface of the vessel [Müseyibli 2020, 125].

A large number of clay spindle whorls, which were the main weaving tools for spinning yarn at that time, have been discovered from the monuments of the Leilatepe culture. Such tools have been found at Beyuk Kesik (fig. 1,5-9), Leilatepe (fig. 2,1-4), and Galayeri (fig. 2,5-8) [Aliev, Narimanov 2001, 44; Müseyibli 2020, 155]. Great deals of spindle whorls were discovered at Beyuk Kesik. Interestingly, no spindle whorls were discovered in Poylu II settlement, where extensive excavations were conducted. 27 clay spindle whorls were found at Beyuk Kesik. The spindle whorls with reddish and dark grey color some were made of pure clay and some mixed with plants. Some were made of both plants and sand mixed clay. Most of the whorls were discovered in the lower layers of the cultural layer. The dimensions of these tools are similar. Their maximum diameter is 3.5-4 cm.

In terms of shape, the spindle whorls can be grouped as follows: 1) biconical, 2) hemispherical and 3) conical. The spindle whorls belonging to group 2 are more common. Only four spindle whorls with biconical shapes have been discovered. The size of both ends of the tubular holes in the center of the spindle whorls is the same. However, one end of the hole, passing through the center of one of them is smaller than the other. In some cas-

es, the hole is surrounded by a convex circle on one side (fig. 1,6) [Müseybli 2020, 155-156].

One of the spindle whorls found at the Leilatepe settlement has a central hole surrounded by nine grooves (fig. 2,1). Another spindle whorl found at Galayeri site has five grooves on one side only (fig. 2,5).

Conical spindle whorls are known from monuments belonging to the Ubaid, Halaf and Hassun cultures in the Near East [Merpert, Munchaev 1982, 146].

Starting from the Chalcolithic period, bone spindle whorls were also used in Azerbaijan. All bone spindle whorls were made from the pin-

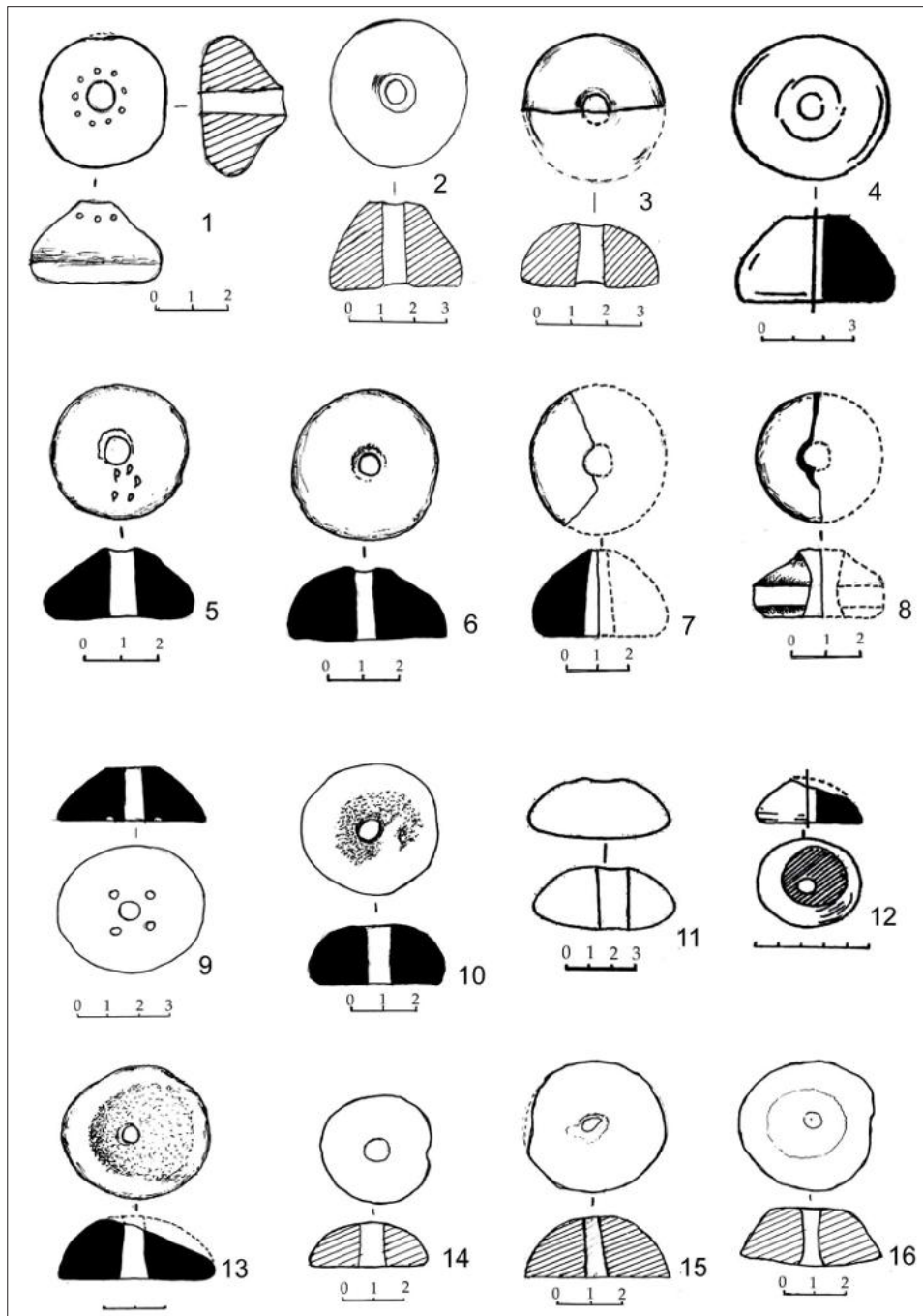


Fig. 2. Clay (1-8) and bone (9-16) spindle whorls from the Chalcolithic period. 1-4, 9,10 – Leilatepe; 5-8, 13-16 – Galayeri; 11-12 – Beyuk Kesik [Müseybli 2020].

eal bone of neat cattle. For this, half of the pineal bone was cut horizontally and a vertical hole was made in its center. Therefore, all bone whorls, both in the Chalcolithic period and the subsequent Bronze Age, were generally conical. Such bone tools are not known from Neolithic sites.

Bone spindle whorls are lighter than similar clay tools. Ethnographic studies show that they differ in shape, volume, and mass depending on their purpose. Heavier spindle whorls were used mainly for spinning linen, while lighter ones were used for spinning wool and silk [Azərbaycan etnoqrafiyası 1988, 407].

Two bone spindle whorls were discovered at the Leilatepe settlement (fig. 2,9-10). One of them is tall and conical. The surface is smooth and polished as a result of processing. The lower surface, although porous, has been cut straight and smoothed. Four symmetrically arranged grooves around a central hole are carved on the lower surface (fig. 2,9).

Two spindle whorls made of pineal bone were discovered from the Beyuk Kesik (fig. 2,11-12). Both of them are hemispherical in profile. Bone spindle whorls were also discovered at different levels in Galayeri, especially in the lower layers (fig. 2,13-16). All of them were made of pineal bone and their sizes vary depending on the size of the bone. The spindle whorls are conical and have smooth surfaces. It seems that their surfaces were in contact more during the labor process. The smoothness is weaker in their lower parts, and in some cases it is more inaccurate. The diameters of the holes opened in the center did not depend on the overall size of the tool. Thus, the hole opened in the center of a small spindle whorl could be bigger than the hole in the center of such a relatively big tool. All these findings indicate the development of weaving in the Leilatepe culture society. Such spindle whorls were widespread during the Early Bronze Age Kur-Araz culture [Müseiyibli 2020, 185].

The discovery of numerous clay and bone weaving tools, as well as traces of finely woven fabrics, from the monuments of the Leilatepe culture suggests that a simple weaving loom had already been invented in the Chalcolithic period.

Bronze-Early Iron Ages

The changes that took place in the economy starting from the Early Bronze Age had an impact

on all areas of craftsmanship, including weaving. From the end of the 4th millennium BC to the beginning of the 3rd millennium BC, rapid changes occurred in the composition of cattle herds, and the number of small cattle increased intensively. At the beginning of the Early Bronze Age, as in the Neolithic and Chalcolithic periods, the number of neat cattle was relatively higher than that of small cattle. Towards the end of this period, the number of small cattle prevailed. This is clearly evidenced by the osteological remains discovered during the excavations of the corresponding layers in the settlements. High mountainous areas were used to provide small cattle with abundant feed and the necessary climatic conditions during the hot summer months, and thus summer pasture cattle breeding emerged [Abibullaev 1982, 215-218; Ismailzade 2008, 136-138].

As mentioned above, the bagging method was used in the production of ceramics as early as the Chalcolithic period. One of the vivid examples of the development of weaving in the Early Bronze Age is the use of woven fabric bags in the shaping of pottery. The facts of the use of woven fabric bags in pottery in the archaeological monuments of Azerbaijan were first revealed by Y.I. Hummel. He found out the traces of woven fabric on the inner surface of some pottery vessels discovered during excavations in the kurgans in Karabakh dating back to the Early Bronze Age. Y.I. Hummel determined the weaving style based on these fabric traces and also prepared a graphic representation of the fabric's structure (fig. 3,1). Y.I. Hummel also discovered ceramic products made in this way during the excavations of workshop No. 78 around Ganja [Gummel' 1939, 88, t. VI, 18; Gummel' 1941, 30]. Traces of fabric on ceramics are also known from the Early Bronze Age settlement of Serkertepe in northeastern Azerbaijan. Traces of fabric at this site, were also found on a copper object, and traces of bast mat were found on a clay fragment [Musaev 2006, 82].

Spindle whorls have also been discovered in grave monuments dating back to the Early Bronze Age. These are mainly bone tools. In the Uzun Rama kurgan dating back to the Early Bronze Age (second half of the 4th millennium BC), excavated near Ganja (Goranboy district), 7 bone spindle whorls and a large amount of fabric remains were revealed. These fabrics were either wrapped

or on human bones. They were charred due to being burned (fig. 3,2) [Jalilov 2018, 99, 103]. Bone spindle whorls have also been discovered in graves dating back to the late stages of the Early Bronze Age [Agalarzade 2012, 392; Akhundova 2025, 89]. The discovery of spindle whorls in graves also shows that weaving was an important craft at that time, and it also held a certain place in spiritual culture and beliefs.

Numerous spindle whorls were discovered in Layer VII of the multilayered Arslantepe settlement in Eastern Anatolia, which is synchronous with the Leilatepe culture, and from Layer VI of the Early Bronze Age, most of which were

made of bone. The clay spindle whorls were bi-conical and conical, the bone spindle whorls were flat or had one side convex (conical). The weight and diameter of the spindle whorls were directly related to their functional uses. Their rotation speed and circulation were also taken into account. Thus, relatively heavy and large-diameter spindle whorls were intended for spinning coarser threads, mainly from plant fibers, while light (bone) spindle whorls were intended for spinning fine threads. The spindle whorls obtained from Layer VIB were smaller in diameter and lighter in weight than those in Layer VII. This situation indicates that more fine threads were produced in

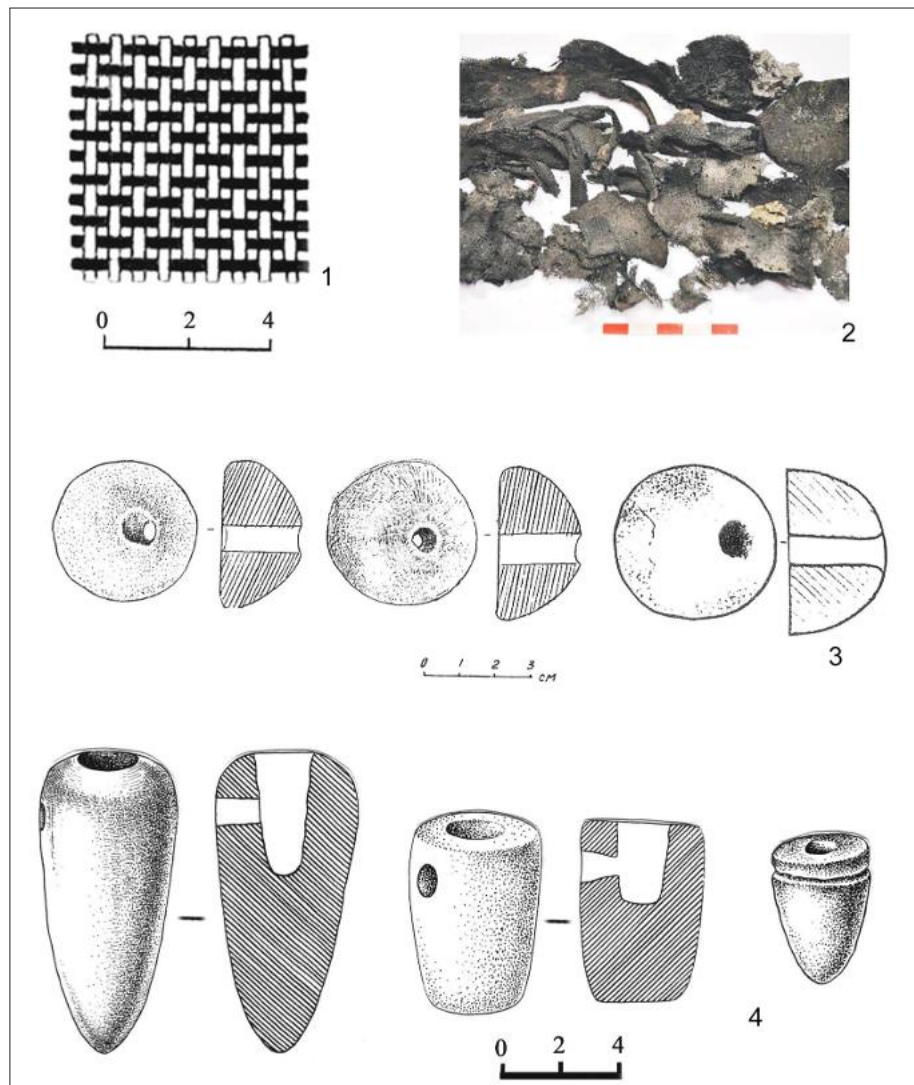


Fig. 3. 1 – Graphic representation of the structure of an Early Bronze Age fabric [Gummel' 1939]; 2 – Fabric remains from the Uzun Rama kurgan [Jalilov 2018]; 3 – Bone spindle whorls from Serkertepe [Musaev 2006]; Stone details of a weaving loom from Gunestepe and Garakopektepe [Ismailzade 2008].

Arslantepi during the Early Bronze Age than in the preceding Chalcolithic period (Frangipane *et al.* 2009, 6-17).

It is known that at that time the main raw material base for weaving was small-cattle (sheep, goats). The wool base, which was of great importance for the development of weaving, was further enriched with the expansion of summer pasture cattle breeding. This process, which began at the end of the 4th millennium BC – the beginning of the 3rd millennium BC, became more intensive in the subsequent stages. It was in the Early Bronze Age layers that the number of clay and bone spindle whorls, which were the main weaving tools, increased even more [Abibullaev 1982, 223]. Interestingly, all of the spindle whorls discovered at the Early Bronze Age Serkertepi settlement is made of bone (fig. 3,3). On the whole, unlike other coeval monuments, the variety and number of bone tools at Serkertepi is richer [Musaev 2006, 82]

Numerous finds related to weaving from the settlements of Guneshtepi and Garakopetepi of this period in Karabakh – spindle whorls, bone piercing tools, and fabric traces – indicate that a simple weaving loom was used in the Early Bronze Age. The cylindrical and conical stone tools discovered from these monuments are particularly interesting (fig. 3,4). These objects, with their special grooves, are identical to the simple weaving loom hanging tools identified ethnographically in Azerbaijan in the last century. During the development of the Kur-Araz culture of the Early Bronze Age, weaving became an independent craft, and professional craftsmen were engaged in this work to meet the needs of the community in the context of high population growth. The expansion of small cattle, in turn, provided the weaving sector with a continuous raw material base. Along with this, individual small family weavers also operated [Ismailzade 2008, 156-157].

Excavations at the Middle Bronze Age (first half of the 2nd millennium BC) monuments show that weaving tools, along with repeating a number of traditions of previous periods, also applied new tools. Great number of clay and bone spindle whorls was discovered in the Middle Bronze Age layers of the settlements of Kultepe I, Kultepe II, and Qizilburun in Nakhchivan, and the settlements of Garakopetepi, Guneshtepi, and Uzerliktepe in Karabakh. Since the weaving looms of this period

were made of wood, their remains have not been discovered. However, weight stones, bone tools – toothed thread straighteners (fig. 4,1), combs (fig. 4,2), spindle whorls (fig. 4,3), and a pointed tool made of deer antler give reason to say that they were used in weaving, that a simple loom existed in the period in question, and that this field was sufficiently developed. For sewing clothes, as in previous periods, along with the bone awls and needles, such tools made of bronze were also used. In big settlements, weaving had already become an independent craft. This, in turn, expanded the exchange of raw materials between cattle-breeders and weaving craftsmen [Aliev 1991, 149-150].

Based on the drawings on the Middle Bronze Age ceramics, it is possible to obtain some information about the clothing of the period. The most obvious example of this is the image on the polychrome painted vessel discovered in Qizilburun (fig. 4,4). Here, a man and a woman depicted side by side are shown in long dresses [Aliev 1991, 149]. Along with this, in the Gemigaya petroglyphs in the high mountainous zone of Nakhchivan, hunters and cattle-breeders are sometimes depicted in knee-length clothes and headdresses (fig. 4,5-6) [Müseyibli 2004, 77]. Visual depictions of weaving products, both on pottery and on rocks, are indicators that this craft was quite developed in Azerbaijan during the Middle Bronze Age.

In the Late Bronze-Early Iron Age (second half of the 2nd millennium BC-beginning of the 1st millennium BC), the emergence of small cattle breeding, especially the rapid development of summer pasture cattle breeding further enriched the raw material base for weaving. These factors, as well as the demographic growth that occurred throughout the region created ample opportunities for the further development and improvement of crafts, including weaving. As a result of archaeological excavations conducted at monuments from this period, both clay and stone spindle whorls were discovered. These findings indicate that, along with the potter's wheel, hand-spinning of yarn was also widely used [Kesamanly 1999, 132]. During the mentioned period, rope made from plant fibers were also used in military work. On one of the bronze arrowheads discovered in grave No. 79 in the Tovuzchay necropolis dating back to this period (fig. 5,1), remains of such rope were preserved, which had been used as

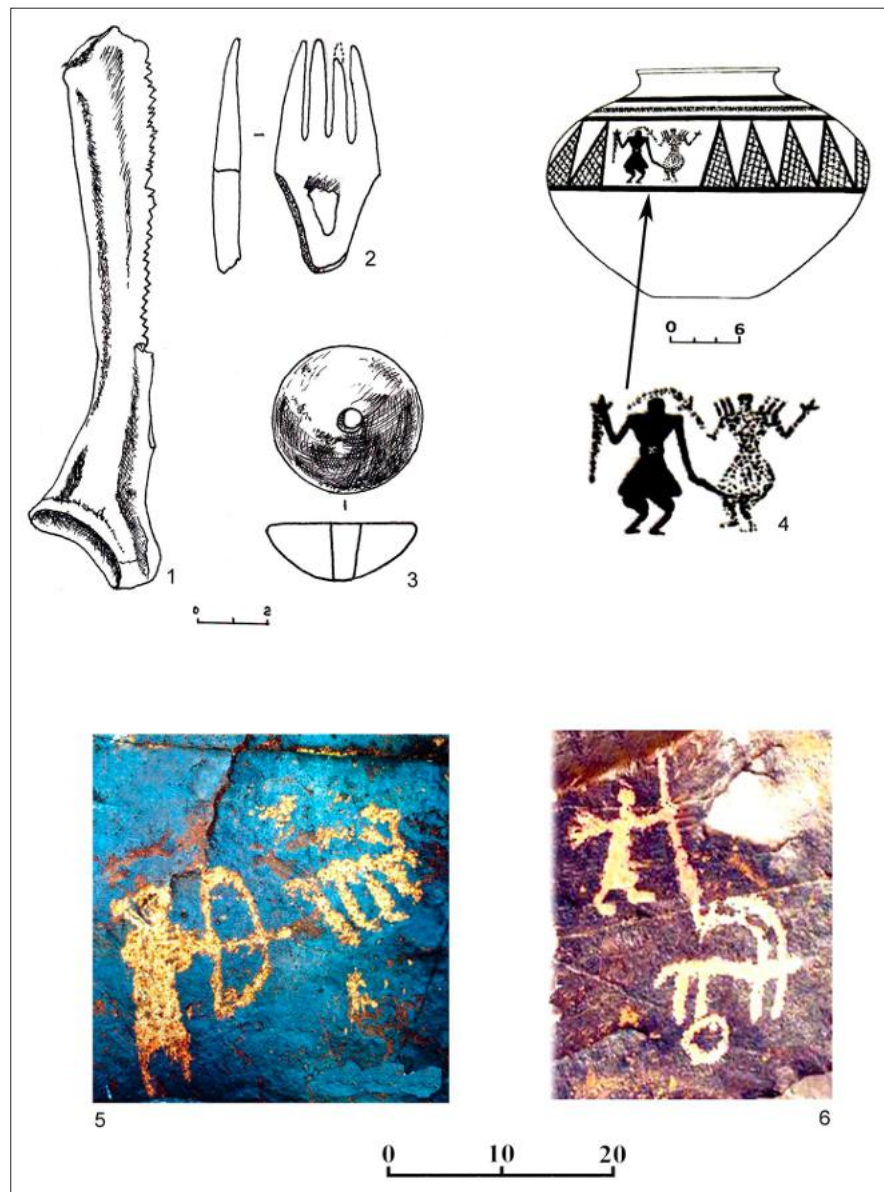


Fig. 4. 1-3 – Weaving tools from the Middle Bronze Age; 4 – Images of a dressed person on a pottery vessel [Aliev 1991]; 5-6 – Images of a dressed person in Gemigaya [Müseyibli 2004].

a means of fastening it to a tree [Müseyibli *et al.* 2021, 62. Fig. 107, 1].

The Late Bronze-Early Iron Age spindle whorls have been found mostly in grave monuments. The findings show that clay and stone spindle whorls (fig. 5,2-3) were used more frequently than similar bone tools during this period [Aslanov *et al.* 1959, 152; Nəcəfov *et al.* 2017, 56-57]. More interesting materials on weaving were discovered during the excavations in Mingchevir. In this complex of monuments, along with weaving tools, remnants of fabrics – weaving products,

were found from earthen graves and kurgans (fig. 5,4-7). The study of these materials showed that they were woven from wool and flax of plant origin. At the same time, the weaving process was carried out with Z-shaped and S-shaped turns, that is, both right-sided and left-sided methods. No remains of a weaving loom were discovered in Mingchevir. However, the discovered tools and remnants of fabrics related to weaving leave no doubt that such looms were used at that time. It is also very likely that these looms were identical to the weaving looms that existed until recent

times and have been observed ethnographically [Aslanov *et al.* 1959, 152].

***Antique (Classical) and Early Middle Ages
(5th century BC-early 8th century AD)***

Numerous finds related to weaving are known from the monuments belonging to this historical stage – the Caucasian Albania period. However, since the archaeological materials related to this craft are a hereditary continuation of the traditions of previous historical periods, we will limit ourselves to a brief discussion of it.

The main weaving tools, the spindle whorls, were mainly discovered in the grave monuments of this period. Almost all spindle whorls were made of clay and a small part were made of various types of stone. Typologically, these tools repeat the finds of previous periods, that is, they are conical, biconical in shape. However, sometimes relatively flat, elliptical-shaped spindles were also found. The surfaces of many spindle whorls from the Antique and Early Middle Ages were decorated with dots and cutting lines [Badalova 1987, 59-63]. In five out of the six graves excavated in the

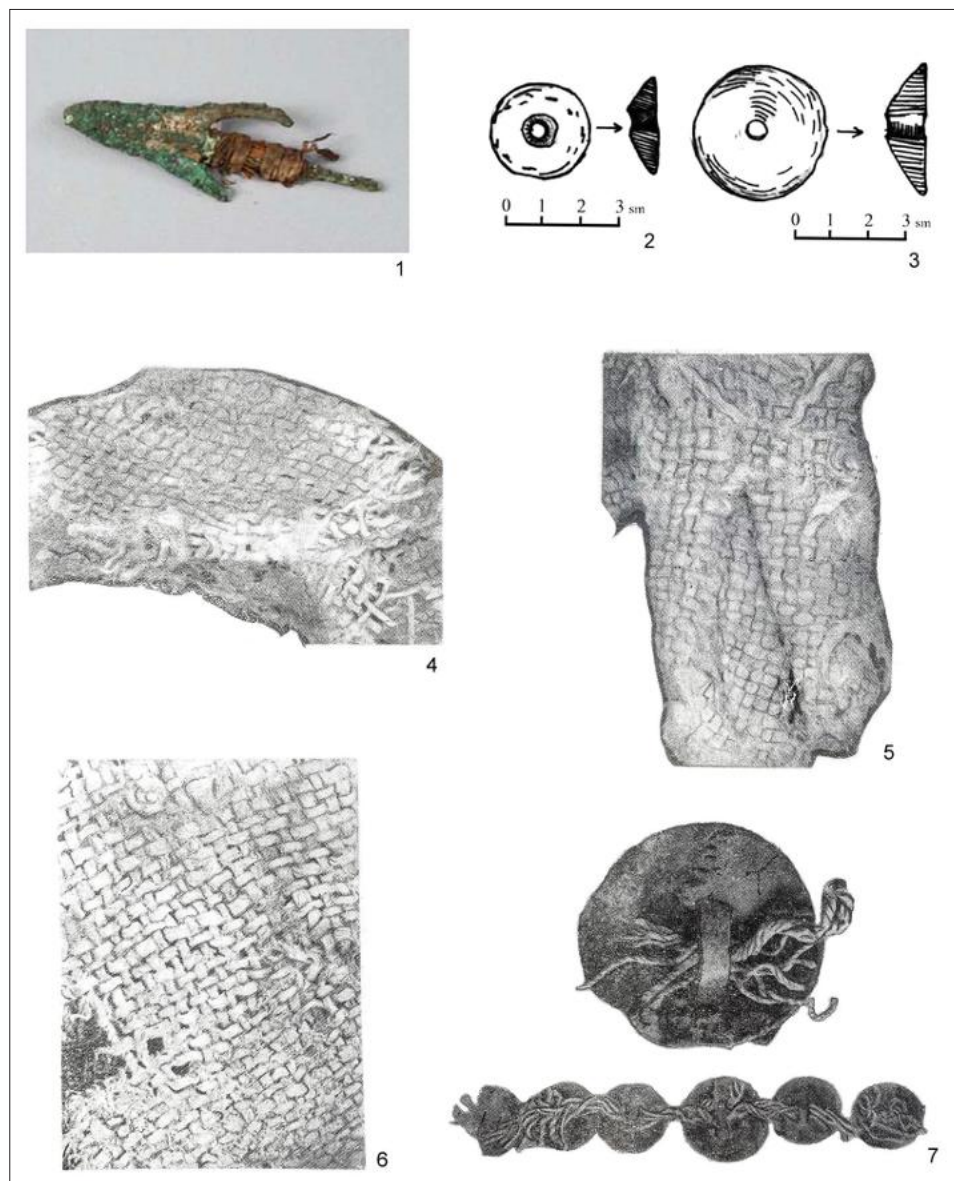


Fig. 5. 1 – Bronze arrowhead [Müseyibli *et al.* 2021]; 2-3 – Stone spindle whorls [Nəcəfov *et al.* 2017]; 4-7 – Fabric remains from Mingchevir (magnified 3-3.5 times) [Aslanov *et al.* 1959].

ancient necropolis of Qirag Kesemen II in Agstafa district were buried women, and several clay spindle whorls were discovered in each of these graves [Müseibli, Axundova 2007, 59]. All findings indicate that weaving developed as an independent craft in Azerbaijan during this period.

Conclusion

Thus, as a result of archaeological excavations conducted at monuments in the territory of Azerbaijan, weaving tools belonging to all historical stages, starting from the early production period, have been discovered. The oldest such finds belong to the first farming and cattle-breeding tribes and date back to the Neolithic period – the 7th-6th millennia BC. The most frequently discovered tools are spindle whorls. In the Neolithic period, they were made only of clay. Starting from the Chalcolithic period, such tools were also made of bone. During this period, the cultural influence of Western Asian traditions on Azerbaijan is undeniable. Starting from the Bronze Age, stone spindle whorls came into use, and towards the

end of this period, bone whorls are rarely found. During the Albanian era, bone whorls are almost never found. The typological and functional characteristics of whorls have remained almost unchanged from the most ancient times to the Middle Ages.

It is believed that bone awls, needles and needle-like tools were also used in the weaving process. At the same time, bone toothed tools were used to comb wool. In the Bronze Age, metal awls and needles were also used in weaving. Starting from the Early Bronze Age, weaving gradually became an independent craft in the territory of Azerbaijan.

It can be said that weaving was traditionally done by women. The discovery of spindle whorls, which were weaving tools, in women's graves in the necropolis of antiquity, confirms this idea.

The ancient inhabitants of Azerbaijan primarily provided themselves with clothing through weaving, and along with this, they widely used woven products in everyday life, farming, and military work.

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On the use of pits near dwellings B17 and B18 at the Trypillian culture site of Nebelivka

Key words: Trypillia Culture, Nebelivka, pit, daub, figurines, pottery, bones, charcoal, rituals.

Cuvinte-cheie: cultura Trypillia, Nebelivka, groapă, lipitură, figurină, ceramica, oase, cărbune, ritualuri.

Mykhailo Videiko, Nataliia Burdo

On the use of pits near dwellings B17 and B18 at the Trypillian culture site of Nebelivka

During excavations at the settlement of the Trypillia Culture of the BII stage near the village of Nebelivka, pit-like objects were investigated, located next to the remains of buildings B17 and B18. Magnetic surveying conducted at dozens of settlements of the Cucuteni-Trypillian cultural complex revealed a huge number of such objects, but only a few of them have been excavated so far. Thus, the results and experience of relatively large-scale excavations in Nebelivka may be useful in further studying the Trypillian pits. The objects in Nebelivka were discovered using magnetic surveying, which showed their non-standard configuration. Archaeological research confirmed the results of magnetic surveying and provided significant material, the study of which allows reconstructing some aspects of the use of these objects. At first, archaeologists believed these were dugouts used as dwellings. Later, they began to be seen as a source of clay for construction and repair of dwellings, as well as a source of clay for pottery production. Researchers also considered their ritual function. As a result, we can talk about the initial purpose of the pits as pits for extracting building materials, and later as cult objects.

Mykhailo Videiko, Nataliia Burdo

Despre utilizarea gropilor din apropierea locuințelor B17 și B18 la situl culturii Trypillia de la Nebelivka

În timpul săpăturilor efectuate în așezarea culturii Trypillia din etapa BII, situată în apropierea satului Nebelivka, au fost investigate complexe de tip groapă, descoperite în apropierea complexelor de locuit B17 și B18. Prospekțiunile magnetice efectuate în zeci de așezări din complexul cultural Cucuteni-Trypillia au relevat un număr imens de astfel de complexe, dar doar câteva dintre ele au fost excavate până în prezent. Astfel, rezultatele și experiența săpăturilor de amploare de la Nebelivka pot fi utile în studierea ulterioară a gropilor trypilliene. Complexele de la Nebelivka au fost descoperite cu ajutorul cercetărilor magnetice, care au evidențiat configurația lor neobișnuită. Cercetările arheologice au confirmat rezultatele cercetărilor magnetice și au furnizat material semnificativ, a cărui studiere permite reconstituirea unor aspecte ale utilizării acestor obiecte. La început, arheologii au considerat că acestea erau adăposturi subterane folosite ca locuințe. Ulterior, au început să fie considerate o sursă de argilă pentru construcția și repararea locuințelor, precum și pentru producția de ceramică. Cercetătorii au luat în considerare și funcția lor ritualică. Ca urmare, putem vorbi despre scopul inițial al gropilor ca fiind gropi pentru extragerea materialelor de construcție, iar ulterior ca obiecte de cult.

During the 2013 excavations at the Trypillia Culture site of the near the village of Nebelivka (stage BII), buried objects were investigated, located next to the remains of buildings B17 and B18 (fig. 1) [Videiko et al. 2014]. Magnetic surveying conducted at dozens of settlements of the Cucuteni-Trypillian cultural complex revealed a huge number of such objects [Videiko 2021, fig. 2-5], but only a few of them have been excavated so far. Thus, the results and experience of relatively large-scale excavations in Nebelivka may be useful in further studying Trypillian pits. The objects in Nebelivka were discovered using magnetic surveying, which showed their non-standard configuration (fig. 1,1).

Archaeological research confirmed the results of magnetic surveying and provided significant material, the study of which allows reconstructing some aspects of the use of these objects. As a result, we can talk about the initial purpose of the pits as excavation pits for extracting building materials, and later as cult objects.

Archaeologists have encountered similar buried objects during excavations at the Cucuteni-Trypillia sites before. For example, a large depression was excavated almost 90 years ago at the well-known settlement of Volodymyrivka and was identified as the remains of a pit-house, which was built at the initial stage of settlement [Passek

1949, 90-92, fig. 45-46]. Excavations in Maydanetske in the 70s-90s of the 20th century. showed that such depressions have a bottom profile that excludes their use as dwellings, and the nature of the filling does not provide grounds for such reconstructions [Shmaglii, Videiko 2001-2002, 84-86]. At the neighboring settlement of Talianki, a pit located between rows of dwellings was fully explored. This object was interpreted as a place of extraction of clay, which was used in the construction and current repairing of buildings located nearby, as well as preparing building mixtures and, possibly, preparing clay for the production of ceramics [Kruts *et al.* 2005, 17-27, fig. 21-34]. In 2017, in trenches were laid on several similar pits, identified by magnetic survey at settlements of the Kosenivka type, in particular in Apolyanka. In the latter case, animal bones (including burnt ones), charcoal, ash and fragments of anthropomorphic (fig. 1,1) and zoomorphic (fig. 1,2) figurines were found in the fill among the ceramics [Videiko *et al.* 2025, 325, fig. 1, 6-12].

These examples, which are now much better known, demonstrate how the long-standing theme of "Trypillia pit-houses" has gradually given way to a more realistic interpretation of this buried objects, based on detailed observations of their fill and other characteristics. In this regard, the results of the excavations at Nebelivka, given the methodology used in this case to study the pit fill, may be useful for similar studies in the future.

Description of the excavations

In 2013, an excavation at Nebelivka was started 30 meters south of the mega-structure explored the previous year (fig. 1,1). At this location, magnetic surveying revealed the remains of several relatively large buildings arranged in a row, which are covered on the western side by pit anomalies. In the excavation area of 650 sq. m. The remains of two dwellings B17 and B18 and part of this environment, conventionally called pit B17 and pit B18) were investigated (fig. 1; 2; 3).

The remains of building B17 are represented by two layers of burnt daub – coating of wooden parts of the ceilings of the building. The site is oriented with its long axis in the direction almost east-west, parallel to the remains of the mega-structure building (fig. 1,2). The total length of the baked clay embankment is 24 m, the width in dif-

ferent sections was from 6 m to 8 m in the western part, 12 m long, and no more than 5.5 m in the eastern part. The remains of building B18 are located parallel to building B17 at a distance of 8 m to the south. The northern edge of building B18 was excavated to a width of 1-1.4 m (fig. 1,1). In accordance with the data of geomagnetic survey, the remains of dwelling B18 are 3-4 m shorter than the neighboring building.

The cultural layer around the remains of building B17 was previously interpreted by geophysicists based on the results of magnetic surveys as a "ditch". To study the nature of the cultural layer, test-trench was extended far beyond the boundaries of the building remains in the form of a buildup of plaster. In a trench dug between buildings B17 and B18, a section was obtained that showed the presence of a cultural layer between the buildings. This cultural layer differed from the yellow loam that was under the remains of the houses. It was dark brown in color, with spots of rodent burrows filled with yellow loam (fig. 1,4-5). The thickness of this cultural layer was from 0.2 to 0.35 m. Among the finds in this layer, fragments of pottery of various sizes were found. In addition, three fragments of anthropomorphic figurines and fragmented animal bones were also found in it. The intensity of saturation of finds of this cultural layer decreased with distance from the remains of burnt houses.

In the western sector of excavation No. 3 from the side of the pit next to building B17, a gradual lowering of the cultural layer was revealed with its transition to filling pit B17. In this area, the saturation of finds starting from a depth of 0.7-0.8 m from the modern surface was significantly higher than in the above-described "ditches" around the edges of the buildings (fig. 1,4-5) Summarizing the observations of the nature of the cultural layer in different sections of excavation No. 3, it can be stated that around the construction site of building B 17, the soil layer on the ancient surface was removed to a depth of 0.2-0.35 m compared to the horizon of the earthen floor, represented by yellow loam. The yellow loam taken from the depression was probably used for the production of building mixtures. The results of this activity were recorded by magnetic survey and shown on the plan as "moats" that cover the remains of the buildings from three sides (fig. 1,1). At the time of

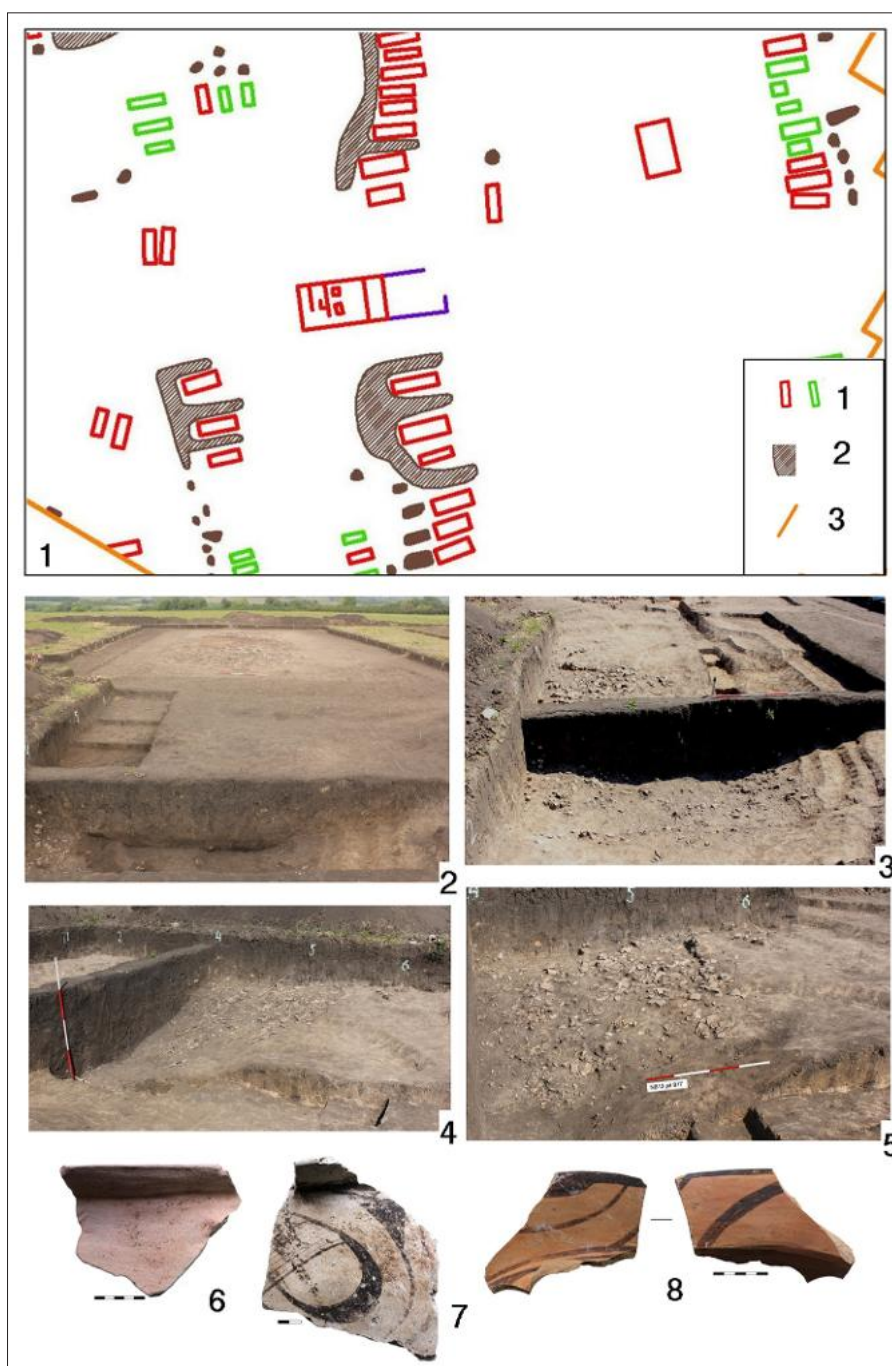


Fig. 1. Nebelivka: 1 – part of plan with houses and pits B17-B18 (1 – remains of burnt houses, 2 – pits; 3 – border of prospection); 2 – house and pit B17 at the first stage of excavations; 3-5 – pit B17 at the layer of finds; 6-8 – fragments of the large vessels.

the burning of the houses, these depressions were almost filled to the top with a cultural layer. During the excavations, it was noticeable that along the place where the walls of the buildings were, depressions were preserved, into which fragments of plaster and other clay finds found along the perimeter of the burnt clay deposit later fell.

The pits identified by geomagnetic survey to the west of the ends of buildings B17 and B18 were marked with paint before the excavation began. On the geomagnetic survey plan, the pit of building B17 was shown as an irregularly shaped spot with a diameter of 1.2 m. For the pit of building B18, only its center was marked. The excava-



Fig. 2. Nebelivka, pit B18: 1 – at the first stage of explorations; 2 – fragmented details from pottery kiln; 3 – profile; 4-5 – fragments of the large vessels.

tions were initially carried out in accordance with the geophysicists' marks (fig. 1,2-5). The pit of house B17 was semi-round in plan (the dimensions within the excavation were traced – up to 14 m in diameter) and is located in the western sector of the excavation. Here, a 0.2 m thick arable layer was removed, followed by a 0.4 m thick soil

layer. It turned out that in this area the chernozem layer lies at a depth of 0.6 m, while around the burnt clay mound at this horizon a cultural layer in the form of brown humus loam was discovered (fig. 1,3-5). Fragments of ceramics and pieces of plaster were found in the black soil horizon layer above the pit. Starting from a depth of 0.6 m from

the modern surface, edges 0.7 m wide were left to obtain sections and observe the shape and nature of the pit filling.

Starting from a depth of 0.8-1 m from the modern surface, the number of finds in some parts of the pit increased significantly. For this reason, it was decided not to fill the pit with layers, but to leave the finds in situ and to carry out a horizontal cleaning of the find deposit. It consisted of a large number of fragments of ceramics and parts of vessels, large and small animal bones, including some aurochs horns, pieces of red baked clay without plant impurities, greenish fragments of ceramic products with rounded edges, and some fragments of anthropomorphic figurines (fig. 2; 8).

During the clearing of the fill of pit B17, many small fragments of ceramics measuring 1×2-2×2 cm were found, the total number of which was over 1500. The finds (animal bones, fragments of ceramics) lay in an almost continuous layer on the slope towards the center of the pit, which descended to a mark of 1.3-1.8 m from the modern surface. In the central part of the pit, a relatively smooth slope ended in a depression with a diameter of 1.2-1.4 m, which further reached a depth of 3.5 m from the modern surface (fig. 1,4-5). In the western and southern parts of the pit, a slope with ledges was recorded. On these ledges, fragments of ceramics and animal bones were also found in groups and individually (fig. 1). The fill of the pit consisted of dense black soil. Such compaction was the result of the gradual washing away of the soil by rains. It is typical for buried objects that have been open, unfilled, and exposed to precipitation for a long time (fig. 3,1).

After cleaning the finds left in situ, it turned out that they were located in separate clusters, of which 14 were identified. Each cluster included fragments of ceramics of various sizes from various vessels, animal bones, mainly cattle (fig. 4-5). Some clusters contained pieces of fired clay and details of clay structures, fragments of anthropomorphic figurines (fig. 3; 8). In total, 17 fragments of anthropomorphic figurines were found in this object (fig. 6-8). The dismantling of all these clusters was carried out with leveling of the finds. The thickness of the layer saturated with finds was 0.1-0.2 m, increasing downward along the slope, which is clearly visible in the profile of the central edge (fig. 3,1). Three layers are visible in this

profile. One of them consisted of layers of clay burned to a red color. The two layers consisted of charcoal, separated by a thin layer of loam. The thickness of the charcoal layers in some places was from 1 to 3 cm, and originally it should have been larger. These spots of charcoal occupied a significant area in the bottom part and on the slopes of the walls of the pit. The total diameter of the charcoal spot reached several meters. This indicates a huge amount of ash and charcoal (possibly up to one cubic meter) that once simultaneously, and twice, fell into this pit. It is clearly visible on the profile that the charcoal layers are located below the filling horizon, saturated with bones and fragments of ceramics (fig. 3,1, bottom left). In the fill of pit B17, items related to pottery production were found. These were fragments of kiln channel covers (fig. 3,7), a lump of fired clay with fingerprints (fig. 3,5) and slag with fragments of vessels (fig. 3,6). In the lowest part of the pit fill, many fragments of animal bones and small fragments of pottery were found. In many cases, traces of crimson-colored ochre were traced on the pottery fragments and bones. It seemed that the lumps of this mineral paint were placed in the vessels before their fragments got into the pit.

It is especially worth emphasizing the finds in the pit of fragments of pear-shaped vessels with incised ornament. Their first finds were made at a depth of 1.2 m to 1.8 m from the modern surface. During the excavations of buildings at the settlement near Nebelivka, such ceramics were represented by single fragments. The fact that fragments of pear-shaped vessels with incised ornament were found in the pit filling at different depths indicates the illegality of allocating an "earlier" horizon on this basis. Also noteworthy is the presence in the pit filling of parts of the collapses of large thick-walled painted vessels up to 0.8 m high, the finds of which are absent among the ruins of buildings (fig. 1,6-8). The difference in the composition of ceramic assemblages originating from pits and buildings is probably due to certain features of the sets of dishes that were usually left in the dwelling before the settlement was burned and the ceramics that fell into the pit as a result of certain rituals. The pit at house B18 (hereinafter referred to as pit B18) was only partially investigated in a trench 2 m wide. This object was even larger than the pit of dwelling B17.

Its excavated part was about 8 m long in the upper part. The depth of the pit reached 2.5 m from the modern surface (fig. 2). Its upper part was filled with black soil to a depth of 1.2 m. Below, a filling began, similar to that found in the pit of house B17, including a layer of small fragments of

burnt plaster scattered in the soil (fig. 3,2-3). In addition to animal bones and pottery fragments, four fragments of anthropomorphic figurines (fig. 8,3-6) were recovered from the investigated part of the pit. Fragments of large vessels (fig. 2,4-5) were also found in pit B18, which were not found

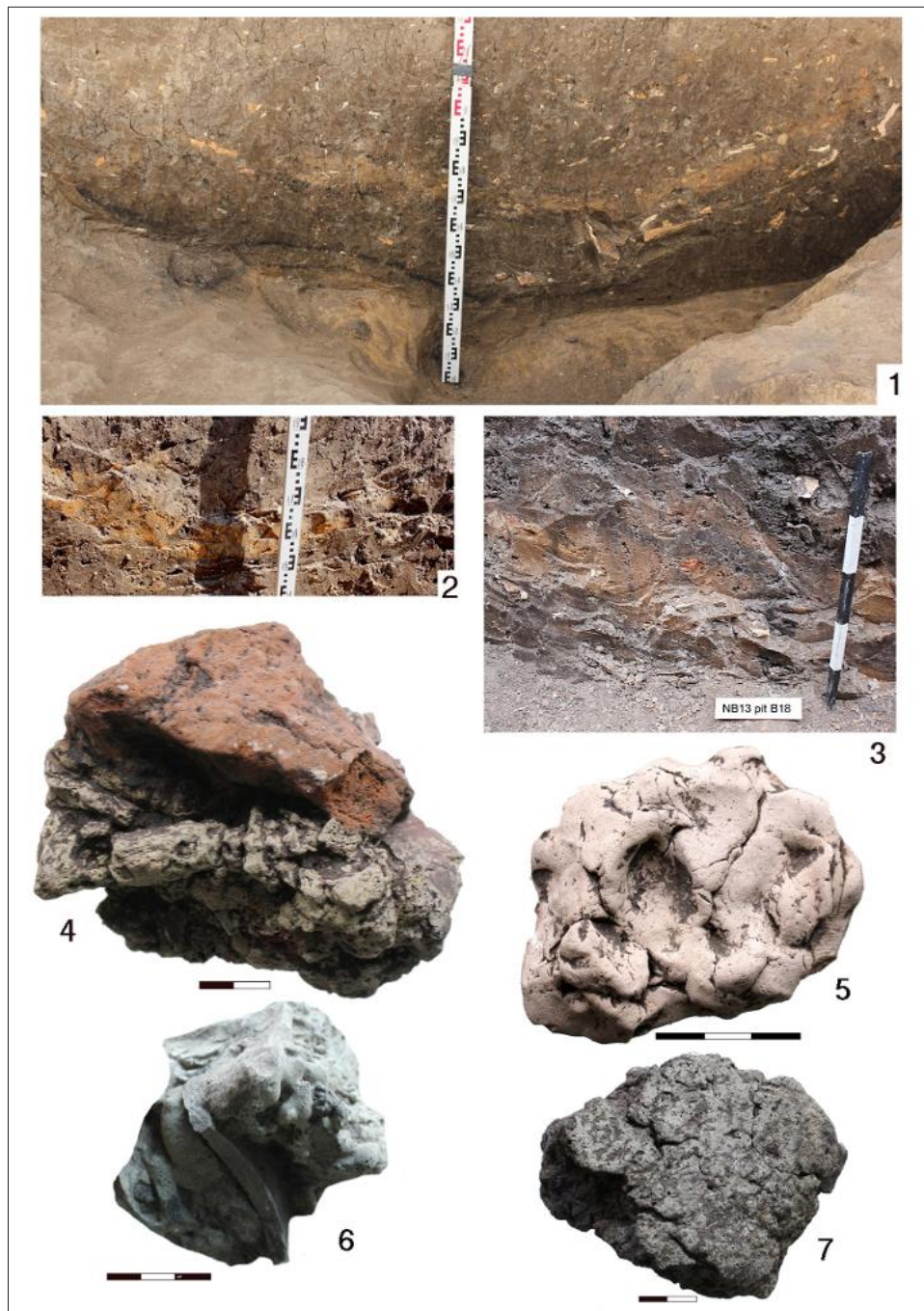


Fig. 3. Nebelivka: 1 – profile of pit B17, bottom part; 2 – pit B17, layer with burnt daub; 3 – pit B18, layer with burnt daub; 4 – burnt daub from kiln(?); 5 – piece of clay with imprints of human fingers; 6 – fragment of pottery with heavy burnt daub; 7 – fragmented detail from pottery kiln.

among the remains of house B18. It is especially worth noting the discovery of fragments of pottery kiln structures, lids that were intended to cover canals (fig. 2,2).

Observations during the excavations showed that the pits near houses B17 and B18 at the beginning of their operation were associated with the collection of loam and clay, which were intended for the production of building mixtures. The lower parts of both pits were filled during the operation of the buildings. The filling of the lower parts of the pit contains layers of coal, the burnt coating is associated with the construction of the buildings and pottery kilns (fig. 2,2; 3,4-7). Portions of "garbage" consisting of charcoal, bone fragments, ceramic dishes and figurines periodically fell into the pits. Later, after the cessation of the settlement, the pits, which were not filled to the top, were filled with the surrounding soil, which contained cultural remains, as well as black soil as it was formed.

Finds from pits B17 and B18

Stone products are represented by single specimens, dominated by cracked stones from grain grinders and grinding stones, which were found both among the remains of dwellings and in pits in a broken form. Flint products are represented by a tool for processing horn bone, made on a plate using the jet retouching technique, which was found in the filling of pit B17.

Ceramic vessels in the pits were found in the form of fragments. The dishes belong to two groups of products known from previous years of excavations at the Nebelivka settlement: the so-called "kitchen" and dining. The minority of finds in all studied complexes belong to the group of "kitchen ceramics", which is made of mass with an admixture of sand and grit, in individual fragments there are inclusions of crushed shell, noticeable due to the white color. The forms of kitchen utensils are exclusively pots of various sizes. Fragments of large pots were found only in pits. The neck of these pots is usually covered with vertical ridges, at its base there are sometimes decals, including zoomorphic ones. There are impressions of a "caterpillar", a round stamp. Fragments of vessels decorated with a crossed ornament in the upper part on the shoulders are less common. The group of "table" vessels can be divided into two

subgroups according to the technique of applying the ornament: with a recessed ornament and with painting. Ceramics with a recessed decor are few. The recessed ornament was supplemented by painting the spaces between the lines. This group is represented by one type – large pear-shaped vessels. The majority of "table" ceramics are vessels covered with a black or dark brown painting applied over engobe. These are cups, cup-shaped vessels, conical bowls, footed bowls, amphorae, sphero-conical, biconical (of various types and sizes) and pear-shaped vessels. According to the shapes and decor, the ceramics from the excavations of all the objects studied in the 2013 season can be attributed to the Nebelivka group of the Trypillian culture of stage II. Pear-shaped vessels decorated with a deep ornament with white inlay and painting find analogies among the finds made in nearby Volodymyrivka [Passek 1949, fig. 53].

However, the number of finds of similar vessels in Nebelivka suggests that this type of products, previously known mainly from the monuments of the Volodymyrivka group, was also quite common in the Nebelivka group.

In pit B17, 18 fragments of anthropomorphic figurines were found (fig. 6; 7; 8,1-3), and in the trench that passed through pit B18 – 4 fragments (fig. 8,4-7). In the filling of pit B17, most of the finds of fragments of anthropomorphic plastic are associated with accumulations of material that included fragments of ceramics, animal bones, and fragments of clay structures (fig. 4-5). Anthropomorphic plastic is represented exclusively by fragments of terracotta of large, medium and small sizes, not a single whole figurine was found. It should be noted that individual fragments of figurines from the Nebelivka pits have a spotted surface, which can be explained by the involvement of plastic in rituals associated with fire. According to the nature of the clay mass, several technological groups of anthropomorphic figurines can be visually distinguished. The first group includes products made of kaolinite clay that is light after firing, their color varies from white to pale pink, pale gray and pale beige. It is from such clay that the dishes of the Nebelivka settlement were mainly made. It should be emphasized that in general, the kaolinite clay raw material used for sculpting figurines differs both in structure and in impurities. On the breaks it is noticeable

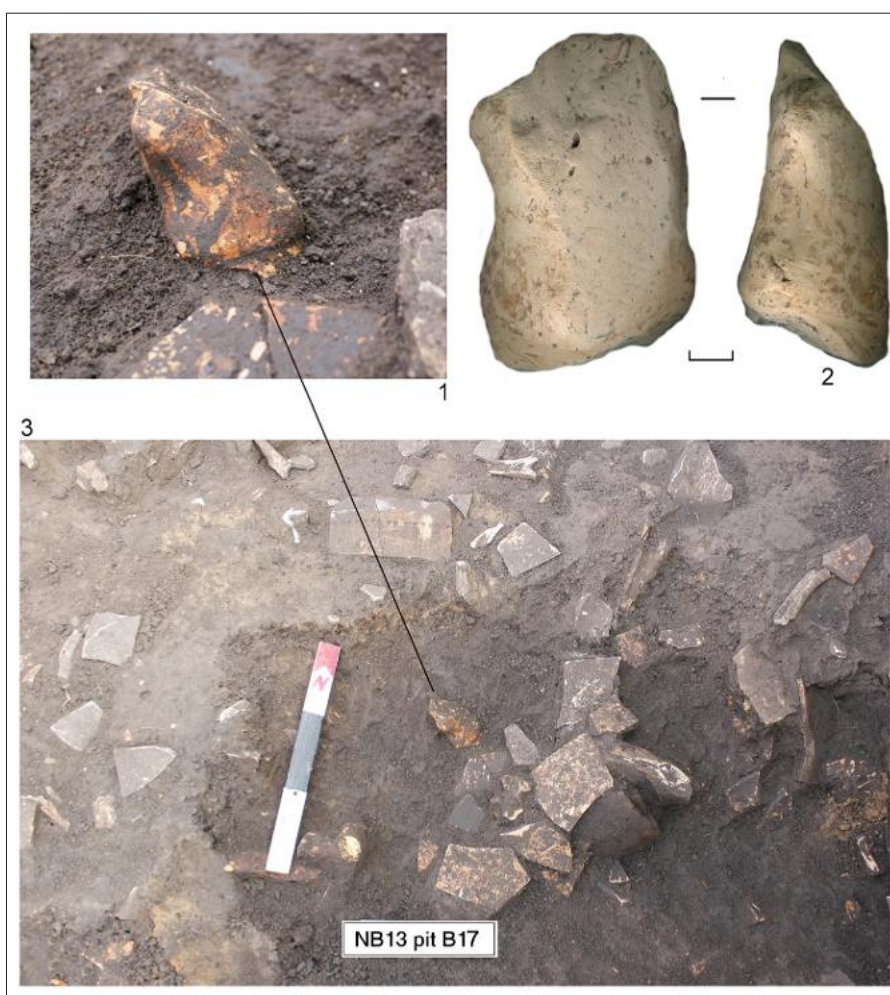


Fig. 4. Nebelivka, pit B17, cluster of finds with fragmented human figurine.

that in some cases the clay is lumpy or layered, does not differ in high plasticity, and in others the mass is fine-structured, homogeneous, dense, well silted. Sometimes micropores from burnt plant impurities, imprints of larger plant fractions, and in several cases presumably imprints of grains are visible in the clay. In addition, the presence of mineral impurities, mainly sand and quartz grains, and in isolated cases lumps of ferruginous clay are noted. Probably, all impurities, except for cereals, are natural impurities in the clay, and the significant variety of characteristics of kaolinite clay can be explained by the fact that the figurines were made from clay taken from different places. Figurines of various sizes were made from kaolinite clay, from very large (fig. 7,3-8) to very small (fig. 6,6). Products made of kaolinite clay require high-temperature firing. The surface of figurines made of such clay was carefully smoothed, cov-

ered with a matte orange engobe. Painting or decorative details were applied with dark brown paint or, sometimes, with drawn lines. It should be noted that the original surface of the figurines is very often not preserved, and in such cases the painting and engobe can be judged only by individual spots of paint.

Other technological groups include figurines made of fine-structured clay, the mass of which differs in density, degree of exhaustion, impurities and color. These technological groups are characterized by medium and small-sized figurines. The color range of products varies in yellow-orange tones, only a few figurines are distinguished by a dark gray color (fig. 6-7).

The second technological group includes figurines made of fine-structured clay with an admixture of small mineral particles (sand, lime inclusions), and/or very small particles of burnt or-

ganic matter. Presumably, these impurities are of a natural nature. There are single figurines made of fine-structured, dense, well-silted clay of light pink, light orange or pale gray color, without visible impurities. In total, 8 fragments of such figurines were found in all 2013 objects. The surface of such products is carefully smoothed. It was probably polished, possibly painted, however, the poor preservation of the fragments does not allow us to judge this with complete certainty. On one of the medium-sized figurines, spots of bright red ocher are clearly visible (fig. 7,1), which probably covered the entire surface of the figurine. It should

be emphasized that the considered technological groups of anthropomorphic plastic are selected conditionally, exclusively as a result of visual observations. Therefore, they should be considered rather as a certain way of systematizing figurines, and not a technical and technological analysis.

The study of anthropomorphic plastic from various objects of the Nebelivka settlement shows that there is no clear correlation between technological groups and formal and iconographic types of figurines. At the same time, all large figurines are made of kaolinite clay. Figurines made of kaolinite clay predominate among anthropomorphic

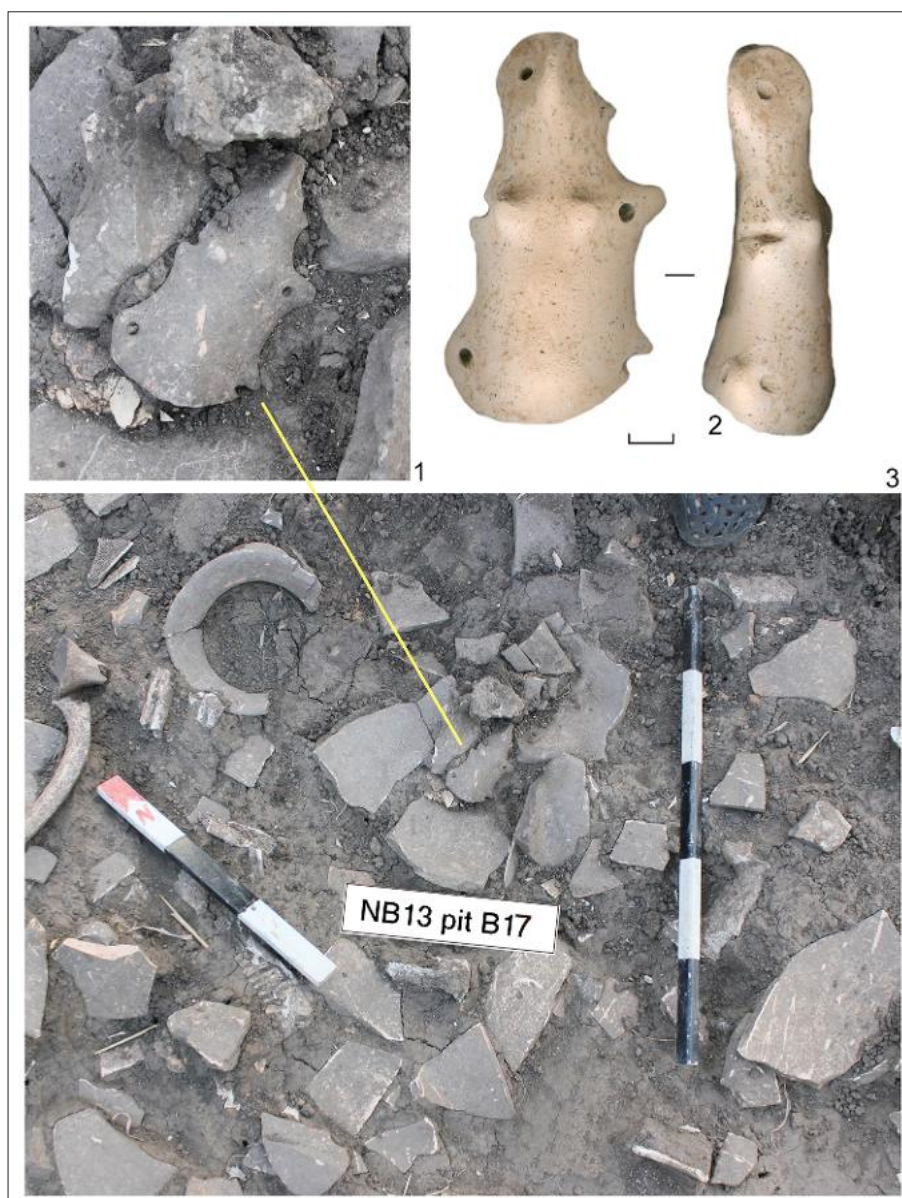


Fig. 5. Nebelivka, pit B17, cluster of finds with fragmented human figurine.

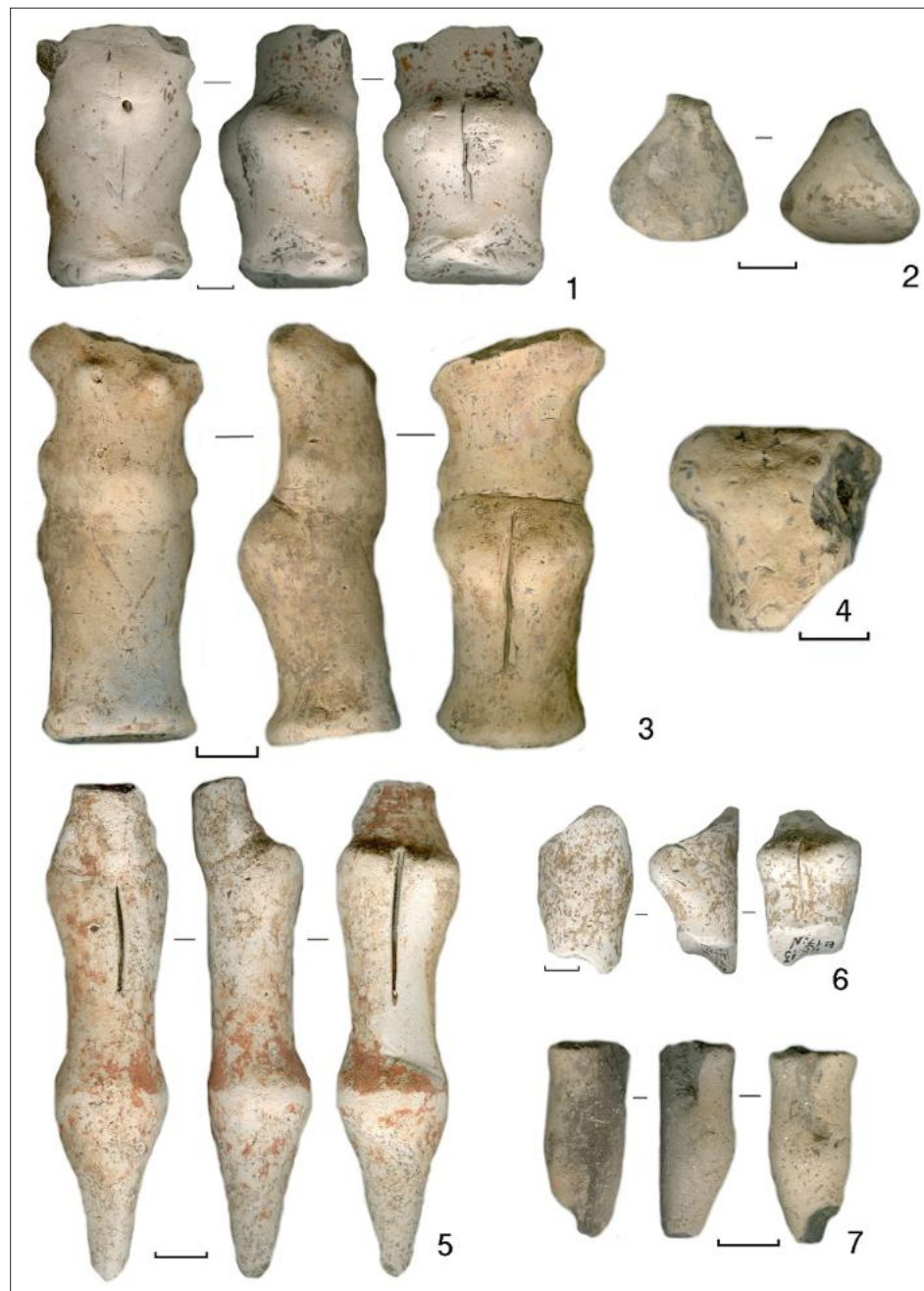


Fig. 6. Nebelivka, pit B17: 1; 3-7 – fragmented figurines of different types; 2 – zoomorphic token.

plastic from pit B 17, where 11 out of 17 such figurines were found. In pit B18, 3 out of 4 such figurines were found. In total, 25 figurines made of kaolinite clay were found in all objects of the 2013 excavations, which is slightly more than half of the anthropomorphic plastic.

The nature of the fractures of anthropomorphic figurines suggests that many of them were formed from two vertical halves. This method of

molding is characteristic mainly for large figurines, as well as for the manufacture of the lower parts of figurines. Figurines on a spindle-shaped leg, which belong to the most common type of anthropomorphic plastic Nebelivka, were probably made from a single piece of clay (fig. 6,5-7).

Anthropomorphic figurines from the objects studied in 2013 in Nebelivka share some common features. In the vast majority, they conditionally

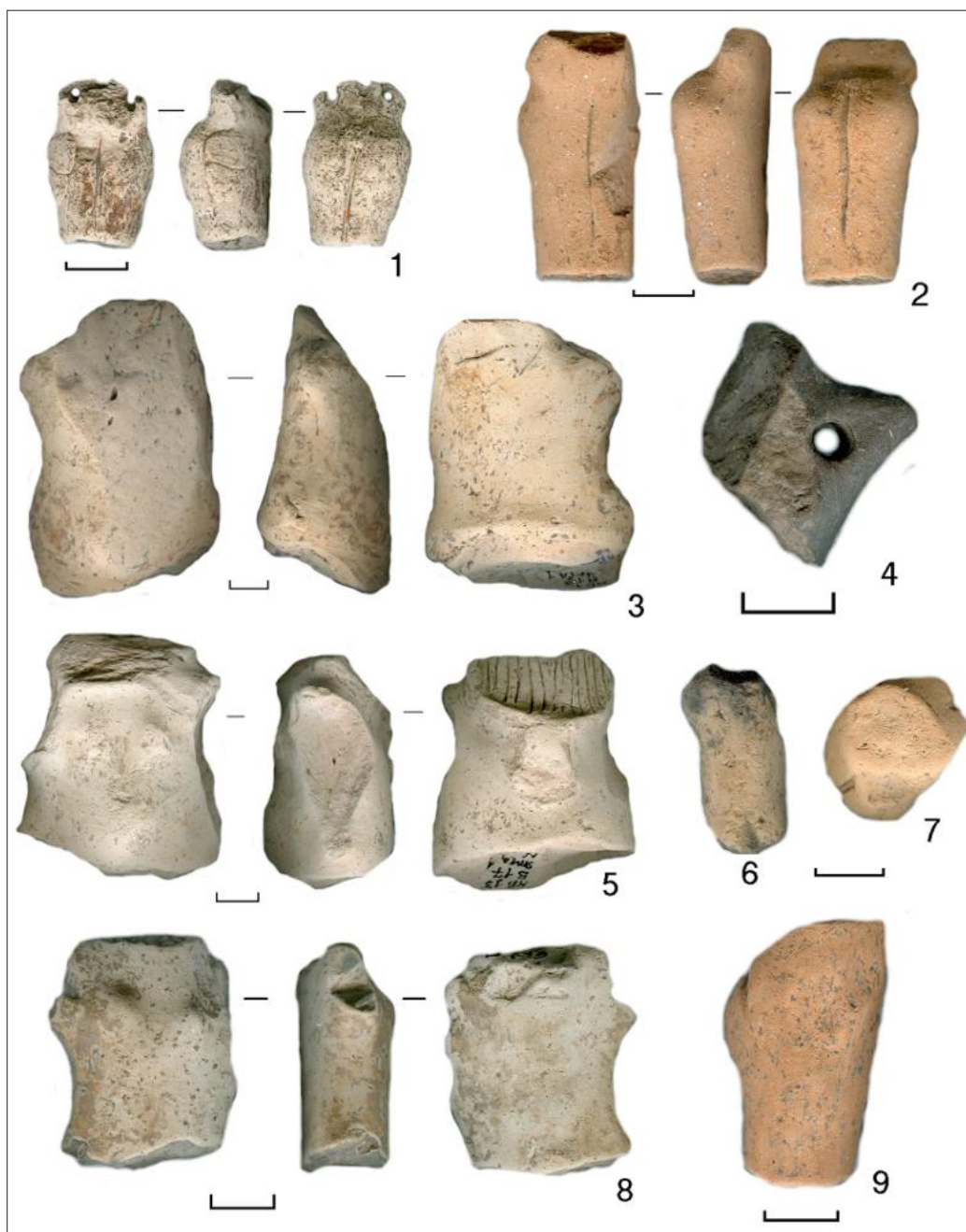


Fig. 7. Nebelivka, pit B17: 1-8 – fragmented figurines of different types.

schematically reproduce the appearance of a person. Single figurines are distinguished by features of realism (naturalism), which are manifested in the modeling of hands, feet, and other details. Realistic plasticity has not been found. Female images include fragments on which sexual characteristics are clearly marked, or convey the image of a pregnant woman. Most fragments do not provide information about the gender of the im-

ages and are characterized as anthropomorphic. The gender of the figures does not affect their formal typology, for which only more or less large fragments of plastic can be used. Some figurines of this subtype were covered with red paint, which is recorded on the Nebel figurines only in the form of barely noticeable spots. On some fragments of figurines, a painting in the form of oblique lines converging at an angle or parallel ribbons applied

with dark brown paint on orange engobe has been preserved. Other subtypes of standing figurines, which are distinguished by their massiveness, are represented by a smaller number of finds. Among them are massive figurines with a straight body on a columnar leg (fig. 6,1,3).

A fragment of the upper part of a very large figurine was found in pit B 17 (fig. 8,3). Judging by the height of the fragment, the sculpture could reach a height of at least 30 cm. The torso comes from a figurine made of pale gray kaolinite clay. The vertical fracture suggests that the figurine

was molded from two vertical halves. Its surface is carefully smoothed, the presence of engobe is indicated only by individual spots of light brown paint. The torso is very massive, the chest is shown by disproportionately small sticky tubercles. The protruding belly of a slightly unusual, trapezoidal shape probably symbolizes pregnancy. On the back of the statuette, a sculpturally modeled hairstyle traditional for Trypillian plastic art has been partially preserved. It can be assumed that the torso belonged to a standing sculpture on a columnar leg. In addition, the fragmentary large

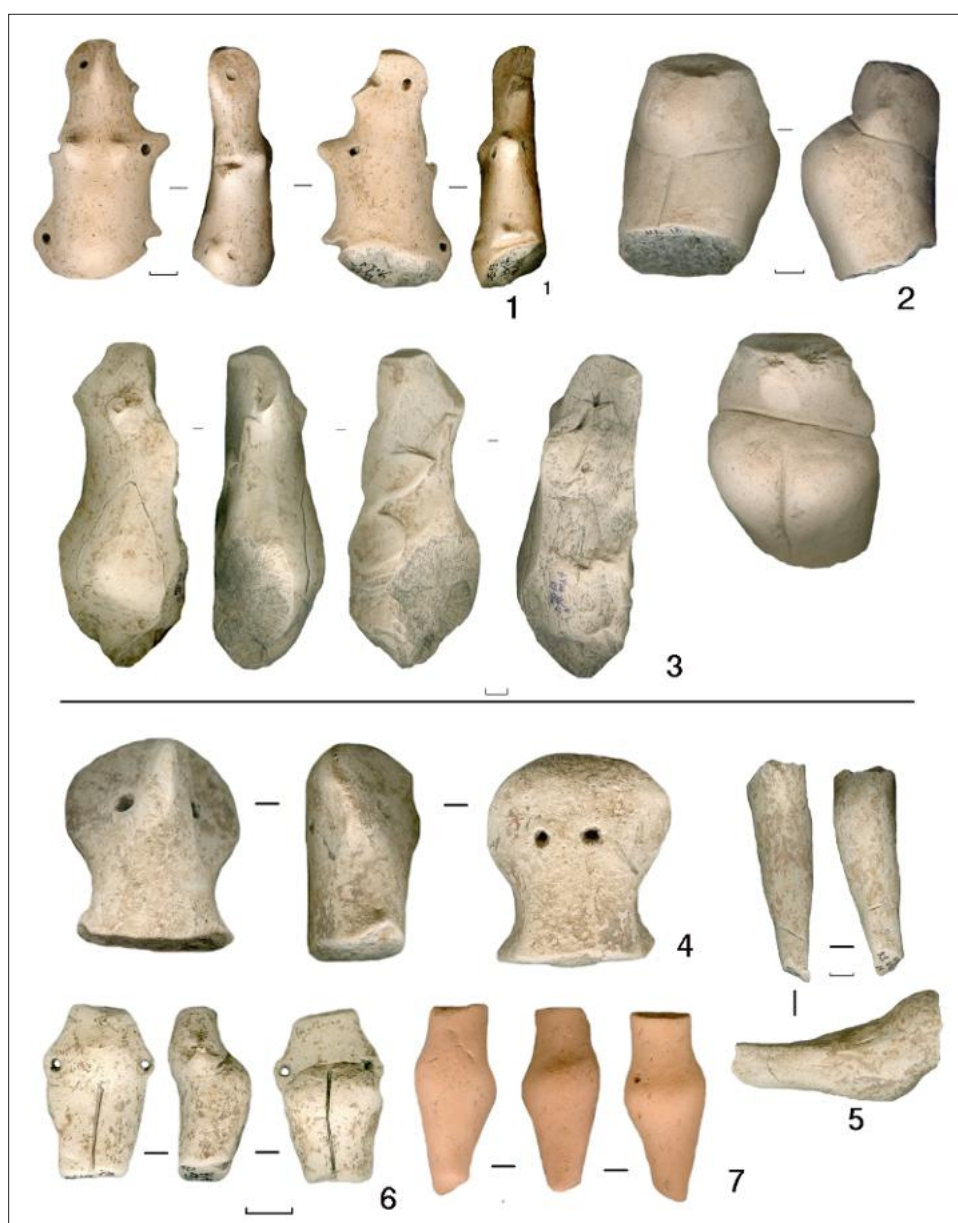


Fig. 8. Nebelivka, fragmented figurines of different types: 1-3 – from pit B17; 4-8 – from pit B18.

statuettes made of kaolinite clay from pit B17 probably belong to the same subtype of anthropomorphic plastic art. Both have a plastically modeled hairstyle in the form of a knot on their backs. Moreover, in one case (fig. 7,5) the strands of hair are shown by drawn vertical lines, as in the realistic figurine from Volodymyrivka [Passek 1949, fig. 48. 2].

In structures B 17 and B 18, located next to the megastructure, and especially in the pits associated with them, massive figurines predominate; it is with such subtypes that the upper parts of massive figurines can be associated. Analogies for figurines of these subtypes are found not only in the collections of anthropomorphic plastic of Trypillia B II monuments, but also among figurines of some settlements of the Tomashivka local-chronological group of Trypillia C I [Burdo 2014, fig. 18]. Zoomorphic plastic is few and is represented by a zoomorphic cone-chip (fig. 6,2). The zoomorphic cone presumably depicts a bovine.

Conclusions

The results of the study of pits B17 and B18 and their filling make it possible to propose the following reconstruction of the processes of their formation and filling. Both of them were dug during the construction of the buildings. The builders used both clay and loam. The need for loam clearly exceeded the need for clay. Therefore, the builders had to use loam not only from the pit, but also from the excavations around the buildings. As a result, "moats" were formed around the long sides of the buildings, later filled with a cultural layer. The pits remained open to rain; their lower parts were noticeably filled due to soil washouts. At this stage, a small number of fragments of ceramics and animal bones fell into the pits. At the same time, a significant amount of coal and ash was thrown into the pit, at least twice. This is how the layers of charcoal that we observed in the pit profile were formed. After that, the soil washout gradually covered the coal. At this stage, a burnt clay coating without chaff admixtures was thrown into the pits. In both cases, red layers were formed (fig. 3,1-3). Such a coating could be part of the structures of the hearths of furnaces or altars, which were repaired from time to time, and the destroyed parts were "hidden" in the pits. After that, the soil washout gradually covered the filling

of the lower, deepest part of the pits. Thus, a surface was formed, covered with a layer of soil, onto which fragments of ceramics and animal bones began to be thrown in certain portions. In these accumulations, of which 14 were traced, fragments of anthropomorphic figurines of various types were also discovered. Perhaps we are faced with a component of some ritual for the burial of the remains of sacrifices that took place in buildings or near them. A pit with a similar filling was discovered during excavations in 2012 near the mega-structure – the Nebelivskyi Temple [Videiko, Burdo 2015].

At this stage, a relatively small number of items related to the work of the pottery cell also found their way into pit B17. These are parts of ceramic covers of the kiln channels (fig. 3,6-7). The same fragments were found in the investigated part of pit B18 (fig. 2,2). They are similar to those discovered during the 2014 excavations of a similar object in Nebelivka [Burdo, Videiko 2016, fig. 5, 6]. The pottery production can also be associated with melted ceramic fragments baked in the glaze and a lump of clay with fingerprints (fig. 3,5-6). Similar things in the case of the 2014 pottery kiln were also "buried" in the pit together with fragments of ceramics and anthropomorphic plastic [Burdo, Videiko 2016, 97-98, fig. 5, 8]. The difference is that in the studied parts of pits B17 and B18, much less parts of the pottery kiln were found. As a result of the above-described practice of moving a significant amount of pottery fragments and animal bones to the pits, a continuous layer up to 10 cm thick was formed, mainly on the side adjacent to the remains of the building. This indicates a probable place from where most of the finds in pit B17 were moved. After this activity ceased, the pit began to be excavated. fill the soil washes under the influence of precipitation. This is how a black filling was formed, clearly visible both in plan (fig. 2) and in profiles (fig. 1). The finds of small fragments of ceramics in this filling should be associated with the erosion of the cultural layer after people left the settlement. Thus, we can conclude that the filling of the pit is a consequence of the action of natural factors and anthropogenic factors.

Such pits are a separate type of buried objects in the settlements of the Trypillian culture. They differ markedly from pits-places of "burial"

of burned buildings [Burdo, Videiko 2016b] in all respects – from shape and size to the formation of the filling. They are an important component of the settlement complex, the study of which can give researchers interesting results.

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Mykhailo Orlyk

Jewelry made from ancient bronze coins in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe in the 6th-1st centuries BC

Key words: non-monetary uses of coins, non-economic functions of coins, coins as amulets, pendant, Greek coin-set jewellery, elements of clothing decoration.

Cuvinte cheie: utilizări non-monetare ale monedelor, funcții non-economice ale monedelor, monede ca amulete, pandantiv, bijuterii grecești realizate din monede, elemente de decor ale îmbrăcămintei.

Mykhailo Orlyk

Jewelry made from ancient bronze coins in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe in the 6th-1st centuries BC

The article is devoted to the study of the practice of using ancient bronze coins as ornaments in the material culture of the population of the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe in the 6th-1st centuries BC. The methodological framework is based on a combination of general scientific, historical, and numismatic methods, with a predominance of the descriptive approach, which made it possible to systematize the known finds and trace the process of their “demonetization” – the transformation from a means of payment into an element of adornment.

The study analyzes 52 coins, information about which was collected from museum collections, scholarly publications, electronic catalogues, and private communications from local historians and collectors. It has been established that the problem of using ancient coins as ornaments remains insufficiently studied in historiography, despite the presence of occasional references in the works of modern researchers.

A classification of “demonetized” coins is proposed based on the method of manufacture (jewelry изделия and primitively modified coins with perforations) and functional purpose (pendants, amulets, elements of clothing). Particular attention is paid to common types of bronze coins, their chronology, the geography of finds, and the specifics of their everyday use. The study expands the understanding of the non-economic functions of coins and their role in the symbolic and daily culture of ancient populations.

The results of the study suggest that the process of “demonetization” of ancient bronze coins of the 6th-1st centuries BC in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe was widespread and fulfilled various functions within material culture. The spatial distribution of the finds, which effectively covers most of the territory of modern Ukraine, indicates the significant spread of the practice of using coins as ornaments.

Mykhailo Orlyk

Bijuterii realizate din monede antice de bronz din regiunea nordică a Mării Negre, din stepa ucraineană și din zona de pădure-stepă în perioada cuprinsă între secolele VI și I a.Chr

Articolul este dedicat cercetării practicii utilizării monedelor antice din bronz ca podoabe în cultura materială a populației din regiunea nord-pontică, stepa și silvostepa ucraineană în secolele VI-I a.Chr. Baza metodologică o constituie un ansamblu de metode generale științifice, istorice și numismatice, cu predominanța abordării descriptive, care a permis sistematizarea pieselor cunoscute și urmărirea procesului de „demonetizare” — transformarea acestora din mijloc de plată în elemente de podoabă.

În lucrare sunt analizate 52 de monede, informațiile despre acestea fiind colectate din colecții muzeale, publicații științifice, cataloage electronice și comunicări private ale istoricilor locali și colecționarilor. S-a constatat că problema utilizării monedelor antice ca podoabe rămâne insuficient studiată în istoriografie, în pofida existenței unor mențiuni izolate în lucrările cercetătorilor contemporani.

Este propusă o clasificare a monedelor „demonetizate” după modul de prelucrare (bijuterii realizate în mod meșteșugăresc și monede modificate primitiv, cu perforații) și după destinația funcțională (pandantive, amulete, elemente de decor ale îmbrăcămintei). O atenție deosebită este acordată tipurilor frecvente de monede din bronz, cronologiei acestora, geografiei descoperirilor și particularităților utilizării lor în viața cotidiană. Studiul extinde înțelegerea funcțiilor non-economice ale monedelor și a rolului lor în cultura simbolică și cotidiană a populațiilor antice.

Rezultatele cercetării oferă temei pentru a afirma că procesul de „demonetizare” a monedelor antice din bronz din secolele VI-I a.Chr. în zonele regiunii nord-pontice, stepei și silvostepii ucrainene a fost larg răspândit și a îndeplinit diverse funcții în cadrul culturii materiale. Extinderea spațială a descoperirilor, care acoperă practic majoritatea teritoriului Ucrainei moderne, indică o răspândire semnificativă a practicii utilizării monedelor ca podoabe.

Introduction

The use of ancient coins beyond their primary economic function is one of the most striking manifestations of the transformation of material culture objects in ancient societies. The Ukrainian archaeologist M. Braichevskii emphasized that the use of coins as ornaments is typical of societies with an already established and relatively developed system of commodity-money relations. In his view, for a coin to function as an ornament, it must first be integrated into economic life as a полноценный means of circulation. In other words, “for a coin in a given society to be used as an ornament, it must first exist there in its direct, monetary function, as a means of commodity circulation” [Braichevskii 1959, 31]. Particularly relevant is the study of the spread of ornaments made from bronze coins in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe, as this region in the 6th-1st centuries BC was a zone of active contacts between the ancient world and local barbarian communities. The use of bronze coins as ornaments by the local barbarian population constitutes further significant evidence of the understanding of the value of coinage among representatives of the barbarian world and confirms the validity of theses concerning the deep penetration of ancient culture, especially in frontier regions. The use of bronze coins as amulets or as elements of clothing decoration made this process more accessible to broad segments of the population, both in the Scythian period and in later chronological periods.

Exposition of the main research material

An analysis of modern studies on the use of coins of the 6th-1st centuries BC as ornaments suggests that, with minor exceptions, this issue remains almost unexplored. At the same time, to date, virtually the only specialized study is the article by the distinguished Italian scholar G. Gorini, published in 2017 in the proceedings of an international conference held in June 2009 on the island of Ios. This work directly addresses the problem of the use of ancient Greek coins as ornaments [Gorini 2017]. The researcher emphasizes that the Greeks treated their coins with great respect, especially in the Archaic period, and notes that despite the scarcity of metals, even under such conditions there were occasional instances of

their use beyond their economic function [Gorini 2017, 27].

References to finds of ancient Greek coins that underwent the process of “demonetization” are contained in the works of S. Skoryy and J. Khokhorovski [Skoryi, Khokhorovski 2018], A. Kakhidze, I. Iashvili, and M. Vickers [Kakhidze *et al.* 2001, 283], M. Orlyk and V. Orlyk [Orlyk, Orlyk 2026]. Certain information on ancient Greek demonetized coins is also found in the publications of V. Orlyk [Orlyk 2022; Orlyk, Mekh, 2022; Orlyk, 2023; Orlyk, 2024] and D. Miroshnichenko [Miroshnichenko 2022].

As can be observed, the scholarly attention of researchers in ancient numismatics and archaeology of the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe in the 6th-1st centuries BC is mostly focused on individual hoards, finds, and archaeological complexes where coins are recorded. Among other things, these works occasionally contain references to coins that have undergone a stage of transformation into ornaments. However, historiography lacks a comprehensive study of ornaments made from ancient bronze coins, which determines the relevance of the problem addressed in this article.

Ornaments made from copper (bronze) coins of the 6th-1st centuries BC constitute the most numerous group in terms of the number of finds within the entire corpus of known “demonetized” coins. Such coins were the most widespread and the most accessible to various strata of the population of the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe in the 6th-1st centuries BC. All known finds, like the vast majority of silver coins of that period, underwent a primitive method of demonetization by piercing (drilling) one or two holes in them. The analysis of these “demonetized” coins is carried out according to the chronology of their emissions.

During the preparation of this article, 52 bronze coins of the 6th-1st centuries BC were examined, discovered in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe, which, as a result of “demonetization,” were transformed into ornaments or amulets. Information about these finds originates from various sources: museum collections, private collections, scholarly publications, the catalogue-ar-

chive “Coins of Bospor,” and metal detectorists’ forums. The processing of the material available to the author regarding ornaments made from ancient bronze coins of the 6th–1st centuries BC from the specified regions made it possible to classify them according to their functional purpose, in particular, into pendants or amulets (with one hole) and elements of clothing decoration (with two or more holes). Let us consider the known ornaments made from ancient bronze coins of the 6th–1st centuries BC found in the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe, taking into account the nature of the find: archaeological or accidental.

The earliest “demonetized” coins, the finds of which have been recorded in southern Ukraine, are cast copper coins in the form of dolphins (fig. 1,1–4). The emission of these proto-coins took place at the end of the 6th to the beginning of the 4th century BC, while their “demonetization” likely occurred in the 5th–4th centuries BC. One such “demonetized” dolphin coin was sold at a Violyty auction in December 2026 (fig. 1,4) [Violyty a]. We have recorded cases of “demonetization” not only of small cast “dolphin” coins, but also of cast coins of larger denominations, in particular, the so-called Olbian “as” (fig. 1,5) of the type Gorgoneion facing/eagle on dolphin, the emission of which took place in the second half of the 5th century BC. This demonetized coin was sold at one of the European auctions [Acsearch], and, unfortunately, it is impossible to determine the exact place, time, and circumstances of its discovery.

There are known finds of demonetized cast coins of smaller denominations issued around 400–380 BC, with the obverse depicting the head of Gorgon facing with protruding tongue, and the reverse showing an eagle on a dolphin to the left (fig. 1,6–7). The first of these coins has two holes, as well as a straight cut of the coin flan; it is possible that the size of the coin was adjusted for use as an element of clothing or equipment. The coin was found in the Chornyi Lis (Black Forest), Kirovohrad region, before 2021. The second coin of this type (fig. 1,6) was illegally exported and sold abroad in 2009. The third coin (fig. 1,7) was found “in November 2020 on the outskirts of the village of Novodmytrivka, on the bank of the Solonets River” of the former Bilozerskyi district of Kher-son region [Miroshnychenko 2022, 50].

Finds of two copper coins of Salamis, Island off Attica, ca. 400–330 BC, which also underwent the process of demonetization, have been recorded in the Ochakiv district of Mykolaiv region (fig. 1,8) and in Kharkiv region. On the obverse of the coin: head of nymph Salamis right, in stephane in tightly coiled and waved hair, and on the reverse: <ΣΑ>-ΛΑ, Boeotian shield with blazon of sword of Ajax (fig. 1,9).

A demonetized coin of Chersonesus, emission of 385–380 BC, was found in 2015 near the village of Ruzhychevo, Oleksandrivka settlement community, Kropyvnytskyi district, Kirovohrad region [Orlyk 2021]. On the obverse of the coin is depicted the head of the Maiden in a kekryphalos to the right, and on the reverse a lion’s head facing, below a club to the left, beneath XEP (fig. 1,12). Three specimens of a “demonetized” coin of Chersonesus, emission of 350–330 BC, were identified by the author on the Ukrainian Internet resource Violyty Forum (fig. 1,13–15). On the obverse of these coins is depicted quadriga to the right, a maiden with a torch stands in the chariot, and on the reverse: the letters XEP. A naked warrior kneeling with a shield and spear to the left, wearing a helmet.

At a Violyty auction in 2026, a coin of Istros, 440–320 BC (fig. 1,10), most likely found in Odesa region, was offered for sale [Violyty b]. The coin has one hole between the spokes of the wheel, which allowed its owner to use it as a pendant. It should also be noted that coins of this type were not only produced in Istros; in particular, V. B. Pivorovych noted that coin imitations with the same legend were cast on the island of Berezan [Pivorovich 2009, 122]. Another pendant made from a bronze coin of Istros of the 4th–2nd centuries BC (fig. 1,11) of a different type was found in 2021 in the village of Mykhailivka, Haisyn district, Vinnytsia region [Orlyk 2022, 17]. On the obverse of the coin is the head of Apollo to the right, and on the reverse an eagle to the left on a dolphin.

In the Cherkasy district of Cherkasy region, a “demonetized” copper coin of Alexander III, Macedonian mint, 336–323 BC, was found. On the obverse of the coin is depicted head of Herakles right, wearing lionskin headdress, and on the reverse: ΑΛΕΞΑΝΔΡΟΥ between bow in bowcase above and club with handle on left below. ME monogram below (fig. 1,16). Another “demonetized” copper



Fig. 1. Demonetized ancient Greek bronze coins.

coin of Alexander the Great (fig. 1,17) known to the author was found in Odesa region.

An Olbian copper coin of the 4th century BC, on the obverse of which is the head of Tyche wear-

ing a mural crown, and on the reverse an archer kneeling to the left (fig. 1,18), was found near the village of Komarivtsi, Bar urban community, Zhmerynka district, Vinnytsia region [Orlyk 2022].

In various regions of Ukraine, 12 specimens of “demonetized” copper tetrachalkoi of Panticapaeum, 320-310 BC, have been identified. On the obverse of these coins is depicted the head of a bearded satyr to the right, and on the reverse a protome of a griffin, below a sturgeon, with ΠΑΝ on the sides. One coin was found in Kirovohrad region, in Kropyvnytskyi district, near the village of Pidlisne, Oleksandrivka settlement community in 2020 (fig. 1,20). The second (fig. 1,19) was found nearby in 2021 in the village of Plishky of the same territorial community. The third was found in 2021 near the village of Zalomy, Dmytrivka rural community, Kropyvnytskyi district, Kirovohrad region; however, there are certain doubts regarding the reliability of the findspot, although the coin itself is authentic and was found in Ukraine (fig. 1,21). The fourth coin was found in the village of Ivkivtsi, Medvedivka rural community, Cherkasy district, Cherkasy region (fig. 1,22). Notably, this coin has two holes and therefore could have been used as an element of clothing decoration.

Four more coins of this type that underwent the process of “demonetization” are recorded in the database of the “Coins of Bospor” catalogue-archive [Coin passport: 111-3002-182; Coin passport: 111-3002-714; Coin passport: 111-3002-801; Coin passport: 111-3002-808], but unfortunately their findspots are unknown (fig. 1,23-26). Another four coins were published on the Ukrainian Internet resource Violity [Violity Forum] (fig. 1,27; 2,1-3) by metal-detector enthusiasts, and these coins are certainly of Ukrainian provenance. It should be noted that this type of coin is the most common in the process of “demonetization,” significantly exceeding all other known types of “demonetized” copper coins of the late 4th century BC. However, overall, in finds from the territory of the Ukrainian Forest-Steppe, these Panticapaeum coins constitute only a small percentage [Orlyk, Mech 2022; Orlyk 2021; Orlyk 2022; Orlyk 2023; Orlyk 2024]. It should also be noted that in the Scythian milieu, gold ornaments (plaques) with griffins were quite widespread, often imitating the gold staters of Panticapaeum [Orlyk, Orlyk 2026]. However, copper coins were significantly cheaper and more accessible for transformation into ornaments or amulets. In our opinion, this explains the high proportion of coins of this type

within the entire corpus of bronze coins we have studied that were transformed into ornaments or amulets.

It should be noted that the author is aware of only two copper coins of Panticapaeum of the same period of minting as the 12 specimens mentioned above, but of a larger denomination – an obol – with traces of “demonetization” (fig. 2,4-5). The first coin originates from the Ukrainian part of the Northern Azov region (Ancient Coins of the Northern Black Sea Region). The second most likely originates from Mykolaiv region.

In Cherkasy region, near the village of Monastyryshche, a pendant made from a bronze coin minted in Miletos, 313-290 BC, was also found. On the obverse: Laureate head of Apollo right. On the reverse: lion standing right, head turned back; star above, and the name of the magistrate (fig. 2,6).

A copper tetrachalkos of Panticapaeum, emission of 294-284 BC, of the type: the head of the beardless Satyr in a wreath to the left/ΠΑΝ, the head of a lion to the left, with a sturgeon below, was a fairly common coin, yet it was practically not subjected to the process of “demonetization.” The author has recorded only one example of such a transformation from a circulation coin into an element of ornamentation. The coin has two holes and was most likely used as an applique (fig. 2,7). The coin was found 10 km from the city of Bohodukhiv, Kharkiv region.

The most widespread ancient Greek coin in the North-Western Black Sea region, the Ukrainian Steppe, and the Forest-Steppe is the so-called “Borysthenes” – an Olbian copper coin depicting on the obverse head of Borysthenes, river deity, left, and on the reverse the inscription ΟΑΒΙΟ to right; in the centre, gorytos; to left, ceremonial axe; behind, differential mark. However, despite the prevalence of this type of Olbian coin in virtually all regions of the Ukrainian Steppe and Forest-Steppe, the author has identified only three examples of their “demonetization” (fig. 2,8-10), which may indicate that the population of the Scythian period valued such coins. The first of these coins was found on the outskirts of the village of Berizky-Bershadski, Haisyn district, Vinnytsia region. The second coin was found in Kyiv region (the author is not certain about the precise localization of the find). The third coin (fig. 2,10)



Fig. 2. Demonetized ancient Greek bronze coins.

was found in Kirovohrad region in May 2021, near the village of Osytniazhka, Kropyvnytskyi district, Kirovohrad region. Currently, this coin is kept in the cabinet of numismatics and the history of monetary circulation at the Department of History, Archaeology, Information and Archival Studies of the Central Ukrainian National Technical University.

In the course of our research, four “demonetized” copper obols of Kerkinitis, emission of 300-290 BC, were recorded, with the obverse depicting Scythian with an axe, sitting on a rock to the left, and the reverse horse to the left (fig. 2,11-14). One of the coins (fig. 2,13) has two holes and was most likely used as an element of clothing deco-

ration, in the form of an applique (plaque). Unfortunately, there is no information regarding the location or circumstances of the finds of all four of these coins. However, it should be noted that finds of this type of coin have been recorded not only in the Autonomous Republic of Crimea and the southern regions of Ukraine, but also in Central Ukraine (Orlyk, Orlyk 2020).

In the Myrhorod district of Poltava region, in 2020, a “demonetized” copper dichalkos of Chersonesus, emission of 300-290 BC, was found, on the obverse of which is depicted maiden spearing a stag to left; bow held in left hand, and on the reverse: butting bull on club to left; below, legend <>; bow and quiver in exergue (fig. 2,15).

A coin of Lysimachus, minted in an unknown center of Thrace, was found in the Ochakiv district of Mykolaiv region. On the obverse of the coin: laureate head of Apollo right, and on the reverse: above horseman right, forepart of lion right, below (fig. 2,16).

Near the city of Kerch, Autonomous Republic of Crimea, in 2010, within the chora of Panticapaeum [Violity Forum], a “demonetized” copper coin of the emission 350-250 BC, Greek island Zakynthos, Elis, Peloponnesos, was discovered. Obverse: Laureate head of Apollo right. Reverse: ZA beneath forepart of Pegasus right (fig. 2,17).

An Olbian copper coin of the last quarter of the 3rd century BC with a hole (fig. 2,18) was found in the territory of the former Bilozerskyi district of Kherson region, in particular, “on the right bank of the Inhulets River in the area of Hlyboka Balka (Sadowo dachas)” [Miroshnychenko 2022, 53]. On the obverse of this coin is depicted the head of a bearded deity (Zeus?/Borysthenes?) to the right, with a countermark of a bunch of grapes, and on the reverse the inscription OABIO to right; in the centre, gorytos; to left, ceremonial axe; behind, differential mark. A lower denomination Olbian coin of the late 3rd century BC was found (near) the village of Tsybuleve, Dmytrivka rural community, Kropyvnytskyi district, Kirovohrad region [Orlyk 2021]. The coin has two holes – one preserved, while traces of the second are visible upon detailed examination of the coin, particularly on the reverse at 5 o'clock (fig. 2,19). This coin was most likely used as an element of clothing decoration. On the obverse of the coin is depicted the head of Helios facing, and on the reverse two joined protomes of horses.

In the town of Zalizhchyky, Ternopil region, in 2021, a copper coin of the 3rd century BC minted in Thessaly, Proerna (Πρόερνα), was found, on the obverse of which is depicted the head of a nymph, slightly turned to the right, and on the reverse a standing figure of Demeter holding an ear of grain in her right hand and a long torch in her left. The coin has a hole and may have been used as a pendant or amulet. Unfortunately, no photograph of this coin has been preserved, only its detailed description (weight 2.49 g, diameter 13 mm).

A particularly interesting find is a coin of Pergamon of the second half of the 2nd century BC found near the village of Nova Sloboda, Kono-

top district, Sumy region (fig. 2,20). This coin corresponds to the metrological characteristics of medium-denomination coins of the Pontic state in the time of Mithridates VI Eupator and most likely entered the Seim River basin in the 1st century BC together with a mass of Pontic coins.

Attention should be drawn to a find discovered in Chernivtsi region near the village of Vyshkivtsi, namely a pendant made from a coin of Mesembria ad Aegaeum, Thrace, AE20, 2nd-1st century AD. Head of Dionysos right, wreathed with ivy/MEΣAM-BPIANΩN, bunch of grapes, ΔΩ above (fig. 2,21).

Among the recorded demonetized coins, a pendant made from a coin of 168-80 BC discovered in Khmelnytskyi region from Thasos, Insula Thraciae, is noteworthy. On the obverse of the coin: Head of Herakles facing right, wearing lion's skin headdress (fig. 2,22). Unfortunately, the photograph of the reverse has not been preserved, but it is known that reverse: Lettering: ΘΑΣΙΩΝ, strung bow within which an amphora above club and a monogram below. A coin reworked into a pendant from Thasos, 168-80 BC, was also found in Ternopil region; on the obverse was Head of Herakles facing right, wearing lion's skin headdress, and on the reverse Strung bow within which an amphora above club and a monogram below (fig. 2,23).

In the exposition of the Chyhyryn Archaeological Museum, under inventory number KV-10694/3 H-4883, there is a pendant made from a copper obol minted in 63-47 BC in Chersonesus. Obverse: a portrait of a man in a laurel wreath (to the right). Reverse: a depiction of a woman in a long garment, holding a bow in her right hand, the left hand bent at the elbow and raised upward; inscription “X” (right), “TNP” (left) (fig. 2,24).

Also in Cherkasy region, specifically in the city of Smila, on the bank of the Tiasmyn River in 2023, a rather rare coin of Panticapaeum, issued around 5 BC, was found. Obv.: head of Zeus in a wreath to the right; Rev.: eagle on a thunderbolt, head to the left, monogram BAE to the right, <ς> to the left (fig. 2,25). This coin also underwent the process of “demonetization”.

Conclusions

The conducted study demonstrates that the practice of “demonetization” of ancient bronze coins of the 6th-1st centuries BC in the territory

of the Northern Black Sea region, the Ukrainian Steppe, and the Forest-Steppe was a widespread and multifunctional phenomenon of material culture. The geography of the finds covers almost the entire territory of modern Ukraine, confirming the распространение of the practice of using coins as ornaments. We are convinced that ancient bronze coins of the studied period were widely used not only as a means of payment, but

also as ornaments, pendants, or amulets, which testifies to their multifunctionality within the material culture of the population. The analysis of 52 recorded examples of “demonetized” coins makes it possible to establish that the primary method of “demonetization” was the mechanical alteration of coins by piercing or drilling holes, indicating the predominantly local, non-specialized production of such ornaments.

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Horse Bridle of the Scythians of Prynhullia

Key words: Northern Black Sea region, Scythian period, Scythians, burial, mound, horse, bridle.

Cuvinte cheie: nordul Mării Negre, perioada scitică, sciți, înmormântare, tumul, cal, frâu.

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Horse Bridle of the Scythians of Prynhullia

The article is devoted to the study of equestrian burials and horse equipment of the Scythian tribes that inhabited the basins of the Inhulets and Inhul rivers in the Northern Black Sea region. The burial rites associated with barrows are examined, and the structural features of their mounds are clarified. The presence of moats around the mounds, crepids, Scythian stone statues, and fire-related rituals is noted. The grave types include pits, catacombs, and wooden tombs. Horse burials, the types of horse graves, methods of laying the animals, and associated finds are analysed. The assemblage of horse equipment comprises bits, cheek-pieces, plates, frontlets, buckles, tubes, nahrapnyks, and whips. It has been established that only bronze bits are known in the region from the Early Scythian period. All currently identified mounds containing horse burials and bridle elements date to the 5th-4th centuries BC and belonged to male warriors. The presence of such burial mounds in the region indicates the spread of equestrian culture during the Scythian period. Horsemen formed the core of the Scythian army, while advanced sets of horse equipment and weapons ensured high mobility and a developed level of military skill.

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Echipamentul ecvestru al sciților din Preinhullia

Articolul este dedicat studiului înmormântărilor ecvestre și echipamentului ecvestru al triburilor scitice care au locuit în bazinele râurilor Inhulets și Inhul din nordul Mării Negre. Sunt examinate riturile funerare asociate cu tumuli și analizate caracteristicile structurale ale acestora. Se remarcă prezența șanțurilor în jurul tumulilor, a crepidelor, a stelelor antropomorfe din piatră și a ritualurilor legate de foc. Tipurile de morminte includ gropi, catacombe și construcții din lemn. Sunt analizate înmormântările cu depuneri de cai și tipurile acestora, metodele de așezare a animalelor și descoperirile asociate. Ansamblul de echipamente pentru cai cuprinde zăbale, bucale, plăci, fruntare, catarama, tuburi, narapnici și bice. S-a stabilit că în regiune sunt cunoscute doar zăbale de bronz din perioada scitică timpurie. Toți tumulii identificați până în prezent care conțin înmormântări de cai și elemente de harnășament datează din secolele V-IV î.Chr. și au aparținut războinicilor de sex masculin. Prezența unor astfel de complexe funerare în regiune indică răspândirea culturii ecvestre în perioada scitică. Călăreții formau nucleul armatei scitice, în timp ce seturile avansate de echipament pentru cai și arme asigurau o mobilitate ridicată și un nivel dezvoltat de abilități militare.

The emergence of the Early Iron Age in southern Eastern Europe coincided with the development of nomadic culture in the region. This process involved not only the establishment of nomadic pastoralism in the steppes of the Northern Black Sea region, but also the active development of equestrian culture. Elements of the advanced material culture of the nomads were adopted by their sedentary neighbours. This is most clearly reflected in weaponry, horse equipment, and the visual art of the Cimmerians and Scythians.

One of the regions for the dissemination of Scythian culture in the steppes of the Northern Black Sea area is the basin of the Inhul and Inhulets rivers. The burial complexes of this region still require

comprehensive scholarly synthesis. The present study aims to characterise the equestrian complexes and bridle finds of the Scythian period in this area.

Source base

Eighteen sites with equestrian finds are known in the Inhul and Inhulets river basins (fig. 1). Two of these yielded non-complex finds, while the remainder derive from burials (tabl. 1). Within a sample of 238 analysed kurgan in the region, such complexes account for 6.7%. All burials were conducted under burial mounds. Moundless burial grounds, which are known in other regions of Steppe Scythia [Popandopulo 2004; Ostapenko 2007], have not yet been recorded here.

Place, mound (m), burial (b), find (f)	Height (h), diameter (d) of the mound, crepida (cr), shaft (sh), ditch (dit), tryzna (tr), statue (st), type of grave (g) (catacomb: cat, pit: p, wooden tomb: w/t), marquee-like construction (mk), burning (bur), ancient horizon: a/h	Horse burial, number and orientation of horse (h)		Bridle place, with horse(h), with deceased (d)	Bit (b), check-piece (ch)	Frontlet (f), plate (pl), buckles (b), tube (t), pendants (pen), nahrapnyk (n)	Date (c. BC), half (h), quarter (q)	Bibliography
		tomb, with deceased	separate grave, horse orientation					
Bobrynets museum, f					1 b		7-6 c BC	[Mogilov, Skorii 2026, fig. 3, 3]
Borysivka, f					1 b		7-6 c BC	[Mogilov, Skorii 2026, fig. 3, 4]
Inhulo-Kamianka, m 12, Taranova (Mala Ternova) Mohyla	h 5.5, d 60, cr, sh, dit, tr, st, g=w/t (a/h), mk: bur		g=a/h 2 h, E	h	1 b, 2 ch 1 b, 2 ch	1 f, 2 pl, 2 t 2 pl, 1 pen 1 clip	5 c BC	[Shevchenko 2012, 107-114; Blazhevych <i>et all.</i> 2007, fig. 12]
Bohdanivka, m 7, (Orlykova Mohyla)	h 3,1, d 30-32, cr, dit, tr, g=p			in cr/tr	3? ch	3 pl, 1 t, 1 n, 7 pen	430 s BC	[Skoryi <i>et all.</i> 2019, 165-172; Skoryi <i>et all.</i> 2022, 36-41]
Mederove, m	h 3.5-4, d 40, st, g=w/t (a/h), mk: bur	1 h, 1 skull and legs, NE		h	1 b, 2 ch	1 pen	5 c BC	[Bokii 1974, 264-270]
Novovasylivka (Vasylivka), m 9	h 1.5, d 22, cr, st, tr, g: p			cr		1 pl	2 h 5 c BC	[Shaposhnikova <i>et all.</i> 1975, 35-40, tab. 18-20, fig. 1, a; Grebennikov, Rebedailo 1991, 117-121; Polin 2014, 202].
Stanyshyne, m	“large”, d≈32, tr, st, g: p. with niches	1 h		h	2 ch? «munshtuk»		MSP	[Iastrebov 1889, 113-115; Ol’khovskii, Evdokimov 1994, 27]

Nedayvoda, m11, b1	h ?, d≈13.5, tr, g: cat			g, d		2 pl, 2 t	2-4 q 5 c BC	[Meľnik, Steblina 2012, 306, fig. 194, 5, 11]
Pryshyb, m 21, b 2	h.1,2, d 30.5 g=cat		1 h without a skull, W	without a bridle			2-4 q 5 c BC	[Shaposhnikova 1984, 55-59]
Mykolaiv, m	h 10, d 70, g=cat	2 h, W		h	2?b, 4? ch,	≥2pl, 1n, ≥2t, ≥2b	3 q 4 c BC	[Nikitin, Chernenko 1967, 109-110]
Oleksandrivka, m 1, b 26	h 1, d 20, g=cat			g, d	1 b, 1 ch	1 b	4 c BC	[Elagina, Petrenko 1969, 252; Petrenko, Elagina 1968, 16-17; Grebennikov 2008, fig. 31, 7]
Novovasylivka (Vasylivka), m 50, b 2	h 1,2, d 25, cr, g =cat			g, d	1 ch		MSP-LSP	[Shaposhnikova <i>et al.</i> 1975, 184-185; Grebennikov 2008, 44, fig. 7, 4]
Pryshyb, m 46, b 3	h 1.8, d 23, cr, g=cat			g, d		1b	4 c BC	[Shaposhnikova 1984, 146-150]
Pryshyb, m 46, b 1	burial of horse		1 skull and legs, NE	h	1 b, 2 ch	2 b	4 c BC	[Shaposhnikova 1984, 146-150]
Pisky, m 3	h 3,9 , d 46, cr, dit, tr, g=cat			dit/tr		41 pl	2-3 q 4 c BC	[Grebennikov 1987, 148-150; Polin 2014, 482]
Pisky, m 9, b 1	h 2.5, d 35, cr, dit=tr , g=cat	1 skull		with a horse skull		1 b	3 or 4 q 4 c BC	[Grebennikov 1987, 152-156; Monakhov 1999, 428-430; Polin 2014, 482-483]
Peresadivka, m 2, b 3	h 0.4, d 17, g=cat			g	1 b		4? c BC	[Nikitin 2018, 61, fig. 23, 9]
Volodymyrivka, m 3, b 7	h 0.3, d 20, g=cat			g		2 pl	4 c BC	[Meľnik, Steblina 2012, 365-366; fig. 226, 7-9]
Kryvyi Rih, Kharyna Mohyla group, m 3, horse burial	h ?, d 18. g=cat		1 h?	h		2 pl	4 c BC	[Meľnik, Steblina 2012, 379; fig. 238, 7]

Tabl. 1. Horse burials and details of a bridle from Pryinhullia. (MSP – Middle Scythian period, LSP – Late Scythian period).

Chronology of burial mounds and bridle items

Of the 18 sites yielding bridle items, only two non-complex finds date to the Early Scythian period. The burial complexes date back to the Middle and Late Scythian periods. This generally corresponds to the chronological distribution of burials in Steppe Scythia, characterised by a small number of archaic complexes, an increase during the Middle Scythian period, and the dating of the vast majority to the 4th century BC [Chernenko *et al.* 1986, 345]. However, in the Inhul and Inhulets river basins, a more clearly defined group dating to the 5th century BC can be distinguished, which is also reflected in the assemblages of horse equipment.

Seven equestrian complexes (43.8%) date to the Middle Scythian period. These include six bridle burials and four horse burials (50% of all horse burials and 57.1% of Middle Scythian complexes). At the same time, only one animal burial lacked bridle equipment. In the Late Scythian period, the number of such complexes increased slightly to nine (56.3%). However, the proportion of horse burials, which again numbered four, decreased to 44.4%. One burial is dated broadly to the Middle and Late Scythian periods.

Thus, for the Early Scythian period in the region, only bronze stirrup-shaped bits with three protrusions on the stirrup base or with a central thickening are attested. The Middle Scythian period represents a kind of peak in the development of animal-style art, which is also reflected in bridle equipment. During this time, iron loop-shaped bits were in use, together with double-hole cheek-pieces. Their S-shaped and Γ-shaped variations with zoomorphic decoration are known, as well as Γ-shaped cheek-pieces with a short conical lateral protrusion. A precious fish-shaped frontlet originates from Inhulo-Kamianka, and a rhombic object is also attested. A wide range of plaques is represented, with shields shaped as a hand, a bird of prey's paw, an eagle's head, a lion's head, an ear,

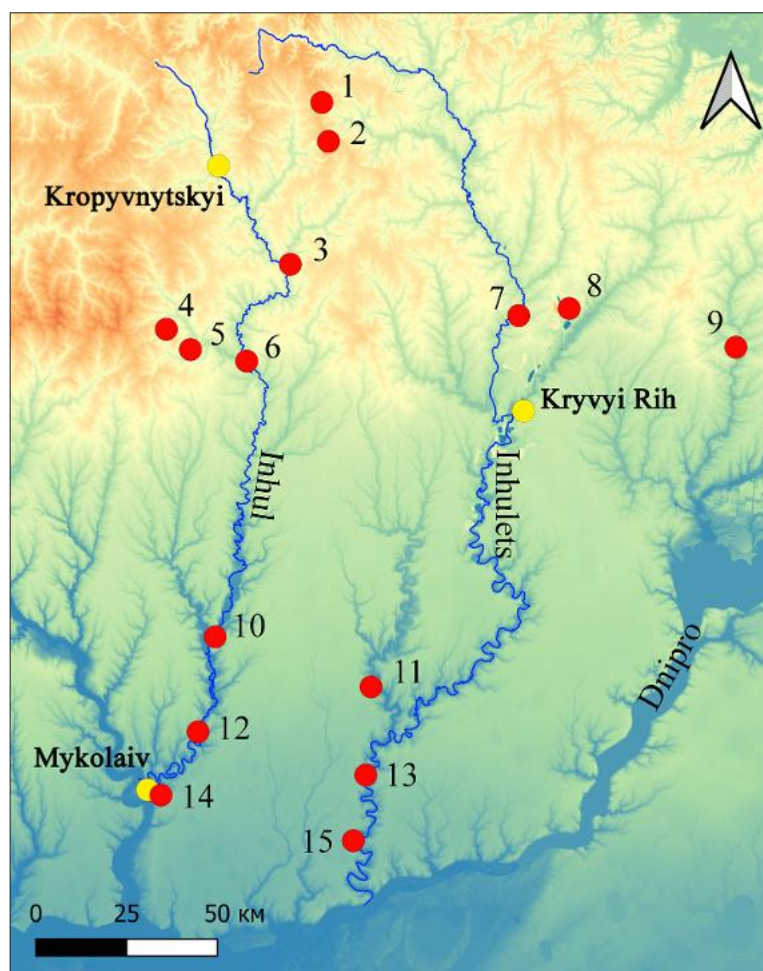


Fig. 1. Map showing the distribution of horse burials and bridle elements in the basins of the Inhul and Inhulets rivers. 1 – Stanyshyne; 2 – Mederove; 3 – Inhulo-Kamianka; 4 – Bohdanivka; 5 – Bobrynets; 6 – Boryshivka; 7 – Nedayvoda; 8 – Kryvyi Rih; 9 – Volodymyrivka; 10 – Pisky; 11 – Pryshyb; 12 – Peresadivka; 13 – Novovasylivka; 14 – Mykolaiv; 15 – Oleksandrivka.

or a wing. Bronze tubes are present, both faceted conical examples and smooth types with concave sides. Buckles are oval, with an additional protrusion and a fastening element. Lock-shaped pendants and a pendant made of a boar's fang with a zoomorphic image have been recorded. Bronze nahrapnyks and a clip have also been found.

In the 4th century BC, the diversity of bridle equipment decreased, and the emphasis appears to have shifted toward functionality. Nevertheless, items made of precious metals continued to occur in elite mounds. Iron loop-shaped bits in Pryinhullia date to this period. They were probably used together with iron rings, which, un-

like most cases, were not inserted into the outer loops but were placed nearby and were apparently connected by leather straps. Iron cheek-pieces are straight, sometimes with knobs at the ends. Bronze round plaques with a loop on the reverse or with perforations for sewing have been identified. A silver moon-shaped plate or pendant has also been found. Iron ring buckles are present, sometimes with a protruding fastener, as well as massive bronze buckles with protrusions around the perimeter. Tubes occur in the burials. An especially noteworthy find is a whip with silver coverings on the handle.

Burial Rites of the Complexes

Equestrian complexes were identified in burial mounds ranging from 0.3 to 10 m in height and 17-70 m in diameter, with barrows volumes (calculated as the volume of a spherical segment) between 45 and 19,765 m³. Middle Scythian kurgans generally measure 1.2-5.5 m in height and 22-60 m in diameter, with volumes of 286-7,862 m³. In the 4th century BC, these parameters show much greater variability, indicating the development of social stratification within Scythian society, including among horsemen. During this period, barrows heights range from 0.4 to 10 m, diameters from 17 to 70 m, and volumes from 45 to 20,540 m³.

Most burials are primary interments within Scythian mounds. However, four cases are recorded in which Scythian graves were inserted into earlier Bronze Age barrows. Only the Orlykova Mohyla mound is of Middle Scythian origin. The remaining examples – Volodymyrivka, Kryvyi Rih, and Oleksandrivka – date to the 4th century BC.

Among the architectural features of the mounds, stone ring crepids are documented in six cases (31.3%): Orlykova Mohyla; kurgan 9 at Novovasylivka; kurgan 46 near Pryshyb; and kurgans 3 and 9 near Pisky. Of these, two date to the Middle Scythian period and three to the Late Scythian period. At Stanyshyne, a stone armour is reported (6.3%). Moats surrounding burial mounds are recorded in three cases (18.8%): at Inhulo-Kamianka in the 5th century BC, and at kurgans 3 and 9 near Pisky in the 4th century BC.

A particularly noteworthy feature is the *stone rampart* that closely surrounded the burnt wood-

en tomb at Inhulo-Kamianka. This structure was subsequently covered by an earthen embankment. Such constructions are atypical for the Ukrainian steppe. A probable parallel is known from Vasyne, where the tomb was surrounded not by a rampart but by a conical radial structure made of tree trunks [Kozir *et al.* 2019, 301-303]. Stone ramparts encircling tombs in the Early Scythian period are also known from the Western Podillia group [Mogilov *et al.* 2016, 222-224], including examples associated with burnt wooden tombs. Comparable structures have been documented in Central Asia [Akishev, Kushaev 1963, 27-72].

A *marquee-like superstructure* above the grave was identified in Middle Scythian burial mounds at Inhulo-Kamianka and Mederove. Such constructions are interpreted as manifestations of nomadic, specifically Scythian, steppe burial traditions [Skoryi 2003, 52].

Stone statues dating to the Middle Scythian period are known from four burial mounds (25%): Stanyshyne, Mederove, Inhulo-Kamianka, and Vasylivka (barrow 9). They illustrate the tradition of their distribution in the northern part of the Right-Bank Steppe region during this period [Gorbul, Bokii 1987, 48-50].

Fire-related rituals are attested in four mounds (25%). During the Middle Scythian period, they are expressed by the burning of wooden tombs within the mounds at Mederove and Inhulo-Kamianka. It is possible that wooden constructions were also burned at Stanyshyne, where burnt layers were identified within the mound. Similar practices are known from the Dnipro Right-Bank Forest-Steppe region [Kovpanenko *et al.* 1989, 37, 39]. In the 4th century BC, another manifestation of this ritual is documented at the Mykolaiv mound, where a hearth was constructed in the entrance pit of a catacomb containing bridled horses.

Tryzna remains were recorded in five or six mounds (up to 37%). Typically, these deposits consist of animal bones and fragmented pottery; however, in three cases, elements of horse bridle equipment were also present. For the 5th century BC, examples are known from Orlykova Mohyla, Stanyshyne, and Nedayvoda. It remains unclear whether the plate from burial mound 9 near Vasylivka represents a remnant of a tryzna or an extramural deposit of inventory. Evidence

of funerary feasting from the 4th century BC is documented in mounds 3 and 9 at Pisky.

The *burial of two dogs* in the grave of the Middle Scythian kurgan at Stanyshyne should also be noted, a practice known from Scythian steppe complexes [Ol'khovski 1991, 160].

Among the grave types associated with equestrian complexes, catacombs predominate, accounting for 11 structures (68.8%). Wooden pillar tombs (fig. 2) and pits of complex shape with niches were each recorded twice (12.5%), while wide-proportioned pits were identified once (6.3%). The diversity of grave forms is characteristic exclusively of Middle Scythian burials. During this period, catacombs (28.6%), wooden pillar tombs (28.6%), wide-proportioned pits (14.3%), and pits of complex configuration (28.6%) are all represented. In the 4th century BC, only catacombs are attested (eight cases).

Sacrificial food for the deceased was placed in nine burials (56.3%). This usually consisted of animal meat, often accompanied by a knife, and in some cases placed on a wooden tray. Only in the Middle Scythian mound at Stanyshyne was a jug containing eggs discovered. The practice of depositing sacrificial meat is characteristic of both the Middle Scythian period and the 4th century BC.

The burial of horses is a characteristic feature of the funerary rites of Scythian tribes in the Northern Black Sea region and is also attested in the steppe zones of the Inhul and Inhulets river basins. In total, eight burial mounds containing horse burials, with 11 horses in all, are known: Stanyshyne, Inhulo-Kamianka, Mederove, Mykolaiv, Pryshyb (barrows 21 and 46), Pisky (mound 9), and Kryvyi Rih. Bridles were recorded in seven of these complexes; only in mound 21 near Pryshyb were they absent. Four of these horse-burial complexes date to the Middle and Late Scythian periods, while Early Scythian examples have not yet been identified.

The situation observed in the Inhul and Inhulets river basins is typical of the Northern Black Sea steppe region. No Early Scythian horse burials have been recorded here to date. In the forest-steppe zone of the Dnipro region, such burials are also rare [Kovpanenko 1981, 13, 14]. By contrast, in the North Caucasus, numerous Early Scythian horse burials accompanied by bridle equipment are well documented [Galanina 1997, 82].

During the Middle and Late Scythian periods, horse burials became widespread in both the steppe and forest-steppe zones of the Northern Black Sea region [Il'inskaia 1973; Mogilov, Bokii 2016, 36-39; Mogilov *et al.* 2021, 69-70; Daragan, Polin 2020]. A local distinction lies in the presence of a clearly defined group of 5th-century BC burials in the forest-steppe zone, followed by a decline in their number during the 4th century BC. In Steppe Scythia, by contrast, Middle Scythian complexes with horse burials were succeeded by more numerous burials, the elite segment of which includes the well-known horse burials from the barrows of Scythian chiefs and nobility.

Number of horses. In the Inhul and Inhulets basins, the burial of a single horse alongside the deceased was most common and is attested in five complexes: Stanyshyne; Pryshyb (kurgans 21 and 46); Pisky (mound 9); and Kryvyi Rih. Two horses were buried in three burial mounds: Mederove, Inhulo-Kamianka, and Mykolaiv. A clear tendency can be observed whereby a greater number of horses accompanied individuals of higher social status, as indicated by the size of the mound. Specifically, two horses were buried beneath mounds measuring 3.5-4 m to 10 m in height, whereas single horses were associated with mounds 1.2-2.5-2.8 m high.

This pattern is observable throughout the 5th-4th centuries BC. However, in the Middle Scythian period, no quantitative differentiation is evident: two complexes contained two horses, and two complexes contained four horses. Only in the 4th century BC did single-horse burials begin to dominate (four cases), while paired burials were restricted to the elite Mykolaiv barrow.

It is evident that within equestrian contexts, the burial of a horse together with bridle equipment represented a higher-status marker than the separate deposition of a bridle. Horse burials occur in barrows ranging from 1.2 to 10 m in height (mean 3.92 m), whereas burials containing only bridle elements are associated with mounds 0.3-3.1 m high (mean 1.53 m). The corresponding diameters are 23-70 m and 17-46 m (mean values of 41.5 m and 31.08 m, respectively). The volume of mounds containing horse burials ranges from 377 to 19765 m³ (mean 4729 m³). Even when excluding the exceptionally large Mykolaiv barrow, the mean value remains substantial at 2223 m³. By

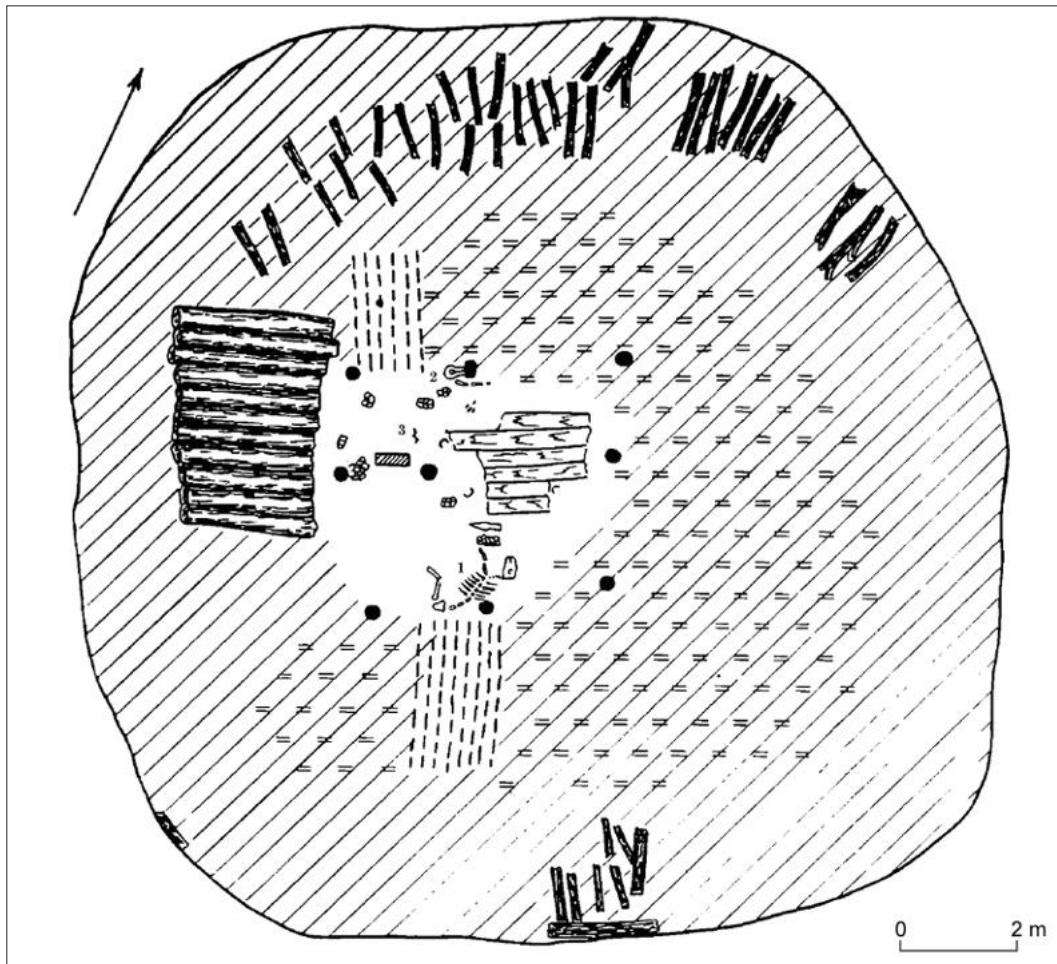


Fig. 2. Horse burials from the region. Mederove (1-2 – horse burials; 3 – bridle) [Bokii 1974].

comparison, mounds associated with bridle-only burials have volumes of 45-3281 m³ (mean 833 m³). Thus, complexes with horse burials exceed those with only bridle deposits by factors of 2.5, 1.3, and 5.6, respectively, across the parameters discussed above.

Types of Horse Burials. In Pryinhullia, as in Scythia more generally, horse burials took various forms, represented either by complete carcasses or by selected parts thereof. Four main types of horse burial can be distinguished in the region under consideration: A) burial of a complete carcass; B) burial of a carcass without the skull; C) separate burial of the skull; D) burial of the skull and limb bones, which may reflect the deposition of a skinned carcass with the head and legs retained. Such remains could have formed so-called “stuffed animals”. In addition, supplementary rituals may have been performed on the carcass, such as the dismemberment of the skeleton, as

observed at Inhulo-Kamianka. In most cases, only one type of horse burial occurs within a single mound; only at Mederove were both a complete animal and a “stuffed animal” deposited together.

A) *Burial of a complete carcass.* Complete horse carcasses were interred in five barrows (62.5%) and are represented by seven skeletons (63.6%): Inhulo-Kamianka, Mederove, Stanyshyne, Mykolaiv, and Kryvyi Rih. At Inhulo-Kamianka, traces of deliberate dismemberment of the carcasses were recorded. At Mykolaiv, a fire-related ritual was carried out in the entrance pit of the catacomb in which the animals were placed.

During the Middle Scythian period, the first three complexes were located in the northern part of the steppe zone. In the 4th century BC, the mounds at Mykolaiv and Kryvyi Rih were situated in the southern or central parts of the region. This form of horse burial is characteristic of elite complexes. The associated mounds generally measure

2.5-10 m in height and 32-70 m in diameter; only the heavily damaged mound at Kryvyi Rih was smaller.

B) The burial of a carcass without a skull is documented in barrow 21 near Pryshyb (12.5% of burials; 9.1% of horses). This is a small Middle Scythian mound 1.2 m high and 30.5 m in diameter. The absence of the skull is difficult to explain; it is possible that the head was removed for use in other ritual practices. In this context, it is worth recalling finds of horse skulls deposited in the ditches of Scythian burial mounds among traces of tryzna [Ol'khovski 1991, 130]. In Prynhullia, more than a dozen such skulls have been discovered in excavated sections of the ditch at the Hirka sanctuary [Mel'nik, Steblina 2012, 254-256]. Further north, near the forest-steppe boundary, horse skulls were identified in the ditch of the Melhunovsky barrow [Bokii, Mogilov 2014, 31-32]. It is also relevant to note the rare cases in which, in Scythian burials, the head of the deceased – possibly in connection with ancient cult practices – was replaced by an animal head [Mogilov, Bokii 2025, 268-270].

C) The separate deposition of a horse skull is attested in mound 9 near Pisky (12.5% of burials; 9.1% of horses), dated to the 4th century BC. Despite the moderate size of the mound (height 2.5 m; diameter 35 m), an exceptionally representative assemblage was recovered, including gold objects and imported silver tableware. This provides compelling evidence that the burial belongs to local nobility [Grebennikov 1987, 158]. The reasons for the separate placement of the skull may be similar to those outlined above.

D) The deposition of the skull together with limb bones may indicate that the horse skin was placed in the tomb after the removal of the entrails, with only the head and legs retained. When filled with organic material, such remains may have functioned as a form of “stuffed animal”. Herodotus describes the use of such symbolic representations of live animals in Scythian funerary rites [IV, 72]. Examples of this practice are known from the kurgans near Mederove and 46 near Pryshyb (25% of burials; 18.2% of horses). These complexes date to the Middle and Late Scythian periods and, within the present sample, belong to medium-sized and large monuments.

Thus, the evolution of horse burial practi-

es in the Inhul and Inhulets basins can be traced clearly. During the Middle Scythian period, the interment of complete carcasses predominated, documented in three elite complexes in the northern steppe zone (60%). Two horses were buried at Inhulo-Kamianka. At Mederove, this practice was complemented by the deposition of “stuffed animals”, while at kurgan 21 near Pryshyb, carcasses without skulls were placed.

In the 4th century BC, whole carcasses still accounted for approximately half of all horse burials. At Mykolaiv, the burial mound reflects the highest local nobility, whereas the mound at Kryvyi Rih is noticeably smaller and partially destroyed. The remaining two-thirds of horse burials comprise “stuffed animals” and separately interred skulls, as observed in barrow 46 near Pryshyb and mound 9 near Pisky.

In 50% of cases, the horse was placed directly in the tomb with the deceased (four complexes, 50%). During the Middle Scythian period, this practice is exemplified in the northern elite mounds at Mederove and Stanyshyne, where animals were placed within the burial chamber itself. In the other two 4th-century BC complexes, the horses were positioned in the entrance pit of the catacomb: Mykolaiv and barrow 9 near Pisky. In all instances, these burials correspond to above-average or elite-level mounds, ranging from 2.5-10 m in height.

Burials in separate graves also account for 50% of the cases. Middle Scythian examples include Inhulo-Kamianka and barrow 21 near Pryshyb, while 4th-century BC examples are found at Kryvyi Rih and mound 46 near Pryshyb. These barrows are generally smaller: diameters of 23-30.5 m and heights of 1.2-1.8 m. Only the mound at Inhulo-Kamianka, standing 5.5 m high, displays a notable monumentality.

In a situation where mounds containing separate horse graves are equal in number to complexes in which the horse was interred together with its owner, the Prynhullia monuments differ from most complexes in the neighboring Lower Dniipro region of the 5th-4th centuries BC. There, conversely, the most monumental mounds were those containing separate horse tombs.

The burial of horses within the chambers of burnt Middle Scythian wooden tombs provides important evidence for ethnocultural interpreta-

tions. Two such complexes were excavated in the northern part of the region, in the villages of Mederove and Stanyshyne. Similar tombs were found in Inhulo-Kamianka, where horses were buried separately. These represent a group of burials in wooden tombs, often with tented roofs, predominantly located in the northern steppe zone [Bokii 1974, 182; Bokii, Ol'khovski 1994, 151-152; Kozir *et al.* 2019, 300-303]. These tombs are frequently associated with Scythian stone steles, considered markers of nomadic ethnic identity [Ol'khovski, Evdokimov 1994, 45; Skoryi 2003, 64]. Similarly, moats around mounds, often associated with tryzna, reflect this cultural context. In the Ukrainian Right Bank region, the most significant concentration of such complexes is found in the upper reaches of the Inhul and Inhulets rivers, closer to the Dnipro. To the north, these tombs are adjacent to synchronous wooden tombs of the Tiasmynska subgroup [Kovpanenko *et al.* 1989, 37-39], which occasionally include cremations but typically lack stone statues.

Wooden pillar tombs are now recognized as a widespread phenomenon with potentially diverse origins [Skoryi 1990, 24]. Notably, during the Middle Scythian period, such structures were common in the Dnipro Right-Bank Forest-Steppe [Kovpanenko *et al.* 1989, 37-39], where early Scythian prototypes are documented [Il'inskaia 1975, 85-86; Kovpanenko 1981, 67-68].

However, these tomb types were less characteristic of the steppe Ukraine complexes of the same period [Skoryi 1997, 17-18]. Although excavated in several wealthy sites, they were mostly represented by simpler forms [Terenozhkin *et al.* 1973, 169; Mozolevskii 1980, 97-98]. This pattern may indicate that the northern Right Bank steppe population included not only Scythian steppe nomads but also forest-steppe indigenous groups. Together, they could have created funeral practices distinct from the more southern, classical Scythian steppe burials. The coexistence of these elements in certain tombs may further reflect a degree of population mixing.

The *placement of horse graves* relative to the primary burial – usually located near the center of the mound surface – was not strictly consistent. However, it is notable that horse burials tended to cluster in the northern half of the mound. Specific orientations to the west, northwest, northeast,

and east have been recorded only once, as seen in burials near Inhulo-Kamianka, Kryvyi Rih, and barrows 46 and 21 near Pryshyb.

The *shape of horse graves* in the region generally follows the standard Scythian pattern. They are narrow, elongated pits dug into the ground, rectangular in plan with rounded corners. One edge, at the head end, may be further narrowed, forming a step for the animal's head to rest on. Similar arrangements are found in the Middle Scythian barrow 21 near Pryshyb and the Late Scythian mounds 3 near Kryvyi Rih and 46 near Pryshyb. These graves measure approximately 1.85 m in length, up to 0.65 m in width (narrowing to 0.3-0.4 m near the head), and 0.61-0.8 m in depth.

The situation in Inhulo-Kamianka is unique. In the 5th century BC, horses were laid at the level of the ancient horizon, with a wooden ceiling above them. This suggests the presence of surrounding earthen structures, possibly intended as supports.

Position and orientation of the horse. In narrow graves, the only feasible position was for the horse to lie stretched on its stomach with bent legs, its head resting on the earthen step at the narrow end. In more spacious tombs, animals could be laid on their sides, as observed in Mederove.

The orientation of horse skeletons was not uniform. Known examples include west-facing burials (Mykolaiv, Pryshyb, mound 21) and east-facing burials (Inhulo-Kamianka). In 75% of the complexes, the animals' heads faced the owner's grave. Only in mound 46 near Pryshyb was a horse placed with its head to the northeast and hindquarters toward the central burial. This orientation of horses toward their owners is consistent with other Scythian barrows [Evdokimov *et al.* 2011, 108].

Placement of bridles. The position of bridles within the *burial mound* varied. In 7 of 16 cases (43.8%), bridles were placed in the grave with the deceased, while in 6 cases (37.5%), they were buried with the horse. The first group is represented in Nedayvoda, Mykolaiv, Oleksandrivka, Novovasylivka (mound 50), Pryshyb (barrow 46), Peresadvka, and Volodymyrivka. The second group occurs in Inhulo-Kamianka, Mederove, Stanyshyne, Pryshyb, Pisky (barrows 29 and 9), and Kryvyi Rih.

Bridle placement in the *crepida* area has been recorded in 2 cases (12.5%). In Orlykova

Mohyla, bridles were found among funeral offerings, while in burial mound 9 near Vasylivka, they may represent additional grave inventory. Similar examples are known in the Lower Dnipro region as early as the 5th century BC, such as the Kushugum barrow [Mogilov 2018, 299]. This practice reached its peak in the 4th century BC, particularly in elite mounds of the period [Alekseev *et al.* 1991, 68-69; Mozolevs'kii 1979, 23]. In a rare instance (6.3%), bridle plates were found in a ditch, as in Pisky (barrow 3).

Chronological distribution of bridle deposits. The custom of placing bridles with horses remained consistent in both the 5th and 4th centuries BC. Placing bridles in the grave with the deceased first appeared in the Middle Scythian period and became widespread during the Late Scythian period. Placement in the crepida is attested in the 5th century BC, while placement in ditches occurs in the 4th century BC.

Horse burials and the inclusion of bridles are traditional markers of male military graves. The burial mounds along the Inhul and Inhulets rivers support this interpretation. This association is primarily indicated by accompanying grave goods, especially weapons, and in several cases is further corroborated by anthropological analysis.

Typology of Horse Equipment

In total, at least 109 bridle items and one equestrian attribute, a whip, have been found in the region. These include 9 bits, 17 cheek-pieces, 1 or 2 frontlets, at least 57 plates and 5 buckles, 8 tubes, 2 nahrapnyks, and 9 pendants. We note the custom of damaging funeral offerings, recorded in Orlykova Mohyla [Skoryi *et al.* 2022].

The **bits** are of the *stirrup-shaped* and *loop-shaped* types.

Bronze stirrup-shaped bits with three protrusions on the stirrup foot (fig. 3,1-2), known from Borysivka and the Bobrynets Museum, have analogies in the early Scythian period (7th-1st half of the 6th century BC) [Mogilov 2008, 17]: burial mounds 524 in Zhabotyn, 453 near Makiyivka, 373 near Emchykha [Il'inskaia 1975, tab. IV; Galanina 1977, tab. 4, 7; 7, 4; 15, 7], Repyakovata Mohyla [Il'inskaia *et al.* 1981, fig. 4, 17].

Iron loop-shaped bits (fig. 3,3-4,7), known from Mederove, Inhulo-Kamianka, Mykolaiv, Oleksandrivka, Pryshyb, and Peresadivka, are the

most common type in northeastern Europe during the Scythian period. Appearing in the Kelermes stage, they existed until the end of the era (mid-7th-4th centuries BC) [Mogilov 2008, 19-31].

Iron rings (fig. 1,10-11) were attached to the outer loops of the bits, probably for attaching the reins. In Pryshyb (4th century BC), they were not inserted into the loops as usual [Mogilov 2008, 22], but were probably connected with leather straps. Although analogies are known from the Middle Scythian period, most of them date back to the 4th century BC.

Two-hole cheek-pieces of the bit belong to types with an octagonal extension around the holes and a narrowing in the center, designed to cover the loop of a bit (fig. 3,5-6,8-9,12-15).

A *bronze Γ -shaped two-hole cheek-piece with a conical side protrusion* is known from Orlykova Mohyla (fig. 3,12). Analogies are known from the basins of the Vorskla [Murzin *et al.* 1999, fig. 15: 5, 6], Siverskyi Donets [Bandurovskii, Buinov 2000, fig. 55, 2], and Tiasmyn [Mogilov 2021, fig. 5, 3-6]. They were found in Steppe Scythia [Grakov 1962, fig. 10, 2, 3; Mozolevskii 1980, tab. 36, 11]. These products date back to the Middle Scythian period [Mogilov 2008, 34].

Bronze Γ -shaped two-hole cheek-pieces with zoomorphic decoration on the edge date to the Middle Scythian period [Mogilov 2008, 33]. A shovel in the form of a bird's or animal's paw can be seen on artifacts from burial mounds 2 (1897-1898) near Vovkivtsi [Drevnosti Pridneprov'ia 1899, tab. XVI, 316], Romny region [Bobrinskoi 1901, tab. X, 12].

Bronze S-shaped two-hole cheek-pieces with zoomorphic decoration at the ends are also characteristic of the 5th century BC [Mogilov 2008, 35]. Highly artistic items with edges in the form of bird feet and hooves are known from burial mounds 4 near Vovkivtsi [Il'inskaia 1954, fig. 13, 2, 3] and 3 near Stebliv [Skoryi 1997, fig. 22, 1].

A *bronze S-shaped two-hole cheek-piece with balls at the ends* from Novovasylivka (burial mound 50) has analogies in complexes from the second half of the 5th-4th centuries BC [Mogilov 2008, 34]. They are known in Steppe Scythia [Mantsevich 1987, cat. 23; 24], Posullia [Drevnosti Pridneprov'ia 1899, tab. XXI, 410], Forest-Steppe Pobuzhzhya [Pokrovs'ka, Didenko 1970, fig. 16], and the Middle Don [Guliaev, Savchenko 2004, fig. 5, 20].

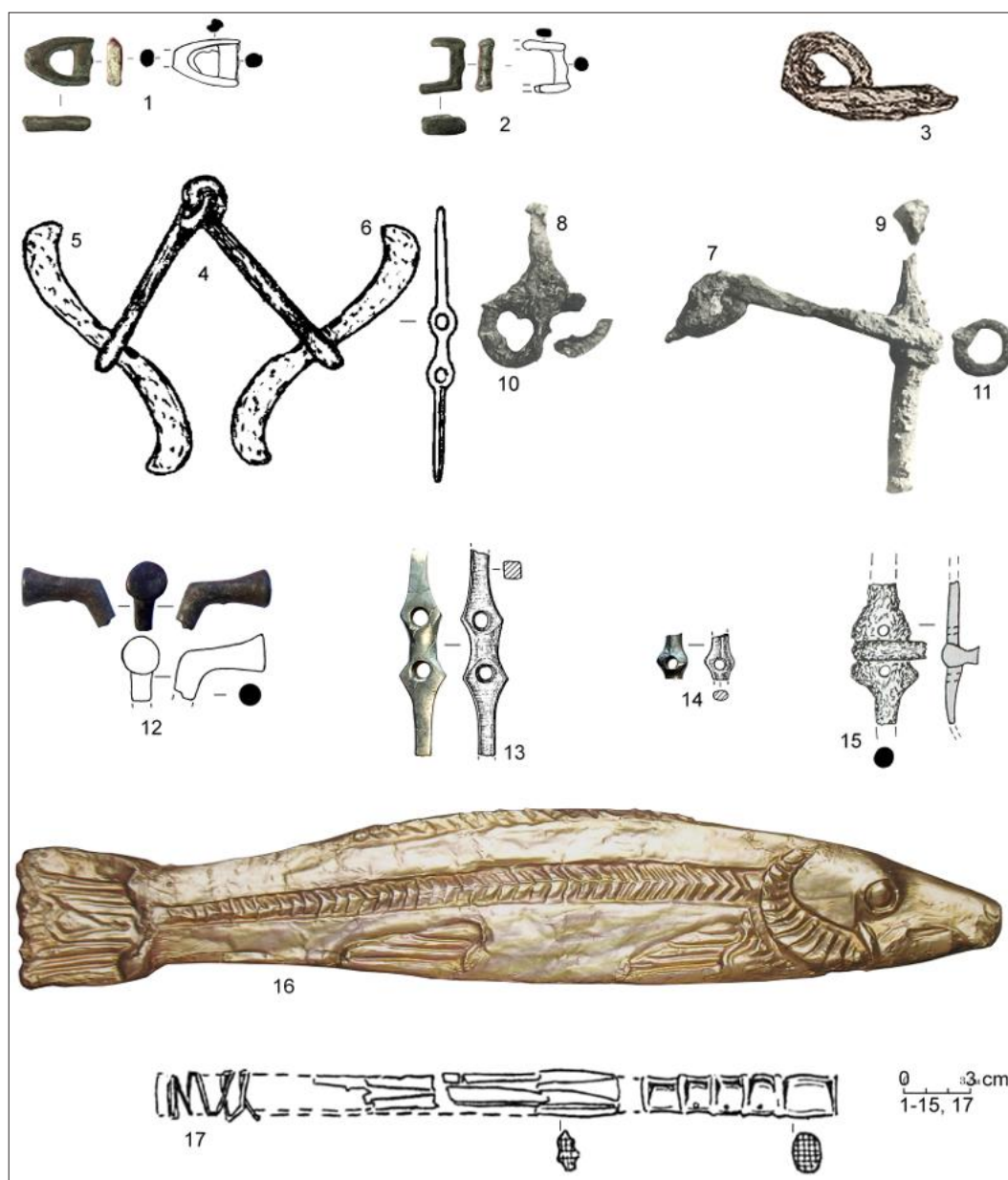


Fig. 3. Metal parts of a bridle and a whip. 1 – Bobrynets; 2 – Borysivka; 3 – Peresadivka, mound 2; 4-6 – Mederove, mound; 7-11 – Pryshyb, mound 42; 12-14 – Orlykova Mohyla; 15 – Oleksandrivka, mound 1; 16 – Inhulo-Kamianka, mound 12; 17 – Pisky, mound 9; 1, 2, 12-14 – bronze; 3-11, 15 – iron; 16 – gold; 17 – wood and silver. Sources: 1, 2 – [Mogilov, Skorii 2026]; 3 – (Nikitin 2018); 4-6 – [Bokii 1974]; 7-11 – [Shaposhnikova *et al.* 1984]; 12-14 – [Skoryi *et al.* 2022]; 15 – [Grebennikov 2008]; 16 – [L'Or des Rois Scythes 2001]; 17 – [Grebennikov 1987].

Iron straight two-hole cheek-pieces with balls at the ends (fig. 3,8-9) are among the most common. They are well known in the Eastern European Forest-Steppe, Steppe Scythia, and the North Caucasus. Such finds date back to the 5th-4th centuries BC [Mogilev 2008, 39, fig. 82, 2-15; 83, 1-26].

Iron S-shaped two-hole cheek-pieces with riveted edges (fig. 3,5-6), found in Mederove, show

similarities to artifacts from Posullia [Galanina 1977, tab. 17, 4], Povorsklia [Rolle *et al.* 2003, fig. 5, 10], the Tiasmyn subgroup [Bokii 1968, fig. 2, 14], and the North Caucasus [Gabuev, Erlikh 2001, fig. 7, 17]. Such products appeared as early as the second half of the 6th century BC and continued to be used in the Middle Scythian period [Mogilov 2008, 38]. Due to their discovery in early

complexes of this period, it is sometimes assumed that they existed only at the beginning of the specified time. However, the find from the Haymanova Mohyla [Bidzilia, Polin 2012, fig. 341] proves that some of them existed until the middle of the 4th century BC.

The *plates* are represented by types equipped either with a fastening loop or with perforations for sewing.

Bronze round plates with a convex shield and a loop on the reverse (fig. 4,6-10) are represented by four paired items from mounds near Volodymyrivka and Kryvyi Rih. Similar round plates are also mentioned from the Mykolaiv barrow. These finds date to the 4th century BC. An earlier specimen, dating to the 5th century BC, was recovered from Orlykova Mohyla. In southern Eastern Europe, where such plates constitute perhaps the most numerous type, they occur throughout the entire Scythian period [Mogilov 2008, 41].

Bronze round plates with three or four perforations along the perimeter for sewing (fig. 4,12-19) find close parallels in elite Scythian steppe barrows of the 4th century BC, including the Melitopolskyi [Terenozhkin, Mozolevs'kii 1988, fig. 107, 20], Haymanova Mohyla [Bidzilia, Polin 2012, fig. 373], Tovsta Mohyla [Mozolevs'kii 1979, fig. 101: 6-8], Chortomlyk [Alekseev, Murzin, Rolle 1991, cat. 24, 2], and Oleksandropil [Polin, Alekseev 2018, fig. 302].

A bronze oval plate decorated with a wavy ornament and perforations for sewing was discovered at Pisky (fig. 4,20). The artificially truncated ornamental motif may indicate that the plate was cut from a larger decorated badge. In the original publication, the find was attributed either to mound 3 or to burial 1 of barrow 9 [Grebennikov 1987, 149, 152, fig. 4, 5]. In a later monographic study, however, it is included among the decorations of the funeral cortege from mound 3 [Grebennikov 2008, 88, fig. 31, 4]. The badge finds close analogies in the Haymanova Mohyla [Bidzilia, Polin 2012, 254-255, fig. 375]. Similar ornamental motifs are also observed on plaques from the Tovsta Mohyla [Mozolevs'kii 1979, fig. 101, 11, 12]. These complexes date to the first-third quarters of the 4th century BC.

Bronze plates in the form of a hand from Inhulo-Kamianka belong to a distinct type that should be differentiated from a series of similar

items depicting an animal paw, which lack a clearly articulated thumb. Despite this morphological distinction, both types are chronologically close and date to the Middle Scythian period [Mogilov 2008, 56]. Steppe analogies are known from mound 1 of the Chastiye-2 group [Maksimenko et al. 2001, fig. 3, 6], barrow 7 near Nove Zaporizhzhia [Pleshivenko 1991, fig. 3, 5], and 3 of the group Shevchenko-3 [Zaraiskaia, Privalov 1992, fig. 2, 30, 31]. In the North Caucasus, such plates were found in the barrows of the Nartan-2 necropolis [Kerefov, Karmov 2009, fig. 3, 2] and 3 near Assinovskaya [Burkov, Maslov 2007, fig. 3, 1]. In the Ukrainian Forest-Steppe, comparable items have been recorded in mound 2 at the Staikin Verkh tract near Aksuyntsi [Il'inskaia 1968, tab. V, 19] and near Kryachkivka [Sidorenko 1964, fig. 6].

Bronze plates in the form of a bird of prey's head also belong to the Middle Scythian period [Mogilov 2008, 48-49]. Various objects of different sizes from the end of the 6th-5th centuries BC are known from many regions of southern Eastern Europe. They originate from the Forest-Steppe Right Bank [Petrenko 1967, tab. 27, 16, 21; Skoryi 1997, fig. 9, 5] and the Left Bank region [Galanina 1977, tab. 17, 5], the Middle Don [Puzikova 2001, fig. 16, 3]. Such items have been found in Steppe Scythia [Kovpanenko, Buniatian 1978, fig. 1, 38], in the North Caucasus [Batchaev 1985, tab. 53, 27-29].

A bronze plate in the shape of an animal's head is known from the burial mound in Inhulo-Kamianka barrow.

A bronze plate in the form of a bird of prey's leg with three toes from barrow 9 near Novosylvivka (fig. 4,1) has a broken upper part, which originally bore a fastening loop. The proportions of the image and the position of the loop indicate that this object does not represent a badge depicting only the lower part of the leg [Mogilov 2008, fig. 99, 16, 18], but rather a full-sized image with a characteristic thickening in the upper part. Comparable representations are known from mounds 48 of the Aktash burial ground [Bessonova, Skoryi 1986, fig. 6, 5, 6], 1 of the Nymphaeum necropolis (excavated in 1878) [Silant'eva 1959, fig. 47, 7], Panticapaeum [Kantorovich et al. 2019, fig. 2], Dmytrivka [Mogilov, Didenko 2010, fig. 3, 3], and I Zavadska Mohyla [Mozolevs'kii 1980, fig. 38, 3, 4], although the latter exhibit a distinctive stylis-



Fig. 4. Bridle elements from the burial mounds of the Inhul and Inhulets region and analogies before them. 1 – Novovasylivka, mound 9; 2, 10, 11, 26, 31-39 – Orlykova Mohyla; 3 – Berestnyahy, mound 4; 4, 5, 27, 28 – Nedayvoda, mound 11; 6-7 – Volodymyrivka, mound 3; 8-9 – Kryvyi Rih, mound 3; 12-21 – Pisky, mound 3; 22 – Pryshyb, mound 42; 23 – Oleksandrivka, mound 1; 24-25, 30 – Pisky, mound 9; 29 – Mederove, mound. Materials: 1-20, 24-28, 31-39 – bronze; 21 – silver; 22-23 – iron; 29-30 – bone. Sources: 1, 3 – illustrations by O. Mohylov; 2, 10-11, 26, 31-39 – [Skoryi *et al.* 2022]; 4, 5, 6-9, 27-28 – [Mel'nik, Steblina 2012]; 12-21, 24-25, 30 – [Grebennikov 1987; Shaposhnikova, Bochkarev 1972]; 22 – [Shaposhnikova *et al.* 1984]; 23 – [Grebennikov 2008]; 29 – [Bokii 1974].

tic treatment. The depiction of an eye on some of these plaques suggests that, when rotated through 90°, they resemble the head of an elk. It has been proposed that a plate from mound 5 near Berestniahy – whose broken lower part complicates attribution – should also be classified as belonging to this group [Mogilov, Didenko 2008, fig. 1, 8; Kantorovich *et al.* 2019, 16]. Such items date to the 5th century BC. Evidence for the later reuse of individual specimens is provided by a fragmentary object from a tryzna dated to 365-350 BC in the Haymanova Mohyla kurgan [Bidzilia, Polin 2012, fig. 305].

Bronze “ear-shaped” plates with a loop (fig. 4,4-5) are characterised by a protrusion rendered in the form of a three-petalled rosette. Two specimens from the Middle Scythian burial near Nedayvoda belong to the smaller variants of this series, comparable to finds from mound 52 of the Fars-Klady necropolis [Gabuev, Erlikh 2001, fig. 2, 12], burial 63 of the Lugovoy burial ground [Munchaev 1963, fig. 29: 13], and Crimea [Skoryi, Zimovets 2021, 230]. Larger analogies are also known; these are sometimes described as “wing-shaped” plates [Mogilov 2008, 50-51, fig. 101].

Such plates were in use during the 5th century BC [Mogilov 2023, fig. 50-51]. In the 4th century BC, the motif was elaborated by the addition of an eagle figure [Bandurovskii, Buinov 2000, fig. 3, 3]. At the same time, sheet cheek-guards made of precious metals bearing similar imagery are known from elite mounds, including Soloha [Mantsevich 1987, cat. 14, 15, 18, 19], 1 near Vovkivtsi [Drevnosti Pridneprov'ia 1899, tab. XXIII, 403], Berdianskyi [Murzin *et al.* 2017, 93, 102, fig. 20], and Chmyreva Mohyla [Otchet Arkheologicheskoi komissii 1901, fig. 37].

A massive bronze plate in the form of a forward-facing lion's head is known from Orlykova Mohyla (fig. 4,2). Close analogies originate from barrow 4 near Berestniahy (fig. 4,3) [Bobrinskoi 1901, fig. 45; Mogilov 2008, fig. 93, 13, 14]. These mounds are dated to the 530s BC and to the second quarter – middle of the 5th century BC [Onaiko 1966, 28, 61-62].

A silver moon-shaped plate with a central perforation was found in barrow 3 near Pisky (fig. 4,21). Comparable items made of non-ferrous metals and dating to the 4th century BC sometimes have a loop at the top for fastening,

while in other cases a perforation is also present in the body of the plaque. Bronze examples of this type are known from the Melitopol mound [Terenozhkin, Mozolevs'kii 1988, fig. 59, 5] and Babyna Mohyla [Mozolevskii, Polin 2005, fig. 70].

The rhombic or asymmetrically rhombic plate (fig. 4,11) from Orlykova Mohyla may have functioned as a frontlet. In ordinary rhombic cheek plates of the Scythian period, the fastening loop is usually transverse and broader [Mogilov 2008, fig. 90, 21-64; 91, 1-3]. It is therefore possible that this object represents an analogue of asymmetrical rhombic frontlets dating to the Middle Scythian period [Mogilov 2008, 59-60, fig. 114, 8, 10, 12].

A massive gold frontlet in the form of a fish, with the edges bent backward and perforations for fastening (fig. 3,16), is known from Inhulo-Kamianka. Bronze bridle plates shaped as fish are attested in mounds of the 5th century BC; however, they are generally small in size. Examples include barrows 22 at Pereshchepyne [Murzin *et al.* 2002, fig. 49, 1], 4 near Reliivka (Slavne) [Koltukhov 2012, fig. 60, 12; 61, 2], and a find from the Kaniv district [Mogilov 2008, fig. 99, 22]. Closely comparable to the Inhulo-Kamianka specimen is a gold frontlet from the Hermitage collection, whose exact provenance is unknown [Veselovskii 1913, 100, tab. III, 14, 15]. Judging by the presence of ear-shaped cheek plates in the assemblage, this set likely originates from one of the Northern Black Sea region mound. Large precious-metal frontlets in the form of paired fish, also featuring a row of scales along the centre of the body, are known from horse burials in the main tomb of Soloha [Mantsevich 1987, cat. 13; 16]. This complex is currently dated either to the final decades of the 5th century BC [Alekseev 2003, 260-261] or to the turn of the 5th-4th centuries BC [Polin 2014, 244]. The frontlet from the mound near Vovkivtsi differs in that its entire surface is covered with scales [Drevnosti Pridneprov'ia 1899, tab. XXIII]. A similar design is observed on artifacts from Kukova Mogila in Bulgaria [Filov 1927, 33-34, fig. 14]. The object from the Illintsi barrow is distinguished by a high degree of stylisation [Farkovskii 1911, 54, tab. III]. The cheek plates from Haymanova Mohyla are likewise characterised by a transformed rendering of the image [Bidzilia, Polin 2012, fig. 209, 2, 3].

The **buckles** were made of bronze or iron.

Massive bronze ring-shaped buckles with protrusions around the perimeter, known from the Mykolaiv mound [Nikitin, Chernenko 1967, 110; Grebennikov 1987, 157; 2008, 87], date to the 4th century BC. In the region under consideration, a pair of similar items is known from barrow 9 near Pisky [Grebennikov 1987, fig. 4, 1]. However, judging by the archaeological context, these objects most likely originated from a sword belt or waist belt rather than from horse equipment. In burial 5 of mound 13 near Zolota Balka, a comparable object was interpreted as a bracelet [Polin 2013, 72, fig. 39, 4]. Nevertheless, it was found separately from the child's skeleton and could equally have formed part of a belt-fastening system. In the Right-Bank Forest-Steppe, paired analogies are known from barrow 9 near Prusy [Drevnosti Pridneprov'ia 1899, tab. XX, 323]. Such items were widespread during the 4th century BC.

Iron oval buckles with a lateral protrusion and an additional fastening element are well attested in both Forest-Steppe and Steppe Scythia [Mogilov 2008, 63, fig. 121, 1; 122, 1-8]. Analogous finds are known from mound 5 at Osniaky, necropolis B near Bilsk, as well as from the settlement of the same name in the Povorskia region [Shramko 1987, fig. 71, 16; Suprunenko 2006, fig. 6, 11], and from the Basivska citadel in the Sula river basin [Il'inskaia 1965, fig. 20, 5]. On the Middle Don, such buckles were recovered from barrows 19 near Ruskaya Trostianka and 20 near Durovka [Puzikova 2001, fig. 36, 8; 57, 5]. On the right bank of the Middle Dnipro, they are known from the Skifska Mohyla [Skoryi, Khokhorovski 2008, fig. 4, 4], while in the steppe zone they occur in the Strashna Mohyla mound [Terenozhkin *et al.* 1973, fig. 18, 1]. Most examples date to the 4th century BC; however, a find from the Skifska Mohyla indicates that this type was already in use in the second half of the 5th century BC.

Iron ring buckles (fig. 3,10-11) represent one of the most common types and occur throughout the entire Scythian period [Mogilov 2008, 62]. Analogies are known from the Dnipro Right-Bank region [Petrenko 1967, tab. 27, 52, 59], the Left-Bank Forest-Steppe region [Il'inskaia 1968, tab. LXVI, 15], the Middle Don region [Puzikova 2001, fig. 11, 2], and Steppe Scythia [Il'inskaia 1973, fig. 7, 8-11].

An iron rectangular buckle with a mushroom-shaped fastener, discovered in a barrow near Oleksandrivka [Grebennikov 2008, fig. 31, 7], has close analogies dated to the 4th century BC [Mogilov 2008, 62]. Such buckles are known from the Forest-Steppe of the Dnipro Right Bank [Petrenko 1967, tab. 25, 5], the Left-Bank region [Murzin *et al.* 1999, fig. 6, 2], and the Black Sea steppe zone [Mozolevskii, Polin 2005, fig. 21, 2].

Iron buckles with a protruding fastener (fig. 4,22), which may be mushroom-shaped or Γ-shaped, also find close parallels in mounds dating to the second half of the 5th-4th centuries BC [Mogilov 2008, 62]. They are documented in the Middle Don region [Puzikova 2001, fig. 18, 10], the Dnipro area [Mogilov 2008, 62], and in Steppe Scythia [Terenozhkin, Mozolevskii 1988, fig. 152, 10].

It is likely that an elongated bronze clip from Inhulo-Kamianka also functioned as a buckle.

Tubes (vorvorkas).

Bronze hexagonal conical tube from Inhulo-Kamianka is known from contexts dated to the second half of the 5th-4th centuries BC [Mogilov 2008, 78]. Analogous finds originate from various regions of the Northern Black Sea coast [Pokrovskaya 1970, fig. 1, 11; Il'inskaia 1973, fig. 8, 2].

Bronze concave-conical tubes (fig. 4,26-28) originate from Orlykova Mohyla and Nedayvoda. They belong to one of the most widespread types in southern Eastern Europe. The vast majority of such items date to the Middle Scythian period, with only a limited number of examples known from the 4th century BC [Mogilov 2008, 74-75].

The **pendants** used in horse harnesses could serve both decorative and functional purposes, being positioned at the intersections of the straps.

Bronze lock pendants from Orlykova Mohyla and Inhulo-Kamianka (fig. 4,31-37) are characteristic artifacts of the Middle Scythian period [Mogilov 2016, 74-77].

A zoomorphically ornamented pendant made from a boar's fang was discovered in the Mederove barrow (fig. 4,29). Within the region under study, pendants made of boar tusks (fig. 4,30) were also found in mound 9 near Pisky [Grebennikov 1987, fig. 3, 4]. In this case, however, they were most likely elements of a sword belt or waist belt rather than of horse harness. Similar items have parallels in the material culture of Forest-Steppe Scythia [Il'inskaia 1975, tab. IV, 6; Iakovenko 1969, fig. 1, 3].

Nahrapnyks dating to the 5th and 4th centuries BC are known from Orlykova Mohyla and Mykolaiv, respectively. From the earlier object, only the base with a circular perforation has been preserved (fig. 4,38). The broken relief head of a deer (fig. 4,39) from this complex was interpreted by the excavators as an element of a cheek-piece [Skoryi *et al.* 2022, 39]. However, given that the edges of most zoomorphic cheek-pieces from the Northern Black Sea region are rendered in a flattened manner (for exceptions, see: Kulatova, Suprunenko 2010, fig. 71; Bidzilia, Polin 2012, fig. 74, 1; Skoryi, Zimovets 2014, 68-69), an alternative interpretation cannot be excluded. Relief representations of does, deer, and elk are common among nahrapnyks [Mogilov 2008, fig. 164, 17, 19; 165, 1-11], suggesting that the find may instead have functioned as a decorative element of a nahrapnyk. The very thin broken edge does not contradict this hypothesis, as similar features are occasionally observed on nahrapnyks.

Bronze nahrapnyks decorated with a relief deer head are known from mound 2 in the Stai-kyn Verkh tract near Aksutyntsi [Il'inskaia 1968,

tab. V, 8] and from a barrow near Omelnyk [Bokii 1971, fig. 11]. These finds date to the Middle Scythian period [Mogilov 2008, 89].

Among the items associated with horse control, which also functioned as attributes of mounted warriors, is a **whip** from the elite mound 9 near Pisky (fig. 3,17). Its handle is wrapped with a silver spiral, while the lower end is covered with a shaped silver overlay. Scythian whips were often decorated with twisted metal strips, though these were usually broader than in the present case [Mogilov 2008, 93, fig. 180, 1-8]. Whips began to appear already in the Early Scythian period [Galanina 1997, cat. 125], while the majority of known examples date to the 4th century BC [Il'inskaia 1968, tab. XXII, 10; Mozolevs'kii 1979, fig. 52, 3]. A grooved metal edging on the handle is attested on a whip from a barrow near Kupievakha [Boiko, Berestnev 2001, fig. 9, 10].

The high frequency of horse burials and bridle equipment along the Inhul and Inhulets rivers during the Scythian period clearly reflects the advanced development of equestrian culture in this region.

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The Final Series of Cast Coins and the Transition to Struck Coinage in Olbia

Key words: Olbia, cast coinage, struck coinage, dichalkon, Black Sea region, numismatics, coin hoards, monetary circulation, Greek colonies, 5th-4th century BC.

Cuvinte-cheie: Olbia, monede turnate, monede bătute, dichalkon, regiunea Mării Negre, numismatică, tezaure monetare, circulație monetară, colonii grecești, secolele V-IV a.Chr.

Vasyl Orlyk, Evgeniy Kolesnichenko

The final series of cast coins and the transition to struck coinage in Olbia

The article examines the final stage of cast coin production in Olbia and the transition to struck coinage in the late 5th to the first half of the 4th century BC. Based on a comprehensive analysis of numismatic material and its correlation with archaeological data, the authors reconstruct the sequence of emissions of large cast denominations (A and B) and fractional denominations (C, D, E), including both cast and struck issues. Particular attention is paid to denomination C (dichalkon?), which plays a key role in understanding the technological transition from casting to striking. The study identifies 66 varieties of coins of this denomination and analyzes their control marks, iconography, and typology. Special significance is attributed to a coin hoard discovered in the Mykolaiv region around 2011, which contained nearly 2,000 coins and provides direct evidence for the simultaneous circulation of cast and struck coinage in Olbia. The composition of the hoard refutes the hypothesis of a return to casting after the introduction of struck coinage and instead demonstrates a gradual technological transition. The authors argue that the production of cast coins of large denominations continued alongside the emergence of struck fractional coinage, and that the complete transition to striking occurred no later than the mid-4th century BC.

Vasyl Orlyk, Evgeniy Kolesnichenko

Seria finală a monedelor turnate și tranziția către monetăria bătută în Olbia

Articolul examinează etapa finală a producției de monede turnate în Olbia și tranziția către monetele emise la sfârșitul secolului al V-lea și în prima jumătate a secolului al IV-lea a.Chr. Pe baza unei analize cuprinzătoare a materialului numismatic și a corelării acestuia cu datele arheologice, autorii reconstruiesc succesiunea emisiunilor de monede turnate cu valori mari (A și B) și de fracțiuni (C, D, E), incluzând atât exemplare turnate, cât și bătute. O atenție deosebită este acordată nominalului C (dichalkon?), care joacă un rol esențial în înțelegerea tranziției tehnologice de la turnare la batere. Studiul identifică 66 de variante de monede ale acestui nominal și analizează semnele de control, iconografia și tipologia acestora. O importanță deosebită este acordată unui tezaur monetar descoperit în regiunea Mykolaiv în jurul anului 2011, care conținea aproape 2.000 de monede și oferă dovezi directe pentru circulația simultană a monedelor turnate și bătute în Olbia. Compoziția tezaurului respinge ipoteza unei reveniri la producția de monede turnate după introducerea monedelor bătute și demonstrează, în schimb, o tranziție tehnologică graduală. Autorii susțin că producția monedelor turnate cu valori mari a continuat concomitent cu apariția monedelor fracționare bătute, iar tranziția completă la batere a avut loc nu mai târziu de mijlocul secolului al IV-lea a.Chr.

Introduction

As is well known, the first coins appeared in the second half of the 7th century BC in the state of Lydia in western Asia Minor. They were produced from the natural alloy of gold and silver, electrum, and took the form of small metal ingots bearing a stamped image that certified their weight and guaranteed value [Van Alfen, Wartenberg 2020]. The earliest such coins are associated with the reign of the Lydian kings, in particular Alyattes II, while their further dissemination occurred during the time of the last king of Lydia, Croesus. From Lydia, the practice of coin minting

was rapidly adopted by the Greek poleis of Asia Minor, after which monetary circulation spread throughout the ancient world.

It should be noted that the earliest coins were struck from electrum and silver, deposits of which were accessible to the first emission centers of the Greek world. In the North-Western and Western Black Sea regions during the Archaic period, however, there were no local sources of these metals. Consequently, the earliest objects, the so-called "arrow coins" and "dolphin coins", which the overwhelming majority of scholars rightly regard as proto-coins, were produced from copper

alloys [Orlyk 2025]. It is important to emphasize that in the ancient world up to the 5th century BC, copper and its alloys were scarcely used for coin production, the only exception being the North-Western and Western Black Sea regions.

Cast coins were produced on Berezan Island and in Olbia, Histria, Kerkinitis, and Nikonion. Such coins circulated not only within the places of their manufacture or the chora of these cities, but also far beyond their boundaries [Orlyk, Kolesnichenko 2023].

The Ukrainian archaeologist Serhii Olhovskiy has convincingly demonstrated that, until the 5th century BC, prior to the beginning of the emission of epigraphic dolphins and large cast coins, metallurgical production in Olbia was to a considerable extent sustained by the activity of itinerant craftsmen originating from the barbarian milieu. [Ol'govskii 1999, 146]. Archaeological materials analyzed by this scholar, in particular the remains of furnaces within complexes containing metallurgical waste, provide compelling evidence for the existence of mobile or temporary production units. Within such workshops, the casting of anepigraphic dolphins was likely also carried out, possibly at the initiative of or under the supervision of the civic authorities.

Production did not exhibit a standardized character: technological approaches were determined by the individual experience of the craftsmen and by the traditions of the various metallurgical centers from which they originated. This was directly reflected in the typological heterogeneity of the products, the variability of alloy compositions, and the use of raw materials of diverse origin, which precludes the existence of a single, standardized production center at this stage. As S. Olhovskiy notes, "the stability of the metal of epigraphic dolphins and asses indicates that, beginning from the mid-5th century BC, the number of itinerant craftsmen decreased and indigenous Olbian casting began to emerge. Greek founders were already working in the workshops; consequently, their products display consistent forms and dimensions, and inscriptions in the Greek language appear, which would have been impossible when coins were cast by itinerant craftsmen. Stable sources of raw materials were evidently established, and thus the metal of the epigraphic dolphins belongs to a single chemical group. Al-

loy recipes likewise became stable, which now constitutes a characteristic feature of Olbian production" [Ol'govskii 1999, 146].

Around 480-470 BC, a new type of cast coinage appeared in Olbia. These were large, round cast coins which, in historiography, are conventionally, though inaccurately, referred to as "asses". Occasionally, researchers or catalogue compilers designate such coins as "tetraobols". Given that, at present, it is impossible to determine with certainty either the original designation of these coins or their denomination, the authors consider it appropriate to identify them provisionally as denomination A.

A stylistic analysis of these large cast coins of denomination A, conducted by the authors of this study, makes it possible to distinguish six subtypes. These coins were accompanied by a fractional denomination B, probably corresponding to an obol, whose weight amounted to approximately one quarter of the larger denomination A, ranging between 67 and 82 g, with a diameter of 45-50 mm. Coins of denomination A bear the legend ΕΠΙ ΠΑΥΣΑ, while coins of denomination B are known both with the same legend and in anepigraphic form. Together, these two denominations constitute the first series of cast round coins of Olbia.

The subsequent series likewise consisted of two denominations, here also designated as A and B, though these coins were lighter than those of the preceding series. In the authors' view, this emission should be dated to 470-460 BC. The higher denomination A (type three) had a weight range of 240-280 g and a diameter of 75-78 mm. The lower (fractional) denomination B (type four) weighed up to 80 g and had a diameter of approximately 50 mm.

This series was followed, in 460-450 BC, by another emission consisting of two denominations, A and B, but of significantly reduced weight. The higher denomination A (type five) was cast with a weight of 140-150 g and bore the legend ΠΑΥΣ. Coins of this series exhibit two variants, depending on whether the reverse depicts a wheel or a star. The lower denomination B (type six) had three variants: the first two analogous to those of the higher denomination, while the third featured an inverted letter "Υ". The seventh type, belonging to the higher denomination A, shows a further

reduction in weight, to 105-135 g, and is attributed by the authors to an emission of 450-440 BC.

Earlier, reference was made to changes in the chemical composition of epigraphic “dolphin coins” in comparison with anepigraphic examples, as investigated by S. Olhovskiy, who emphasized that a similar pattern may be observed in the metal of the large cast coins, which the scholar, albeit incorrectly, termed “asses”. These large cast coins were “produced from bronze with highly stable chemical and metallurgical characteristics. Certain deviations are observed only in the metal of the earliest types of asses. Thus, the metal of these coins allows one to trace the development of metalworking in Olbia, from irregular characteristics to stable ones” [Ol’govskii 1999, 146].

Accordingly, it may be argued that by the mid-5th century BC, a unified system of coin production had been established in Olbia.

An analysis of the numismatic material, combined with archaeological evidence, enables the authors to assert that the cast coins of the APIXO group, comprising five denominations (A, B, C, D, E), were produced in Olbia in the second half of the 5th century BC, specifically in the period 440-410 (possibly 440-400) BC.

The large denomination A (type one) is a cast round coin bearing on the obverse the head of a Gorgon and on the reverse an eagle standing on a dolphin. The denomination of this coin most likely corresponded to four obols (?). This type comprises nine varieties, differing in the number of curls in the Gorgon’s hair, as well as in the placement of the letter X or of all letters within the segmented composition of the reverse design. The weight of coins of this denomination ranges between 85 and 120 g.

The smaller denomination B (type two), in terms of weight, constitutes one quarter of the first denomination and most likely corresponds to an obol (?). Within this denomination, six varieties can be distinguished, exhibiting stylistic differences. The weight of these coins ranges from 25 to 28 g.

The next denomination is C, probably corresponding to a half-obol (?), which includes eight varieties. The same group of cast coinage also comprises two denominations of “dolphin coins”. The larger denomination D bears the inscription APIXO on its flat side. “Dolphin coins” of this

type weigh approximately 3-5 g and most likely correspond to the denomination of a dichalkon (?) or one-fifth of an obol (?). The smallest fractional denomination E of this series is represented by a “dolphin coin” with the inscription ΘY on its flat side.

Presentation of the Main Research Findings

At the end of the 5th century BC, specifically around 410 (400) BC, another transformation occurred in the coinage of Olbia, marked by a change in the iconography of the large cast coins. The coin types of denomination A featuring the head of a Gorgon on the obverse and an eagle on a dolphin on the reverse were replaced by a new type, depicting Demeter on the obverse and an eagle on a dolphin on the reverse (fig. 1).



Fig. 1. *Obverse*: Head of Demeter facing; *Reverse*: Eagle on a dolphin.

This series, like the preceding one, consisted of five denominations, which we designate as **A** (tetraobol?), **B** (obol?), **C** (dichalkon?), **D** (chalkous?), and **E** (hemichalkous?). In the authors’ view, this series was produced over an extended period, possibly until 370 (350?) BC, as evidenced by the considerable number of varieties attested for each coin type.

The authors’ study of the iconography of a substantial corpus of coins of denomination **A** has made it possible to distinguish fourteen varieties: (1) eagle to the left, **OΛBIH**; (2) eagle to the right, **OΛBIH**; (3) eagle to the left, **OΛBBIH**; (4) eagle to the left, with **A** below; (5) eagle to the left, with a symbol below; (6) eagle to the left, with **Γ** below; (7) eagle to the left, with **Δ** below; (8) eagle to the left, with a branch and **Δ** below; (9) eagle to the right, with a branch and **Δ** below; (10) eagle to the left, with **E** below; (11) eagle to the left, with an ear of grain below to the left; (12) eagle to the right,

with an ear of grain below to the left; (13) eagle to the right, **ΗΙΒΛ-Ο**, with an ear of grain below to the left and **Υ**; and (14) eagle to the right, **ΗΙΒΛΟ**, with an ear of grain below to the right and **Υ**.

Denomination **A** of this series had four fractional units, the largest of which was the cast coin of denomination **B**, bearing on the obverse the head of a Gorgon facing and on the reverse an eagle on a dolphin (fig. 2). Coins of this denomination weigh between 18 and 22 g and have a diameter of approximately 36-39 mm.



Fig. 2. Obverse: Head of a Gorgon facing; Reverse: Eagle on a dolphin to the left.

Our analysis of the iconography of the corpus of this type of denomination **B** coins has made it possible to distinguish fifteen varieties, which can be divided into three groups: the first group comprises eight varieties; the second, two varieties; and the third, five varieties.

Thus, the coins of the first group include cast specimens characterized by the following iconography of the reverse, namely an eagle on a dolphin, as well as by specific features of the legend (fig. 3).

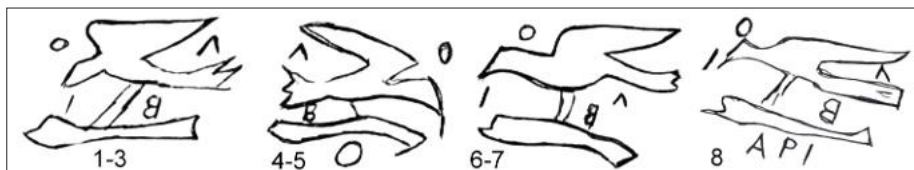


Fig. 3. Schematic representation of the reverse iconography of coins of the first group (author E. Kolesnichenko).

These coins also differ in the iconography of the Gorgoneion on the obverse, specifically in the depiction either without a protruding tongue or with a protruding tongue. In combination with the reverse types presented in fig. 3, the coins of this group comprise eight varieties: (1) Gorgon without tongue; (2) Gorgon with tongue; (3) O

beneath the dolphin, Gorgon without tongue; (4) Gorgon without tongue; (5) Gorgon with tongue; (6) Gorgon without tongue; (7) Gorgon with tongue; (8) Gorgon with tongue, with the control mark **API**.

It should be noted that the eighth variety identified in our study, in addition to the ethnic **OABI**, bears the control mark **API**. This coin type is known to researchers; however, due to its poor state of preservation and subsequent restoration (mechanical cleaning of the coin), the control mark was previously misidentified as **KPI** [Anokhin 2011, 42, no. 186].

As for the second group, we assign to it two varieties featuring on the obverse the head of a Gorgon with a protruding tongue and the following variants of the reverse (fig. 4).

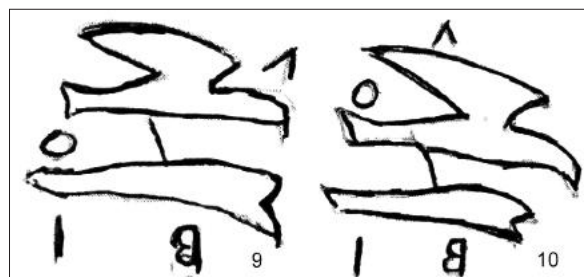


Fig. 4. Schematic representation of the reverse iconography of coins of the second group (author E. Kolesnichenko).

Coins of the third group all bear the depiction of the Gorgoneion with a protruding tongue and differ in the legends on the reverse, as clearly illustrated by the schematic representations of the reverses in fig. 5.

As for the lower denominations, the analysis of the corpus of specimens available to us allows for the identification of three

such denominations: **C** (dichalkon?), **D** (chalkous?), and **E** (hemichalkous?).

Particularly informative for understanding the transition from cast to struck coin production in Olbia is denomination **C**, since the earliest coins of this type were cast (fig. 6). However, most likely due to the technological inconveniences associated with the production of small cast coins, the Olbian mint was compelled to adopt coin production by striking.

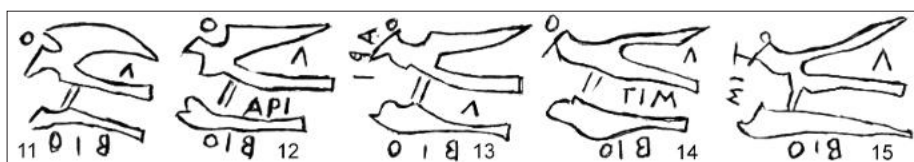


Fig. 5. Schematic representation of the reverse iconography of coins of the third group (author E. Kolesnichenko).



Fig. 6. Cast small denomination C (dichalkon?) of Olbia (not to scale).

Thereafter, casting was used exclusively for the production of coin blanks, which were subsequently transformed into coins through the process of manual striking. Technological changes in the production of the lower denominations, specifically denomination C (dichalkon?), gave rise to the phenomenon of the simultaneous manufacture of large cast coins of two denominations, most likely the tetraobol (?) and the obol (?), alongside struck coins of smaller denominations and their concurrent use in monetary circulation.

Evidence for the contemporaneous, not merely parallel but indeed simultaneous, circulation of cast and struck coins is provided by a coin hoard discovered in the Mykolaiv region around 2011. Information about this hoard, as well as several photographs of it (fig. 7) and of individual coins included in its composition, was obtained in 2013 by one of the authors of this article from a well-known, though unfortunately now deceased, collector from Mykolaiv.

The hoard comprised nearly 2,000 coins, including large cast coins with Demeter (denomination A), cast coins with the Gorgon (denomination B), as well as both cast and struck coins of denomination C represented by several dozen varieties. Notably, cast specimens of denomination C constituted nearly 10% of the total number of coins of this type.

The presence within the hoard of large cast denominations A and B provides decisive evidence against the hypothesis of a return to cast coin production following the introduction of struck fractional coinage.

At the same time, the coexistence of both cast and struck coins of denomination C points to a gradual transition from casting technology to striking.

It should be emphasized that the quality of manufacture of cast coins of denomination C was rather low: the majority of specimens exhibit technological defects inherent to this method of production. In particular, some examples display the defect of incomplete casting, manifested in the absence of part of the design or the coin edge due to an insufficient volume of molten metal. In the authors' view, it was precisely the technological difficulties associated with the production of small fractional denominations, particularly denomination C, that acted as a catalyst for the transition from casting, whereby molten metal was poured into molds and characteristic defects arose, to the striking of coins on cast blanks.



Fig. 7. Hoard of cast and struck coins of Olbia from the late 5th to the first half of the 4th century BC, discovered in the Mykolaiv region.

The authors' analysis of the iconography of Olbian cast and struck coins of denomination C (dichalkon?) within this series has made it possible to distinguish 66 types of such coins (Table 1).

The data presented in Table 1 indicate the existence of sixty-six varieties of coins of denomination C (dichalkon?), of which seven varieties

#	Control mark	Head of Demeter left	Head of Demeter right	Eagle left	Eagle right
1	Cast coin, without control mark		×		×
2	Struck coin, without control mark		×		×
3	As above	×			×
4	As above	×		×	
5	As above		×	×	
6	ΟΑΒ:ΙΟ	×		×	
7	ΟΙΒΛΟ		×		×
8	BA beneath the dolphin		×		×
9	EY beneath the dolphin		×		×
10	TI beneath the dolphin		×		×
11	APKA beneath the dolphin		×		×
12	APKA beneath the dolphin	×			×
13	ΑΡΙΣΤ beneath the dolphin	×			×
14	ΑΡΙΣΤ beneath the dolphin	×		×	
15	ΑΝΔΡ beneath the dolphin	×			×
16	ΚΑΛΛΙ beneath the dolphin	×			×
17	ΜΟΝΙ beneath the dolphin	×			×
18	ΜΟΝΙ beneath the dolphin	×		×	
19	ΞΕΝΟ beneath the dolphin	×			×
20	ΞΕΝΟ beneath the dolphin	×		×	
21	ΗΡΑΓΟΡΑΣ beneath the dolphin	×			×
22	ΗΡΑΓΟΡΑΣ beneath the dolphin	×		×	
23	ΙΤΟ beneath the dolphin	×			×
24	ΛΕΟΝΤ beneath the dolphin	×			×
25	ΚΡΙ beneath the dolphin	×			×
26	ΗΜ beneath the dolphin		×		×
27	ΗΜ between the tails of the eagle and the dolphin		×		×
28	ΟΞΟ between the tails of the eagle and the dolphin		×		×
29	ΞΘ between the tails of the eagle and the dolphin		×		×
30	ΟΞ – Θ between the eagle and the dolphin		×		×
31	ΟΞΘ beneath the dolphin		×		×
32	ΘΗ beneath the dolphin		×		×
33	ΩΘΗ beneath the dolphin		×		×
34	ΙΩΘΗ beneath the dolphin		×		×
35	ΥΞ beneath the dolphin		×		×
36	ΦΥΞ beneath the dolphin		×		×

37	ΦΥΕ Η beneath the dolphin		×		×
38	EYBIO beneath the dolphin		×		×
39	ΙΕΥΕ beneath the dolphin		×		×
40	ΥΕΙΕ beneath the dolphin		×		×
41	ΟΛΒΙΟ ΕΙ над орлом, ΥΕ beneath the dolphin		×		×
42	ΙΕ between the tails of the eagle and the dolphin, ΥΕ beneath the dolphin		×		×
43	ΥΕ between the tails of the eagle and the dolphin, ΙΕ beneath the dolphin		×		×
44	ΘΙΕ between the tails of the eagle and the dolphin, ΥΕ beneath the dolphin		×		×
45	ΥΙΕ beneath the dolphin		×		×
46	ΥΕ над хвостом орла, ΙΕ between the tails of the eagle and the dolphin		×		×
47	ΘΥΕ between the tails of the eagle and the dolphin		×		×
48	ΥΕ between the tails of the eagle and the dolphin, ΥΙΕ beneath the dolphin		×		×
49	ΙΕ between the tails of the eagle and the dolphin, ΥΡΕ beneath the dolphin		×		×
50	ΙΕ between the tails of the eagle and the dolphin, ΥΥΕ beneath the dolphin		×		×
51	ΔΙΟ beneath the dolphin		×		×
52	ΔΙΟ beneath the dolphin		×	×	
53	ΔΙΟΝ beneath the dolphin		×	×	
54	ΔΙΟ between the tails of the eagle and the dolphin		×	×	
55	ΑΘΗ beneath the dolphin		×	×	
56	ΑΘΗ between the tails of the eagle and the dolphin		×	×	
57	ΑΔΕΙ beneath the dolphin		×	×	
58	Α behind the eagle's head, ΔΕΙ beneath the dolphin		×	×	
59	ΟΛΒΙΟ inverted 180°		×	×	
60	ΑΠΙ beneath the dolphin		×	×	
61	ΕΥΠΡ beneath the dolphin		×	×	
62	ΕΥΠΡ beneath the dolphin, ΟΙΒΛΟ		×	×	
63	ΙΕΞΟΠ beneath the dolphin		×		×
64	ΠΟΣΕΙ beneath the dolphin, ΟΙΒΛΟ		×	×	
65	ΠΟΣΕΙ beneath the dolphin, ΟΛΒΙΟ		×	×	
66	ΑΡΤΕ beneath the dolphin				

Table 1. Types of coins of denomination C (dichalkon?) of Olbia

lack control marks, while the remaining fifty-nine varieties bear at least twenty-eight different names, assuming that the control marks $\Theta\Theta$, $\Theta\Phi$, ΨH , $\Omega\Psi\text{H}$, $\text{I}\Omega\Psi\text{H}$; $\Upsilon\Xi$, $\Phi\Upsilon\Xi$; EYBIO ; $\text{I}\Xi\Upsilon\Xi$, $\Upsilon\Xi\text{I}\Xi$, $\Upsilon\Xi$, $\Psi\text{I}\Xi$, $\Theta\Upsilon\Xi$; ΔIO , ΔION belong to only five individuals.

The absence of these names in the eponymous calendar of Olbia for the first half of the 4th century BC may suggest that they belonged to individuals who did not hold magistracies but were nevertheless involved in coin production, or in whose name these coins were struck. The right to mint may have been granted on a tax-farming basis, which precludes a reliable prosopographical analysis. All this contradicts the thesis that these coins were struck by magistrates holding office for a single year.

Incidentally, a similar situation is observed in the later emissions of Olbian coins known as the “Borysthenes,” on which more than one hundred control marks have been recorded, while according to archaeological data they could have been issued over no more than 70–80 years.

Coins of denomination **B** with the control mark **TIM** (third group) are associated with coins of denomination **C** bearing the control mark **TI**, while coins of denomination **B** with the control mark **API** (second and third groups) are linked to coins of denomination **C** with the control mark **APIΣ**.

In addition, coins bearing the control mark **APKA** serve as a unifying element for coins of denomination **C** (dichalkon?) in which a change in the orientation of the depiction of Demeter occurs: coins no. 11 feature a right-facing image, whereas no. 12 shows a left-facing one. Fig. 8 illustrates this shift in the iconography of denomination **C** (dichalkon?) coins.

Among the types of coins of denomination **C** (dichalkon?) identified by us are specimens that scholars have attributed both to coins issued in the first third of the 4th century BC [Nechitailo 2000, 24; Anokhin 2011, 42] and to a later emission, in particular to the so-called obol series [Turovskii, Dem’ianchuk 2000; Nikolaev 2023; Nikolaev 2025].

The introduction into scholarly circulation of a cast coin of denomination **C** (dichalkon?) within the context of the 2011 hoard significantly alters our understanding of the transition from cast to struck coinage in Olbia. The 2011 coin

hoard from the Mykolaiv region, where the remains of Olbia and its chora are located, provides a “snapshot” of monetary circulation in the first half of the 4th century BC and demonstrates the simultaneous use in Olbia of large cast coins of denominations **A** (tetraobol?) and **B** (obol?), together with both cast and struck coins of denomination **C** (dichalkon?), which functioned as their fractional unit.

The absence in the hoard of certain varieties of coins of denomination **C** (dichalkon?), in particular those bearing the name **APTE**, suggests that the hoard was deposited prior to the completion of the simultaneous issue of cast and struck coins and, accordingly, before the transition to the exclusive production of Olbian coinage by striking, as was the case with the so-called obol series.

Associated with coins of denomination **C** (dichalkon?) are the smaller fractional denominations **D** (chalkous?) and **E** (hemichalkous?) of this series.

The authors’ study of denomination **D** (chalkous?) shows that all coins share a common obverse type depicting Demeter facing right, while the reverse, bearing the legend **OABIO** together with a dolphin and an ear of grain, allows for the identification of five varieties. Specifically: (1) dolphin to the right, ear of grain below also to the right; (2) dolphin to the right, ear of grain to the left; (3) dolphin to the left, ear of grain to the left; (4) dolphin to the right, ear of grain to the left, with the letter **I** omitted from the legend; (5) dolphin to the left, ear of grain to the right.

As for the smallest denomination **E** (hemichalkous?) of this series, four varieties may be distinguished: (1) **OABI**, dolphin to the right, ear of grain to the right; (2) **OABIH**, dolphin to the right, ear of grain to the right; (3) **OABI**, dolphin to the left, ear of grain to the left; (4) **OABI**, dolphin to the right, ear of grain to the left.

It should be emphasized that the coins of the small denominations in the series under study were struck on flans that differ significantly from those of the so-called “obol series” and could not have been produced contemporaneously with them.

Conclusions

The study conducted by the authors makes it possible to formulate a number of conclusions that substantially revise established views on the

coinage of Olbia in the late 5th to the first third (first half?) of the 4th century BC.

First, there was no return to the production of coins by casting after the appearance of the first struck coinage. Cast coins of the larger denominations **A** (tetraobol?) and **B** (obol?), as well as the smaller denomination **C** (dichalkon?), were produced chronologically after the completion of the emission of the cast coins of the preceding series, namely the coin types of the **APIXO** group.

Second, the study of Olbian cast and struck coins of denomination **C** (dichalkon?), together with their presence in the 2011 hoard alongside large cast coins of denominations **A** and **B**, dem-

onstrates the simultaneous circulation in Olbia of cast coins of denominations **A** (tetraobol?) and **B** (obol?), cast coins of denomination **C** (dichalkon?), and struck coins of denominations **C** (dichalkon?), **D** (chalkous?), and **E** (hemichalkous?).

This coinage series, comprising large cast coins alongside smaller (fractional) cast and struck denominations, was subsequently replaced by the so-called "obol series". In the monetary history of Olbia, no later than the mid-4th century BC, a complete transition took place from the production of coins by casting to their manufacture by striking.

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A new Control Weight from Olbia Pontika

Key words: Olbia, Ancient Greece, Rome, agoranomoi, control weight, weight systems, mina, libra.

Cuvinte cheie: Olbia, Grecia antică, Roma, agoranomi, greutate etalon, sisteme de greutate, mină, libră.

Mykola Nikolaev

A new Control Weight from Olbia Pontika

A lead control or official weight from Olbia bearing a caduceus and a dolphin, weighs 868 g (with losses estimated at c. 15-25 g). This object is of major importance for Olbian metrology at the turn of the 2nd-3rd centuries AD. It combines integral values of the principal units of two weight standards (*sic*): two minas of the Euboic-Attic system (mina = 425-437 g) correspond to three librae (36 unciae) of the light Roman standard (libra = 270-290 g = 12 unciae). The legend displays orthographic features characteristic of the 2nd-3rd centuries AD in the personal name: ἀγορα/νόμοι οἱ περὶ Εἰκαδ(ι)ω/ν· Ἴτα(λική?) – “the agoranomoi under the leadership of Eikadios/Ekaddinos(?). Italian (weight)”. The ethnic attribution of the agoranomos is ambiguous: the name may be Greek (Εἰκάδιος) or barbarian (possibly Sarmatian) Εκαδδίνος. Evidently the same individual is mentioned as the patronymic of an archon in the inscriptions IOSPE 46 and IOlb 52. A palaeographic peculiarity is the form of *omega* as a semicircle with a radial hasta, recorded in Olbia for the first time. The weight can be dated *terminus post quem* to the turn of the 2nd-3rd centuries AD.

Mykola Nikolaev

O nouă greutate etalon din Olbia Pontică

Un etalon de plumb sau o greutate oficială provenind din Olbia, pe care sunt reprezentate un caduceu și un delfin, cântărește 868 g (cu pierderi estimate la cca. 15-25 g). Descoperirea acestei piese are o importanță majoră pentru metrologia din Olbia la cumpăna dintre secolele al II-lea și al III-lea d.Chr. Acesta combină valorile integrale ale unităților principale ale două standarde de greutate (*sic*): două mine din sistemul euboico-atic (mina = 425-437 g) corespund la trei librae (36 unciae) din standardul roman ușor (libra = 270-290 g = 12 unciae). Legenda prezintă trăsături ortografice caracteristice secolelor II-III d.Chr. în numele propriu: ἀγορα/νόμοι οἱ περὶ Εἰκαδ(ι)ω/ν· Ἴτα(λική?) – „agoranomoi sub conducerea lui Eikadios/Ekaddinos(?). Italian (greutate)”. Atribuirea etnică a agoranomului este ambiguă: numele poate fi grecesc (Εἰκάδιος) sau din mediul „barbar” (posibil sarmatic) Εκαδδίνος. Evident, aceeași persoană este menționată ca patronimic al unui arhon în inscripțiile IOSPE 46 și IOlb 52. O particularitate paleografică este forma literei *omega* ca semicerc cu o hasta radială, înregistrată pentru prima dată în Olbia. Greutatea poate fi datată *terminus post quem* la cumpăna dintre secolele II și III d.Chr.

Introduction

Control or official (inscribed) weights constitute an important component of the material culture of the ancient world. Such weights served as standards of reference, that is, as the weight norms of antiquity. Accordingly, unlike the bulk of commercial weights, the manufacture, verification, and storage of official weights were entrusted to a special board of agoranomoi (metronomoi). As a rule, in addition to information on the weight standards in use, official weights bear inscriptions recording the composition of the board of agoranomoi and the prosopography of these magistrates [Chaniotis 2026; Chuistova 1962, 59-60]. Scholars have long been studying the official (inscribed) weights of the most important ancient polis of the Northern

Black Sea region, Olbia Pontica [Krapivina 1980; 2004]. The greatest contribution to the study of these artefacts was made by the outstanding scholar V.V. Krapivina. To date, the official weights of Olbia from the Classical and Hellenistic periods are widely known. The weights bear the names of the agoranomoi¹ Kritoboulos (ΟΛΒΙΟ\ΚΡΙΤΟΒΟΥ), Aristo(...) (ΟΛΒΙΟ\ΑΡΙΣΤΟ(ΕΥ)), Apollonios and Demokon (ΟΛΒΙΟ\ΑΠΟΛΛΩΝΙΟ Δ\ΗΜΟΚΩ), as well as Philon (ΟΛΒΙΟ\ΦΙΛΩ), Dionysios (ΟΛΒΙΟ\ΔΙΟΝΥ), Charinau(t)os (ΟΛΒΙΟ\ΧΑΡΙΝΑΥ), and unidentified agoranomoi (ΟΕΥΚΑΙ\ΟΥΣΚΑΕ[...]\ΑΝΑ[...])²

1. Information on Olbian metronomoi is lacking.

2. For a proposed interpretation of the names of the agoranomoi, see [Nikolaev 2022].

[Krapivina 1980; 2004]. A much smaller number of published weights belongs to the Roman period (see below). At the same time, lots consisting of official weights from Olbia and/or its chora periodically appear on the domestic antiquities market. Such weights may represent either chance finds or the result of unauthorised searches using modern equipment. It is now generally accepted that artefacts deriving from looting or accidental discovery should not be ignored but must be studied and published. Unfortunately, information about the archaeological context of such weights is in most cases either lacking or unreliable. In recent years, a particular form of cooperation between collectors and scholars has also emerged: scholars provide expert consultation to collectors in exchange for information about the artefacts. For example, the author of the present article has repeatedly been approached by owners of private collections with requests to read and comment on inscriptions on ancient objects, in particular on official weights. As a rule, collectors supply photographs of the weights and data on their mass and dimensions. In this way, over a certain period the author has assembled a virtual collection of official weights (photographs and descriptions), part of which has already been published [Nikolaev 2022]. Thus, in addition to the well-known examples of agoranomic weights, new specimens have been introduced into scholarly circulation, including weights of the agoranomos Apaturios (ΑΠΑΤΟΥ)³ and a variant of the weight of Kritoboulos (ΟΛΒΙΟ\ΚΡΙ)⁴. In addition to the well-known official weight (ΟΛΒΙΟ\ΑΠΟΛΛ\ΩΝΙΟ Δ\ΗΜΟΚΩ), a weight of Demokon (ΔΗΜΟΚΩ)⁵ has been published, and probably also that of his brother Gorgias (ΟΛΒΙΟ\ΓΟΡΓΗ)⁶. *A weight bearing the name of the agoranomos*

Aristoxenos (ΑΡΙΣΤΟΞ) was found. A distinctive feature of recent studies of the official weights of Olbia Pontika is their integrated analysis together with agoranomic stamps on measuring vessels and abbreviations of the names of coin magistrates [Nikolaev 2024a]. *The chronological framework of such research is provided by the synchronised eponymic catalogue of Olbia, IOSPE 201* [Nikolaev 2024b; 2024c]. This approach raises the interpretation and dating of official weights to a new prosopographical (historical) level [Nikolaev 2024a; 2024b; 2024c]. In the present case, use is made of the well-known ancient practice whereby the holding of a magistracy (agoranomos, strategos, archon, coin magistrate, etc.) was chronologically close to the holding of the eponymous office.

Exposition of the main research material

The majority of previously published weights date to the Classical and Hellenistic periods. At the same time, the virtual collection of Olbian official weights continues to grow, and their chronological range is being extended. The aim of the present article is to publish a large-size official weight of the Roman period. In continuation of my previous studies, primary attention is paid to the palaeographic and prosopographical (historical) interpretation of the inscriptions on weights⁷.

The large lead weight, weighing 868 g, originates from Olbia Pontika (fig. 1). According to its owner, it comes from an old collection. It is published here for the first time. No further contextual information concerning the provenance of the artefact is available.

The state of preservation of the weight is very good. Only the upper part of the left side shows a local flaking of the metal (fig. 2b); this damage has slightly affected the frame on the upper surface and part of the relief image of the dolphin. The possible loss⁸ of weight is estimated at 15–25 g. The weight has a very rare trapezoidal shape [Chustova 1962, 14, 16]: height 10.0 cm; larger base 7.5 cm; smaller base 4.5 cm; thickness c. 1.4 cm. Such dimensions theoretically imply a weight

3. The weight bearing the legend ([ἀγορανόμου] Ἀπατου[ρίου]) supplements the corpus of measuring vessels with the same legend. The measuring vessels marked ΑΠΑΤΟΥ were published by T.N. Knipovich. [Nikolaev 2022; Orlyk 2024, 27 (ΑΠΑΤ); Glebov 2025].

4. The weight with the legend ([ἀγορανόμου] Κρι[τοβούλου]) coincides with the coin legend ΚΡΙ on the first series of minted copper coins of subgroup Ir(Mo), which dates back to 345–337 BC. Moreover, the agoranom and coin magistrate Kritoboulos is probably mentioned in the magical inscription SEG 50:702, IV (circa 352–347 BC) [Nikolaev 2023b, 164].

5. Δημοκῶν Εὐβιότου, Olbian eponym of 349 BC. Mentioned, probably, in a magical inscription IGDIb 106 [Nikolaev, Piunov 2025; Nikolaev 2025].

6. Γοργίας Εὐβιότου, eponym of 334 BC [Nikolaev 2022].

7. Unfortunately, in violation of the main rule of epigraphy, visual inspection of weights is usually not available.

8. Obviously, it is promising to use the technique of V.M. Orlyk and O.D. Shvets for calculating the exact value of the lost weight of the kettlebell. However, this requires de visu of the artifact [Shvets' 2025; Glebov 2025].



Fig. 1. Control weight from Olbia.

of about 950 g. However, its actual mass is 868 g. First, traces of metal removal for fine adjustment of the weight (fig. 2a) reduce the theoretical value; these were observed on the lower vertical face. Secondly, the presence of a frame on the obverse increases the height and thus affects the calculation of volume. Thirdly, the reverse is not flat but contains a funnel-shaped depression caused by the solidification of lead during manufacture (casting in an open mould). Incidentally, a small circular protuberance (diameter c. 5 mm) is preserved on the reverse (upper right): this marks the point where the molten metal was poured into the open mould (fig. 2c). Fourthly, some reduction in weight is also due to local flaking of the metal. Thus, the original weight must have been slightly higher than 868 g. Taking into account the losses from metal flaking (fig. 2a), the initial mass may be estimated at approximately 880-890 g. In the ancient world, a considerable number of official and commercial weights of comparable mass are known⁹. Traditionally, they are identified as two

minas of the Euboic-Attic system [Chuistova 1962, 154]. This weight system originated in the 7th-6th centuries BC and remained in use in the ancient world, including the Northern Black Sea region, until the 1st-2nd centuries AD. Weights of similar mass are known both in the Northern Black Sea area and in Olbia Pontica. In the Euboic-Attic system, one mina corresponded to 425-436 g [Chuistova 1962; Krapivina 1980]. Accordingly, an analysis of the metrological characteristics allows the hypothesis that *the weight under publication corresponds to two minas of the Euboic-Attic system*. However, the object also bears inscriptions; further study of these inscriptions makes it possible to advance a hypothesis that the weight simultaneously belonged to another weight system as well (see below).

The obverse of the weight bears relief images and inscriptions. Both the images and the inscriptions are enclosed within a frame 1.5-2 mm high. In the centre of the upper part of the obverse is a vertically oriented staff of Hermes – the caduceus. The depiction of the caduceus is known on weights [Chuistova 1962, 71; Pondera]. To the left of the caduceus is a relief image of a dolphin, shown head downwards. The dolphin image is slightly damaged (fig. 1).

The publication of this inscribed official weight aims to examine not only its metrological characteristics but also the palaeographic features of the inscription. Beneath the caduceus there is an inscription arranged in five lines. The height of the letters ranges from 11 to 6 mm. The inscription contains thirteen letters of the Ancient Greek alphabet. Its palaeography is characterised by a mixture of angular and cursive scripts. The text begins with a large *alpha* (with a broken crossbar). *Alpha* occurs three more times in the inscription, but in these cases its size is approximately half as large. A characteristic feature of lead as a casting material is a certain loss of sharpness in the lettering; consequently, it is impossible to determine whether the remaining *alphas* had horizontal or broken crossbars. The letters *mu* and *nu* are executed with vertical strokes; the size of *omicron* is comparable to that of the other letters. *Rho* has a slightly increased height. *Epsilon* is rendered with equal horizontal strokes. *Delta* is distinguished by its small height and broad base. The unique feature of the inscription is the use of a peculiar cur-

9. For example, see Pondera: An Online Database of Ancient and Byzantine Weights: <https://pondera.uclouvain.be/>

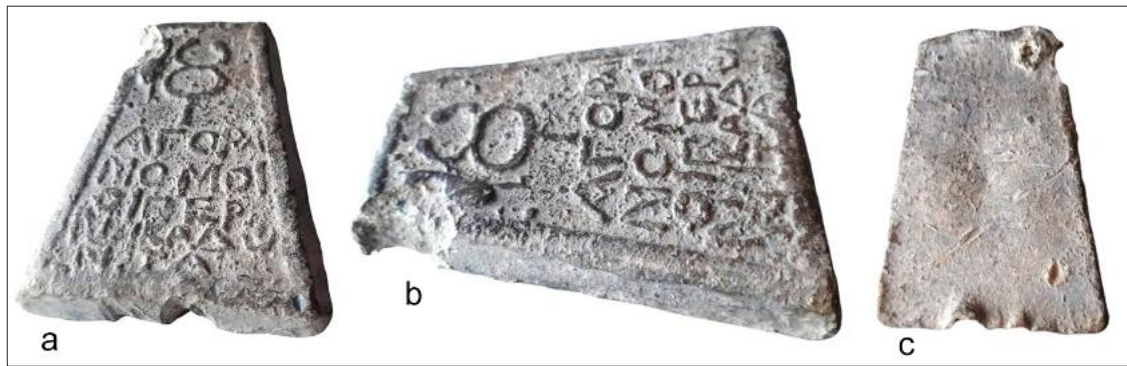


Fig. 2. Control weight from Olbia: a) metal trimming to adjust weight; b) localised metal loss; c) reverse side.

sive form of *omega*. This letter is executed as a semicircle with the convex side facing downwards; inside the semicircle there is a vertical radial line $\cup$. In the lapidary, magical, and ceramic epigraphy of Olbia, an *omega* of this form is attested here for the first time¹⁰. This fact is confirmed by the fundamental study of Olbian letter forms by T. N. Knipovich, in which such an *omega* is not represented [Knipovich 1966, 3-30]. At the same time, in the lapidary palaeography of the Bosphoran Kingdom of the 4th century AD, this form of *omega* is attested [Boltunova, Knipovich 1962, 11]. In Olbian numismatic epigraphy, from the reign of Septimius Severus (AD 193-211), two cursive forms of *omega* are recorded: the traditional (ω) and $\cup$ the variant described here [Anokhin 2011, nos. 555, 559]. In general, for the palaeographic dating of the inscription on the weight under publication, the principal diagnostic feature is precisely the use of this distinctive cursive form of *omega* $\cup$. This allows the inscription to be dated no earlier than the time of Septimius Severus: *terminus post quem* AD 190.

It should be noted that the publication of this inscribed weight coincides with the renewed debate on the period of use of cursive script in the Northern Black Sea region. A.P. Bekhter has proposed a hypothesis that cursive script was already in use from the first centuries AD, in particular on the Bosphorus and in Olbia Pontica [Bekhter 2025]. Undoubtedly, the high scholarly authority of A.P. Bekhter and the arguments she advances require the closest scrutiny of these new hypoth-

eses. As far as Olbia is concerned, some support for A.P. Bekhter's hypothesis may be provided by the absence of cursive script in Olbian numismatic epigraphy of the Late Hellenistic period [Nikolaev 2023c]. At the same time, the hypothesis of P.O. Karyshkovskii concerning the parallel development of lapidary and numismatic epigraphy in Olbia has recently been refuted [Nikolaev 2023c]. The ceramic epigraphy of Late Hellenistic Olbia likewise offers an excellent example of graffiti executed in cursive script (SEG 45:1005). I do not accept Bekhter's hypothesis that the catalogue IOSPE 201, written in a developed cursive script, could have been produced in the first centuries AD. In the lapidary epigraphy of Olbia at the end of the 2nd and the beginning of the 1st century BC, there is evidence for a process initiated by Mithridates VI Eupator in preparation for the transition of Olbia to the Pontic era. It was precisely at this time (on the occasion of the 300th anniversary of the maintenance of the catalogue) that the need arose to produce the catalogue IOSPE 201 [Nikolaev 2024a; 2024b; 2024c]. The need to use this catalogue in the first centuries AD also appears improbable, since there is virtually no continuity between the Late Hellenistic and the Roman social history of Olbia. Further arguments likewise confirm the existence and development of cursive script in Late Hellenistic Olbia. In general, A.P. Bekhter's article timely raises an important problem concerning the chronology of cursive script in the Northern Black Sea region and will undoubtedly stimulate further discussion. At the same time, it cannot be excluded that the use of cursive script in Olbia and on the Bosphorus followed different regional chronologies. This problem, of course, requires further study.

10. The fact that the letters *omega* is located at the edges of the fourth line, i.e., with some claim to symmetry, allows us to put forward a cautious hypothesis: *the two letters omega are a symbolic designation of the weight of a two-mina weight*.

I now turn to the reading and interpretation of the legend on the weight:

ΑΓΟΡΑ	ἀγορα-
NOMOI	νόμοι
ΟΙΠΕΡ	οἱ περ-
ΙΩΙΚΑΔΩ	ἰὺ Ἰικάδ(ι)ω-
NITA	ν. Ἰτα(λική?)

Translation: “Agoranomoι under the leadership of Eikadios(?). Italian (weight).”

The legend on the weight is very close to the standard formula with which Olbian dedications of boards of agoranomoι begin, for example: “... οἱ περὶ Διογένη(ν) Μακεδόνο(ς) ἀγορανόμοι – the agoranomoι under the leadership of Diogenes, son of Makedon” (IOSPE 128), also “...οἱ περὶ Ποσειδῆν Ζήθου τὸ γ ἀγορανόμοι... – the agoranomoι under the leadership of Posideis, son of Zethos, for the third time” (IOSPE 129) or “...οἱ περὶ Διονύσιον Ἀλεξάνδρου ἀγορανόμοι... – the agoranomoι under the leadership of Dionysios, son of Alexandros” (IOlb 90). This pattern is stable: οἱ περὶ + Acc. (*personal name*) + Gen. (*patronymic*) + magistrates (ἀγορανόμοι). A closely related formula is used in the legend on the weight: ἀγορανόμοι οἱ περὶ + Acc. (*personal name*). The patronymic is absent in the legend of the weight.

First of all, the “low sharpness” of the text is striking. Thus, in the word ἀγοραμόμοι, *mu* appears instead of *nu*. This is neither a dialectal nor a chronological feature, but an obvious epigraphic orthographic error typical of Roman-period inscriptions: ἀγοραμόμοι → ἀγορανόμοι. The error was probably caused by the phonetic convergence of ν / μ and by the graphic non-differentiation of the letters. However, an alternative reading without an error is also possible: ἀγορανόμοι.

The inscription contains the name of the first agoranomos; as noted above, the name is given in the accusative: Ἰικάδ(ι)ων¹¹. The name is unique and displays certain peculiarities. At this stage, it is advisable to adopt an alternative hypothesis: the agoranomos bore the very rare name Eikadios¹² (accusative Eikadion). The name

Eikadios has not previously been attested either in Olbia or in the Northern Black Sea region. It is likewise very rare in the ancient world in general. The name is recorded in Attica (IG II² 8946; IG II² 2332; IG II² 10423), in Delphi (FD III 2:25), on Delos (ID 2619), and in Ionia and Caria (Miletos 118; Lededos 12), among others. Chronologically, the name is attested in the Hellenistic and Roman periods. The name Eikadios has a transparent Greek etymology and is connected with calendrical vocabulary. Its base is the noun εἰκάς, εἰκάδος, “the twentieth day of the month”. This day was of particular importance in the calendar cult of Apollo¹³.

I shall, however, return to the actual form of the name as it appears in the legend in the accusative: Ἰικάδ(ι)ων instead of the form I propose, Eikadion. As can be seen, the name shows the replacement of the initial *epsilon* by *omega*. In addition, the *iota* is omitted and the final *omicron* is replaced by *omega*¹⁴. These are neither dialectal nor chronological features. The specific spelling of the agoranomos’ name is connected with the ethnic composition of the Olbian elite in the first centuries AD and, most probably, with the use of perceptual phonetics in recording non-Greek names¹⁵ (see below).

According to prosopographical theory, *the higher the status of a historical figure within a civic community, the greater the number of personalised epigraphic monuments that he or she leaves behind* [Nikolaev 2025a]. In view of this principle, the search for other epigraphic monuments of Olbia Pontica that mention a historical person bearing the probable name Eikadios is of particular interest. The status of agoranomos confirms that Eikadios may also have held other offices. As already noted, this name is otherwise unattested in Olbia and in the Northern Black Sea region. At

11. The accusative form of this name also has an alternative variant: Νικάδων. However, I am much less inclined to favour this variant; the distance between the letters *nu* and *iota* in the fourth line is unrealistically large; the letter *omega* is clearly visible in the fourth line.

12. There are some well-known names with similar meanings, such as Οἰκιάδης, with the clear etymology “Domestic, Noble” (accusative – Οἰκιάδην). There is also the rare name Ωκιδίας, with the etymology “Swift” [LGPN].

13. In Greek mythology, Eikadios was a hero mentioned in the list of Arcadian kings. According to Lycian tradition, Eikadios was the son of Apollo and the founder of the city of Patara. In addition, Eikadios is said to have been the initiator of the cult of Apollo at Delphi.

14. The interchange of *omicron* and *omega*, and vice versa, is frequently attested in “popular” language.

15. A similar process is attested in Olbian numismatics of the 5th century BC and is connected with the appearance in coin legends of the sons of the Scythian king Ariapeithes: Orikos, Timnos, and Oktamasades [Piunov 2024; 2025; Nikolaev 2026; Orlyk 2024].

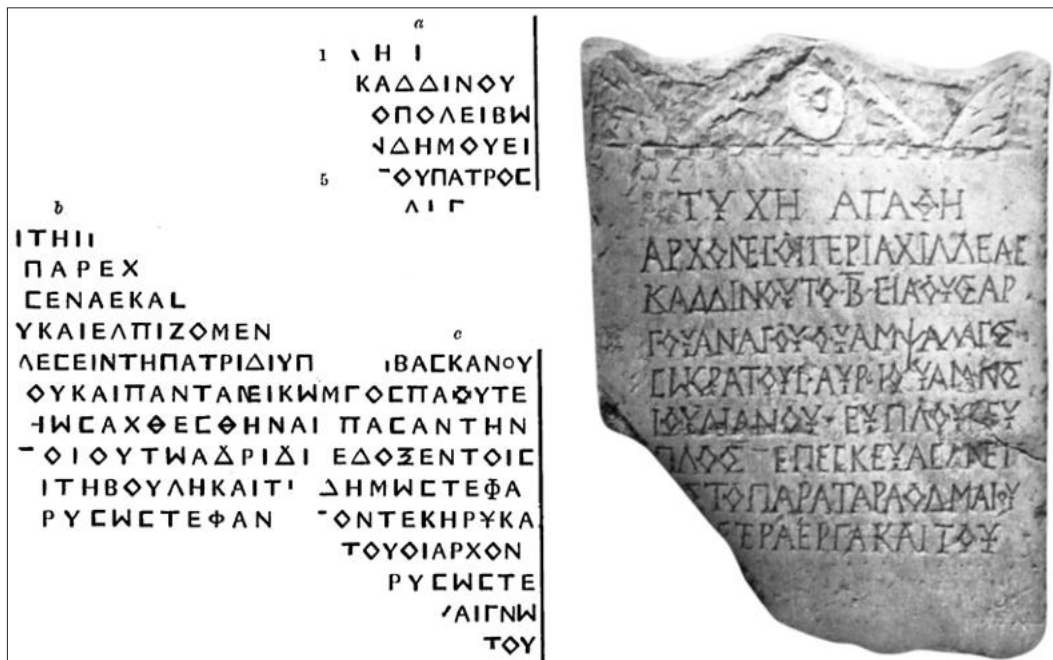


Fig. 3. Inscriptions from Olbia: *left*) decret IOSPE 46; *right*) dedication IOLb 58.

the same time, the historical situation in Olbia in the first centuries AD is highly specific. This refers above all to the peculiarities of the ethnic composition of the civic body, notably the presence of a large number of Iranian-language names among the elite. Therefore, a study of the lapidary corpus of the Roman period may make it possible to formulate a hypothesis concerning the identity of this agoranomos.

At present, the long-standing debate on the origin of the Olbian elite of the first centuries AD bearing Iranian-language names has not yet been concluded. Research on this topic is extensive. A substantial contribution to the study of the problem has been made by N.A. Gavriluk, A.I. Ivanchik, V.V. Krapivina, S.R. Tokhtasev, and others. In the last decade, scholars have definitively established the historical fact that the sudden appearance of Iranian-language names within the Olbian civic community coincides with the period of activity of the basileis Pharzoi and Inensimeus. This most probably indicates that, in the second half of the 1st century AD, a group of ethnic Sarmatians was incorporated into the citizen body of Olbia Pontica. The deviations from the norms of the Ancient Greek language that are widely attested in lapidary epigraphy in the rendering of barbarian names are connected with this process. Very often, different spellings of the same name occur,

even within a single document¹⁶. Under such conditions, determining the ethnic affiliation of the agoranomos who left his name in the legend on the official weight is particularly difficult.

An alternative hypothesis concerning the interpretation of the agoranomos' identity can be formulated on the basis of a study of the fragmentary decree IOSPE 46 and the fortification (?) inscription IOLb 52. When publishing the decree IOSPE 46 (fig. 3, *left*), V.V. Latyshev recorded in line 2 the patronymic of the first archon as Καδδίνου ([ἐπὶ ἀρχόντων τῶν περὶ τὸν δεῖνα] Καδδίνου). In his commentary, however, he noted that the stone-cutter had probably carved ΔΔ by mistake instead of ΛΛ, and that the patronymic should therefore be read not Καδδίνου but Καλλίνου¹⁷. A few years later, a fortification (?) inscription was published (subsequently IOLb 52): “ἀρχοντες οἱ περὶ Ἀχιλλέα (Ε) Καδδίνου τὸ β ... – the archons under the leadership of Achilles, son of Kaddin, for the second time ...” (fig. 3, *right*). The editors dated this inscription to AD 222-235, that is, to the reign of Alexander Severus. As P.O. Karyshkovskii observed, “at the end of the line an epsilon can be discerned;

16. For example, the dedication IOLb 90, dated to the late 1st-mid 2nd century AD: Ρευρομαρος Σειπελάγου = Ροιρομαρος Σιπελάγου.

17. Similarly, in line 6 V.V. Latyshev identified an error: ΠΑΣΥΤΕ was undoubtedly written instead of ΠΛΟΥΤΕ.

if this is not a fortuitous error, the name must be Ekaddin, i.e. “Ἀχιλλέα (Ε)καδδίνου τὸ β” [Karyshkovskii 1959, 129]. In the inscription *IOLb* 52, P.O. Karyshkovskii also noted the presence of ΔΔ instead of ΛΛ in the name of the archon. Accordingly, he corrected V.V. Latyshev’s interpretation and restored on the fragment of decree *IOSPE* 46 the name Kaddin (Ekaddin?). On the basis of the identity of other names and the coincidence of palaeography, the scholar accepted the synchronism of inscriptions *IOSPE* 46 and *IOLb* 52 within a span of several years [Karyshkovskii 1959, 129–130]. L. Zgusta (see *IOLb* 52) included the name Καδδινας in the group of Iranian names.

I return to the legend on the weight. A comparison between the name Εκαδδιν(ο)ν (in the accusative) in the inscriptions *IOSPE* 46 and *IOLb* 52 and the name on the weight Ὠικαδ(ι)ων (also in the accusative) suggests a fairly plausible hypothesis: the archon Ἀχιλλέας Εκαδδίνου (mentioned in decree *IOSPE* 46 and in the inscription *IOLb* 52 from the time of Alexander Severus) was probably the son of the agoranomos named in the published weight. However, my study of the control weight is not concerned with specialised problems of linguistics; at the present stage it is impossible to determine unequivocally the ethnic origin of the agoranomos¹⁸.

After the name of the agoranomos, the legend on the weight ends with the letters ITA. These letters are not connected with the patronymic of the agoranomos. The inscription ITA constitutes separate information, typical of Roman-period weights. Weights bearing the inscriptions ITA, ITAA, ITAAHKH are known [Chuiustova 1962, 86]. This is an abbreviated form of the word Ἰτα(λική)/Ἰταλ(ικός). Such abbreviations on weights are usually interpreted as “Italian (measure)” or “according to the Italic standard,” that is, according to the Roman weight system. In its full form, the inscription corresponds to: Ἰταλική (στάθμη/μνᾶ/λίτρα) – Italian (measure) or Ἰταλικός (στατήρ/σταθμός) – Italian (weight). For Olbia, the significance of this inscription lies in the fact that it probably records the use of the Roman weight system. However, the exact correspondence of the weight to two Greek minas (see above), in combination with the legend ITA, makes it possible to substantiate the following hypothesis: *the*

published weight simultaneously conforms to two standards – the Greek and the Roman.

L.I. Chuiustova reports that the Roman weight system became established in the Black Sea region as early as the 70s BC. Alongside weights of the Roman system, the old Greek weight norms continued in use in Black Sea cities during the first centuries AD. For example, the Attic mina weighed 425–437 g. The diversity of Greek weight systems was gradually replaced by the Roman system; the process of unification of weight standards in trade began [Chaniotis 2026; Chuiustova 1962, 87].

The standard Roman libra (327 g), in relation to the weight of 868 g, does not yield an integer number of librae (or unciae). However, finds of weights with a reduced standard are known (libra ≈ 252–327 g). In Olbia and in other cities, weights corresponding to a reduced Roman standard have been found repeatedly. For example, a weight discovered in Olbia in 1908 weighs 295 g, which corresponds to one libra of the reduced standard¹⁹. A large number of weights corresponding to the reduced uncia – about 25 g – are also known [Chuiustova 1962, 87; Pondera]. If one accepts a reduced libra of about 284 g, then the published weight contains exactly three librae (36 unciae)²⁰. Thus, the published weight confirms that in ancient practice not fractional, but whole nominal units were employed.

Conclusions

The published weight, weighing 868 g (original weight about 880–890 g), represents a standard weight simultaneously corresponding to two minas of the Euboean-Attic system and to three librae (36 unciae) of the Roman weight system²¹. The legend displays spelling features characteristic of the 2nd–3rd centuries AD: “ἀγορα/νόμοι οἱ περὶ Ὠικαδ(ι)ων· Ἰτα(λική?) – the agoranomoi headed by Eikadios/Ekaddin(?). Italian (weight)”.

19. The inscription on the weight reads: “Ἀγορανομούντος Ἀγαθοκλέους Β λειτρά – Agathokles, acting as agoranomos for the second time. Libra”. This agoranomos is evidently to be identified with the magistrate mentioned as chief strategos in the dedication *IOLb* 80: “[οἱ περὶ] Ἀγαθοκλῆν Δαδα/[γόν] στρατηγόν”, a dedication of the Olbian strategoi to Apollo Prostatas. The dedication is dated to approximately the middle of the 2nd century AD in Olbia Pontica.

20. The basis of the Roman weight standard from 252 to 327 g [Chuiustova 1962, 85].

21. $880/286=3,07$ (sic).

18. S.R. Tokhtasiev mentioned the existence of this problem.

The ethnic attribution of the agoranomos remains alternative: either the Greek *Εικάδιος* or a Sarmatian(?) *Εκαδδιος*. It is evident that the same individual is mentioned as the patronymic of an archon in the inscriptions *IOSPE* 46 and *IOlb* 52. A paleographic peculiarity of the legend is the form of omega as a semicircle with a radial hasta, which is recorded in Olbia for the first time. The weight is dated with a terminus post quem at the turn of the 2nd-3rd centuries AD.

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IGDOb – Dubois L. 1996. Inscriptions grecques dialectales d’Olbia du Pont. Geneva

IOb – Nadpisi Olvii. 1968

IOSPE – Latishev B. 1916. Inscriptiones antiquae orae septentrionalis Ponti Euxini Graecae et Latinae. Petropolis

LGPN – Lexicon of Greek Personal Names

SEG – Supplementum epigraphicum Graecum

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Nicolai Batog

Almgren Group VII, Series I Brooches in Sarmatian Graves of the North-Western Pontic Region*

Key words: north-western Pontic region, Holmskoe, Hlinaia, Almgren Group VII, Sarmatian graves, typology, cultural transfer.
Cuvinte-cheie: spațiul nord-vest pontic, Holmskoe, Hlinaia, grupul VII Almgren, morminte sarmatice, tipologie, transformare culturală.

Nicolai Batog

Almgren Group VII, Series I Brooches in Sarmatian Graves of the North-Western Pontic region

This study examines two Sarmatian graves from the north-western Pontic region – Holmskoe grave 19 and Hlinaia tumulus 38, grave 2 – in which brooches belonging to the wider Almgren Group VII, Series I horizon were discovered. It argues that both finds belong to the same broad typological field, but do not occupy the same internal position within it: the Hlinaia specimen belongs more clearly to the headknob and external-chord branch, whereas the Holmskoe pair represents the knob-less external-chord variant, close to Almgren 193, and is cautiously integrated here into the later Cociș-Bârcă framework as B1a1b1. Questions of origin and circulation provide the broader interpretative background, while the funerary contexts clarify how these brooches acquired meaning in specific graves. For this reason, the article connects typological analysis with funerary context, comparing the deposition of a single brooch with deposition in pairs and highlighting the principal typological frameworks relevant to the interpretation of these finds. The two graves thus show that the bearers of Sarmatian culture in the region actively participated in the interregional circulation and reinterpretation of ornaments within the post-Marcomannic horizon.

Nicolai Batog

Broșe din seria I a grupului Almgren VII din morminte sarmatice din spațiul nord-vest pontic

Studiul examinează două morminte sarmatice din spațiul nord-vest pontic – Holmskoe, mormântul 19, și Hlinaia, tumulul 38, mormântul 2 – în care au fost descoperite fibule aparținând orizontului larg Almgren grupul VII, seria I. Lucrarea arată că ambele piese se înscriu în același cadru tipologic general, dar nu ocupă aceeași poziție internă: exemplarul de la Hlinaia aparține mai clar ramurii cu buton la cap și coardă exterioară, în timp ce perechea de la Holmskoe reprezintă varianta fără buton, apropiată de Almgren 193, integrată aici cu prudență conform tipologiei Cociș-Bârcă în varianta B1a1b1. Aspectele legate de proveniență și circulație oferă un cadru interpretativ mai amplu, în timp ce contextele funerare clarifică modul în care aceste broșe au căpătat semnificație în anumite morminte. Din acest motiv, articolul corelează analiza tipologică cu contextul funerar, comparând depunerea unei singure broșe cu cea a unor perechi de broșe și evidențiind principalele cadre tipologice relevante pentru interpretarea acestor descoperiri. Cele două complexe arată astfel că purtătorii culturii sarmatice din regiune au participat activ la circulația interregională și reinterpretarea pieselor de podoabă în orizontul post-marcomanic.

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Introduction

Brooches of Almgren Group VII, Series I occupy an important place in discussions of chronology, mobility, dress, and intercultural contact in the Roman-period Barbaricum [Almgren 1923, 91-93; Kolník 1965, 196, 232]. Since the classic synthesis of O. Almgren and, more decisively, after the classificatory intervention of T. Kolník, such brooches have often been discussed under the influential but analytically problematic label of the “Sarmatian brooch”¹ [Almgren 1923, 91-93;

Kolník 1965, 196, 232]. The term remains useful as a historiographical marker, but it is too broad and too strongly ethnicized to function as an explanation in itself.

A decisive step toward the internal differentiation of this horizon was made by T. Kolník, who separated the upper-chord forms as a distinct “Sarmatian” or “south-eastern” type and subdivided them internally [Kolník 1965, 196-199, 232]. Later, S. Cociș provided a common Roman-Dacian classificatory language for forms with and without headknob [Cociș 2004, 133-135]. The studies of S. Cociș and V. Bârcă then refined the headknob and external-chord branch and placed

1. In this paper, the term “Sarmatian” is used primarily as a contextual and historiographical designation for the funerary milieu under discussion, not as a strict ethnic label.

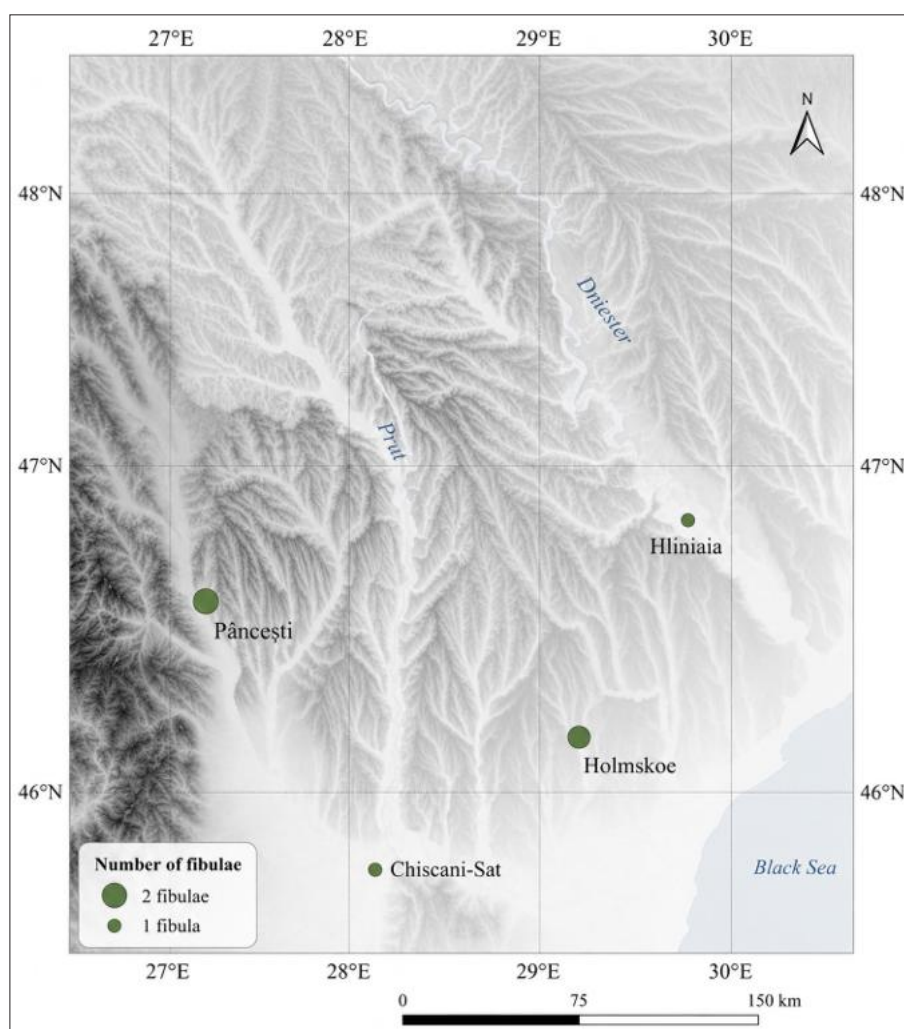


Fig. 1. Distribution map of the fibulae from the Sarmatian milieu north-west of the Pontic Sea.

it within a broader inter-Barbarian framework, especially in relation to the Przeworsk and Wielbark worlds [Cociș, Bârcă 2013; Cociș, Bârcă 2014; Cociș, Bârcă 2020; Bârcă, Cociș 2023].

The present study focuses on two graves from the north-western Pontic region that are of particular importance for the archaeology of the North-Pontic Sarmatian milieu: Holmskoe grave 19 and Hlinaia tumulus 38, grave 2 (fig. 1). It does not aim to rewrite the entire history of these brooches. Rather, it has a more limited purpose: to present the two graves, clarify their typological position within several overlapping classificatory traditions, and examine how brooch forms of external origin were incorporated into Sarmatian funerary practice. Questions of origin, circulation, and workshop traditions are therefore not ignored; they are treated as the broader inter-

pretative background against which the funerary meaning of the finds can be assessed. They do not, however, provide a sufficient explanation on their own. The meaning of the brooches in these two contexts depends equally on their number, placement, association with the body, and relationship to the rest of the grave inventory.

Two Sarmatian graves west of the Prut, Chiscani-Sat and Pâncești tumulus 2, are considered only as comparand, especially for brooch placement within the grave and for the contrast between single and paired deposition [Oța, Sîrbu 2009, 24-31; Căpitanu 1986, 119; Cociș, Bârcă 2020, 143-154]. They are not treated as a separate corpus, but as cases that help clarify whether the Holmskoe and Hlinaia burials represent isolated practices or part of a broader, though not rigidly standardized, funerary pattern.

The article clarifies the typological distinction between the two finds and examines their funerary use after the Marcomannic Wars [Kolník 1965, 232; Cociş 2004, 133-135; Hellström 2018, 91-92; Cociş, Bârcă 2020, 152-154]. More specifically, it addresses three research questions. First, how should the Holmskoe and Hlinaia brooches be positioned within the wider Almgren Group VII, Series I horizon? Second, what does the contrast between single and paired deposition reveal about their funerary use? Third, how do these two graves illuminate cultural transfer and the local re-interpretation of interregional brooch forms in the post-Marcomannic north-western Pontic region?

State of the problem

The historiography of brooches belonging to the wider Almgren Group VII, Series I horizon developed in several stages. Almgren established the broad typological field [Almgren 1923, 91-93]. Working mainly from the Potisza Sarmatian material, M. Párducz was among the first to isolate the upper-chord, high-catchplate cross-bow brooch line within the Sarmatian corpus of the Great Hungarian Plain. His early studies and corpus volumes are especially important for the recognition and description of this line, while the later historical synthesis confirmed its wider chronological and cultural significance, even if none of these works yet offered a refined internal typology [Párducz 1941; Párducz 1944; Párducz 1950; Párducz 1956, 158-160]. M. Smishko, for his part, emphasized the Upper Dniester as an

important eastern concentration zone and possible area of local production [Smishko 1948; Smishko 1952, 79-80]. The decisive classificatory step was then made by T. Kolník, who separated the upper-chord “Sarmatian” or “south-eastern” type from the wider Almgren VII field and linked its spread to the Marcomannic-period contact horizon [Kolník 1965, 196-199, 232].

A. Ambroz provided the main eastern comparative framework through his Group 18 [Ambroz 1966, 72-74]. I. Peškař’s Moravian synthesis remains especially useful because it separates, in practical terms, the line of two-piece high-catchplate brooches with lower chord from that with upper chord [Peškař 1972, 104-107]. S. Cociş’s typology of Roman Dacia supplied a common classificatory language for forms with and without headknob [Cociş 2004, 133-135]. The studies of S. Cociş and V. Bârcă published between 2014 and 2023 then refined the headknob and external-chord branch still further and placed it within a wider inter-Barbarian framework [Cociş, Bârcă 2014, 189-214; Cociş, Bârcă 2020, 137-180; Bârcă, Cociş 2023, 25-48]. Within this sequence, Hellström is especially valuable not because she offers the sharpest internal typology, but because she provides a North-Pontic regional frame and explicitly equates the Holmskoe pair from grave 19 with Almgren 193 under Type III.3b [Hellström 2018, 91-92].

Table 1 summarizes the principal classificatory positions directly relevant to the two graves. It is not intended as a full historiographic catalogue, but as a working tool for the present article.

Author	Region	Holmskoe G19	Hlinaia T38 G2	Dating and remarks
Almgren 1923, 91-93	General north- and central-European framework	Group VII, Series I (Almgren 193)	Group VII, Series I	Foundational scheme; no fine internal distinction at this level.
Kolník 1965, 196-199	Southwest Slovakia / Middle Danube / Tisza region	Variant a: high-catchplate brooch with upper chord fixed by a hook	Variant b: high-catchplate brooch with upper chord resting on the neck of a small headknob	Broadly dated from the second half of the 2nd century into the mid-3rd century; spread linked to the Marcomannic-period contact horizon.
Ambroz 1966, 72-74	Eastern European comparative framework	Group 18, West-Sarmatian series: relatively low, almost straight-cut catchplate, without headknob (approximate correlation only)	Group 18, West-Sarmatian series: very high, obliquely cut catchplate, simple type (A)	Useful as a broad eastern comparison; broadly dated to the 2nd to mid-3rd century AD.

Peškař 1972, 104-107	Moravia and wider central-European comparanda	Two-piece crossbow brooches with high catchplate (Zweigliedrige Armbrustfibeln mit hohem Nadelhalter), mainly Group VII, Series I, close to A201/A202	Two-piece brooches with high catchplate and upper chord (Zweigliedrige Fibeln mit hohem Nadelhalter und oberer Sehne), south-eastern / Sarmatian line	General horizon late 2nd to early / first half of the 3rd century.
Cociș 2004, 133-135	Roman Dacia	Type 32a2b (without headknob)	Type 32a2a2 (with headknob)	In Roman Dacia these brooches occur in post-Marcomannic levels and remain in use into the first half of the 3rd century AD.
Petković 2010, 92-104	Serbia / Viminacium	-	Type 14/D: strongly profiled, two-piece, high-catchplate brooch with external chord	Securely dated in a grave context to the 2nd century AD; valuable as a south-eastern Daco-Sarmatian parallel.
Cociș, Bărcă 2014, 189-214; Cociș, Bărcă 2020, 137-180; Bărcă, Cociș 2023, 25-48	Dacia and the Barbarian environments of the Tisza basin and east and south-east Romania	B1a1b1 = outer chord + fastening support, simple spring, bronze, decorated, size variant 1 (reconstructed by analogy from the authors' typological system)	B2a1a2 = headknob + external chord	Key modern typology.
Hellström 2018, 91-92	North-Pontic Sarmatian milieu	Type III.3b (Almgren 193)	Type III.3b	Broad regional frame that does not differentiate in detail between headknob and knobless examples within this regional scheme.

Table 1. Main classificatory positions for the Holmskoe and Hlinaia brooches.

A broader eastern perspective adds a third point. M. Smishko remains important not for fine typological attribution, but because he recognized early the Upper Dniester as a key eastern concentration zone and suggested the possibility of local production there [Smishko 1952, 79-80]. Later scholarship developed this line of observation further. M. Liubichev and V. Didyk identified a second concentration zone in the Dnieper-Donets forest-steppe, emphasized the intermediary finds linking it with the Upper Dniester, and placed the relevant Kiev and Chernyakhov contexts broadly in the range of AD 250-270/290 [Liubichev, Didyk 2001-2002, 335, 342]. In a later Chernyakhov-ori-

ented synthesis, E. Gorokhovskii and O. Gopkalo correlated the A. Ambroz and Gorokhovskii series more closely, mapped the distribution of these brooches across the Chernyakhov area, and argued for at least two production zones, especially in the Dniester basin and the forest-steppe Dnieper region; they also noted that some series could continue into the early 4th century AD [Gorokhovskii, Gopkalo 2004, 104-106, 122-125]. For the purposes of the present article, these later studies matter not as direct chronological anchors for Holmskoe and Hlinaia, but as evidence that the eastern history of this brooch horizon extended beyond its initial post-Marcomannic phase and

continued within the wider Sântana de Mureş-Chernyakhov milieu.

Methodology and scope

The present article adopts a micro-contextual comparative approach. It does not aim to provide a comprehensive synthesis of all brooches assigned to Almgren Group VII, Series I, nor to construct a new typological system. Instead, it examines two key graves from the north-western Pontic region through three interconnected lenses: morphology, funerary context, and regional historical setting.

This distinction matters because the study moves from graves to typology, not the other way around. Its main concern is how these brooches were incorporated into Sarmatian funerary contexts. For that reason, the number of brooches, their placement on or near the body, and the broader cultural setting are treated as essential alongside formal classification. Typology is therefore used not only to assign the objects to a classificatory position, but also to clarify what kind of objects entered the funerary sphere and how their use in the grave may have differed from their place in broader interregional circulation.

The comparison with Chiscani-Sat and Pânceşti tumulus 2 is deliberately limited. These graves are used to test whether the opposition between single and paired deposition observed at Hlinaia and Holmskoe can be placed in a wider east-Carpathian and north-western Pontic funerary frame. They are not used to build a complete regional typology or to define a separate cultural group. This restricted comparative scope keeps the analysis focused on funerary practice and on the contextual use of the brooches.

Corpus of graves

Holmskoe G19

Holmskoe grave 19 is one of the two North-Pontic Sarmatian funerary contexts examined in this study (fig. 1; 2,1-7). The grave pit was rectangular, oriented NE-SW, and measured approximately 2.5×1×1.55 m. The deceased lay extended on the back with the head to the north-east, the arms along the body, and the legs slightly bent. The inventory included two similar bronze brooches, one placed on the left clavicle and the other between the left hand and the pelvis at the bottom of the pit. Other finds comprised a bronze

snake-head earring from the grave fill, a bronze fan between the right hand and the pelvis, an iron knife near the right elbow, and a conical spindle whorl near the right pelvis. In simple morphological terms, the brooches are two-piece, high-catchplate forms with external chord and without headknob [Gudkova, Fokeev 1984, 17].

Hlinaia T38G2

Hlinaia tumulus 38, grave 2 is the second Sarmatian funerary context examined here (fig. 1; 2,8-10). The grave pit was rectangular with rounded corners, oriented NE-SW, and measured approximately 1.45×0.5×1.3 m. The deceased was identified as a man, slightly contracted on the right side, with strongly bent hands brought close to the face. A dark-brown layer beneath the body was interpreted as decomposed leather clothing. The brooch was found at the left shoulder blade and was the only brooch recorded in the grave. Morphologically, it is a two-piece brooch with headknob, external chord, a sharply curved bow, and a high catchplate [Tel'nov *et al.* 2016, 263; Sinika *et al.* 2016, 131].

Discussion

Same broad series, different internal positions

The two brooch finds can be discussed under the same broad heading of Almgren Group VII, Series I, but they should not be collapsed into the same narrow subtype. When the different classificatory traditions are read together, the two finds occupy distinct positions within the wider Almgren Group VII, Series I horizon. The Holmskoe pair belongs to the external-chord, knobless line and remains closest to the stricter Almgren 193 field, whereas the Hlinaia brooch belongs to the external-chord line with headknob and fits much better into the typological sequence traced from T. Kolník to S. Cociş and Cociş-Bârcă [Kolník 1965, 196-199; Cociş 2004, 133-135; Cociş, Bârcă 2014, 195-196]. In this sense, the present study confirms the placement of Hlinaia within the refined modern typologies, while the Holmskoe pair may be cautiously related to that later classificatory logic as B1a1b1 – outer chord with fastening support, simple spring, bronze, decorated, size variant 1 – proposed cautiously by analogy with the authors' typological system [Cociş, Bârcă 2014, 195-196].

Chronologically, the safest horizon for both brooches remain the period after the Marcoman-

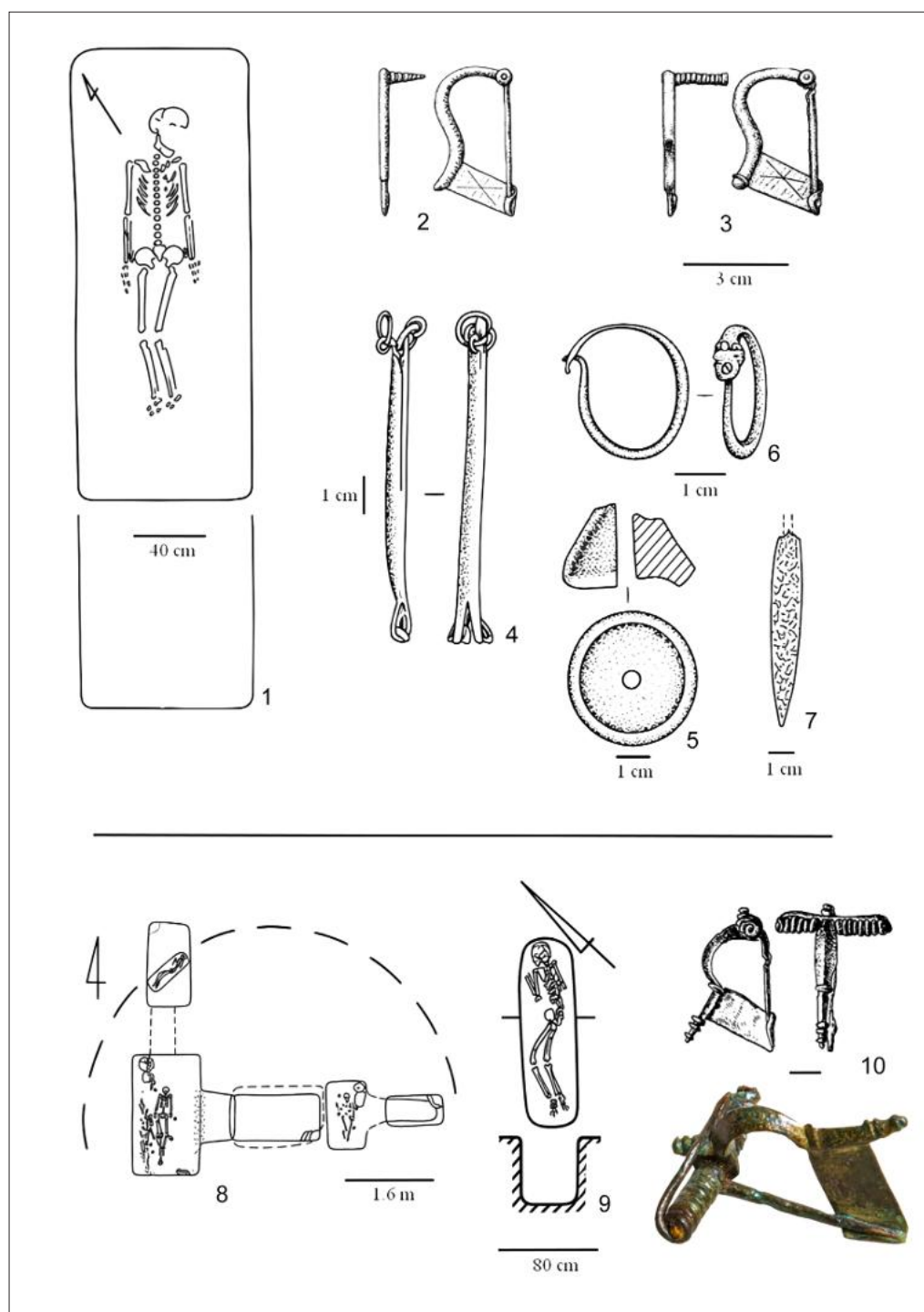


Fig. 2. Holmskoe grave 19 and Hlinaia tumulus 38, grave 2: 1-7 [after Gudkova, Fokeev 1984]; 8-10 [after Tel'nov *et al.* 2016; Sinika *et al.* 2016].

nic Wars, broadly the later second and early third centuries AD [Kolník 1965, 232; Cociş 2004, 133-135; Hellström 2018, 91-92]. This range is also consistent with the south-eastern parallels assembled by S. Petković [Petković 2010, 92-104]. Later

modified or related forms are known farther north and east in Chernyakhov-related milieus, but these should be treated as evidence for the wider developmental horizon of the brooch family, not as direct chronological anchors for the two graves

discussed here [Liubichev, Didyk 2001-2002, 340-342; Gorokhovskii, Gopkalo 2004, 103-130].

The typological distinction between the two finds is not only classificatory. It also matters because the two brooch forms entered different funerary arrangements: a single brooch at Hlinaia and a pair at Holmskoe. The headknob and external-chord branch represented by Hlinaia and the knobless external-chord line represented by Holmskoe therefore do not merely illustrate two formal variants. In these graves, they also provide two different examples of how objects from the same broad interregional horizon could be selected, positioned, and integrated into Sarmatian burial practice.

Funerary use: single brooch and paired display

Having established this typological distinction, the funerary evidence can be addressed through the contrast between single and paired deposition. Hlinaia represents a single-brooch deposition, whereas Holmskoe provides a paired deposition. This contrast gives the typological argument its archaeological relevance.

A broader comparison suggests that this distinction may be meaningful, although the small number of available contexts requires caution. Within the Sarmatian funerary sphere east and south of the Carpathians, paired brooch deposition is also documented at Pâncesti tumulus 2 (fig. 1; 3,1-2), where two brooches were found in the clavicular or upper chest zone of an extended

burial with the head to the east, accompanied by a vessel and an iron knife [Căpitanu 1986, 119; Cociș, Bârcă 2020, 143-148]. Single-brooch deposition, by contrast, is represented by Chiscani-Sat (fig. 1; 3,3-8), where one brooch was found in the chest area of an extended burial furnished with pottery, beads, an earring, a spindle weight, and a bronze mirror [Oța, Sirbu 2009, 24-31].

The evidence summarized in Table 2 allows several observations. First, the recorded positions of the brooches should be treated as approximate body zones rather than exact points, since decomposition, sediment pressure, and the movement of clothing or organic materials may have affected their final location in the grave. Despite minor differences in recorded position, the brooches are generally connected with the torso and dress arrangement of the deceased, especially the shoulder, clavicular, and chest zones. The second brooch from Holmskoe, recorded lower between the left hand and the pelvis, is the only partial exception; it may reflect post-depositional movement, although deliberate deposition cannot be excluded. The clearest distinction is therefore not the precise position of each brooch, but the contrast between single and paired deposition.

Second, the distinction between single and paired deposition does not correspond mechanically to sex or gender. Hlinaia is particularly important in this respect, since the single brooch occurs in a grave anthropologically identified as male. By contrast, Chiscani-Sat also repre-

Site/context	Number of brooches	Position of brooch(es)	Body position and orientation	Gender-related evidence
Holmskoe G19	2	One on the left clavicle; one between the left hand and the pelvis	Extended on the back; head to the NE	Spindle whorl and earring may suggest a female-coded assemblage, but this remains uncertain
Hlinaia T38G2	1	Left shoulder blade	Slightly contracted on the right side; head to the NE	Anthropologically identified as male
Chiscani-Sat	1	Chest area	Extended on the back; head to the NNW	Beads, earring, spindle weight, and mirror suggest a female-coded funerary context
Pâncesti T2	2	Clavicular or upper chest zone	Extended on the back; head to the E	No secure anthropological determination; paired display may suggest comparison with female costume traditions

Table 2. Comparative funerary deposition of brooches in selected Sarmatian graves.



Fig. 3. Comparative Sarmatian graves west of the Prut: 1-2 [after Cociș, Bârcă 2020]; 3-8 [after Oța, Sirbu 2009].

sents single-brooch deposition, but in an assemblage that is more readily comparable with female-coded funerary inventories. Holmskoe and Pâncești, both with paired brooches, may be compared with modes of dress display often discussed in relation to female costume traditions, yet only Holmskoe offers associated objects that may cautiously support such a reading, while Pâncești lacks secure anthropological determination. The evidence therefore suggests that both single and paired brooch deposition could be incorporated into Sarmatian funerary practice and could occur in contexts with different gender-related indicators.

Body position and orientation add further context to this comparison. The extended supine position documented at Holmskoe, Chiscani-Sat, and Pâncești corresponds well to common Sarmatian funerary practice, while the slightly contracted position at Hlinaia represents a less usual variant. Head orientation toward the northern sector, with minor deviations, also fits the broader range of Sarmatian practice. The eastward orien-

tation at Pâncești is more unusual and may point to local variation, interaction with neighbouring funerary traditions, or a specific community practice. In this respect, orientation and body position refine the comparison, while the main analytical distinction remains the contrast between single and paired brooch deposition.

Recent scholarship has noted that paired brooch deposition is more at home in practices often discussed in Germanic contexts, especially in assemblages usually associated with female costume [Cociș, Bârcă 2020, 169-170; Bârcă, Cociș 2023, 36-37]. The east-Carpathian evidence does not erase that wider background, but it does show that such forms and modes of deposition were selectively adopted and reworked within Sarmatian funerary practice rather than simply copied unchanged. The argument is therefore not that paired brooch display became a standard Sarmatian practice, but that Sarmatian funerary contexts could incorporate and transform practices more widely associated with other cultural environments.

Cultural transfer and active Sarmatian participation

At a broader scale, the two north-western Pontic graves belong to the problem of cultural transfer. They show how objects from a wider interregional horizon were selected, deposited, and recontextualized within Sarmatian funerary practice.

Several routes of transmission and several workshop traditions must nevertheless be taken into account. Recent studies have shown that the best-defined variants of this brooch horizon were connected above all with broader Barbarian networks and with workshops tied to the Przeworsk and Wielbark worlds [Cociș, Bârcă 2014, 206-214]. At least for the headknob and external-chord branch, these brooches have also been related to a broader horizon of contacts and possible movements linking the Upper Dniester region and the territories north of it with the areas east and south of the Carpathians from the end of stage C1a – early stage C1b onward [Cociș, Bârcă 2020, 137-140]. Eastern scholarship, beginning with Smishko, had already emphasized the Upper Dniester as a major transmission zone and even as a possible area of local production [Smishko 1952, 79-80]. The broader picture is further supported by the evidence for manufacture at Bucharest-Străulești, while production at other sites, including by travelling artisans, remains possible [Cociș, Bârcă 2013; Cociș, Bârcă 2014].

When the evidence east of the Carpathians is considered more broadly, the picture becomes clearer still. Brooches of this horizon occur in several archaeological environments rather than in a single isolated milieu. Within the east-Carpathian sedentary milieu often discussed in the literature under the broad Poieniști-Vârteșcoiu/“Carpic” label, important finds come from Poieniști, both from the settlement and from the cremation cemetery, as well as from sites such as Cucorăni and Văleni [Spănu *et al.* 2018; Spănu 2019; Teodor 1975; Ursachi 1970]. Within Militari-Chilia contexts, relevant finds are known from Udeni and Mătăsaru [Bichir 1984, 46-48]. The later Sântana de Mureș-Chernyakhov milieu belongs to a broader and partly later developmental horizon, but it is still relevant for the longer history of this brooch family. A useful example is provided by Lețcani, where C. Bloșiu recorded a grave with two bronze brooches of different chronological

and typological character: one with turned and wrapped foot, securely datable to the fourth century, and another with a high catchplate, datable to the third century. C. Bloșiu emphasized that this association was rare in Sântana de Mureș-Chernyakhov cemeteries and, as far as she knew, unique [Bloșiu 1975, 211-212]. The Lețcani find is therefore important as evidence that older brooch forms of this broad family could remain meaningful or be redeployed in later funerary contexts.

In this wider perspective, the Lower Danube and north-west Pontic area appears less as a peripheral zone than as an area in which several cultural trajectories could intersect. For Holmskoe, this broader setting may be reinforced by the fact that, in the vicinity of the Sarmatian cemetery, there is also a necropolis attributed to the Sântana de Mureș-Chernyakhov milieu [Gudkova, Fokeev 1984]. A comparable situation is known in the Petrești micro-region, where the Sarmatian cemetery published by S. Kurchatov and V. Bubulici is part of a wider archaeological landscape that also includes a funerary horizon of Sântana de Mureș-Chernyakhov type [Kurchatov, Bubulich 2023]. These cases point to micro-regions in which Sarmatian funerary sites and Sântana de Mureș-Chernyakhov cemeteries occurred in close spatial proximity, forming cultural landscapes in which different funerary traditions could coexist or overlap.

In this context, Holmskoe and Hlinaia may be placed within a contact horizon linking Sarmatian communities, northern groups, and early Sântana de Mureș-Chernyakhov components. Recent scholarship has connected the spread of the headknob and external-chord branch with contacts and movements from the Upper Dniester region and the territories north of it from the end of stage C1a – early stage C1b onward [Cociș, Bârcă 2020, 137-140].

Recent studies from Orlovka-Kartal point in the same direction. They draw attention to the increasing appearance in Sarmatian burials of artefacts characteristic of Germanic groups and of populations often discussed in the literature as “Free Dacians” [Bruyako *et al.* 2018]. This evidence shows that Sarmatian funerary environments in the Lower Danube and north-west Pontic region could absorb objects, practices, and symbolic forms associated with neighbouring cultural

groups. Holmskoe, Petrești, and Orlovka-Kartal therefore illustrate, in different ways, the coexistence and partial overlap of Sarmatian traditions with cultural elements that would later become more visible in Sântana de Mureș-Chernyakhov contexts.

Holmskoe and Hlinaia therefore belong to a period and region in which Sarmatian, Germanic, Dacian, and Roman-provincial traditions increasingly intersected. The Sântana de Mureș-Chernyakhov question remains relevant as part of this wider contact horizon, while the main interpretative focus remains the deposition of the brooches in specific Sarmatian graves.

Conclusions

The two Sarmatian graves from Holmskoe and Hlinaia confirm the presence of brooches belonging to the wider Almgren Group VII, Series I horizon in the north-western Pontic region, but they also show that this horizon should not be treated as typologically uniform. The brooch from Hlinaia tumulus 38, grave 2 belongs more clearly to the branch with headknob and external chord, while the pair from Holmskoe grave 19 represents the knobless external-chord variant, close to Almgren 193. The integration of the Holmskoe pair into the later Cociș-Bârcă classificatory logic as B1a1b1 is therefore useful, since this framework provides a morphological and typological category that can accommodate the knobless external-chord variant represented by these brooches.

Chronologically, both contexts are best placed within the post-Marcomannic horizon, broadly in the later second and early third centuries AD. Later related developments in the Przeworsk and Sântana de Mureș-Chernyakhov environments are important for understanding the longer history of this brooch family, but they should not be used as direct chronological an-

chors for the Holmskoe and Hlinaia graves. For the two north-western Pontic contexts, the safest interpretation remains one connected with the circulation and adoption of these brooch forms in the period following the Marcomannic Wars.

The funerary evidence is especially significant. Hlinaia represents a single-brooch deposition, while Holmskoe provides an example of paired deposition. When compared with Chiscani-Sat and Pâncești, these graves show that brooch use in Sarmatian funerary practice was structured, but not rigidly standardized. The recorded positions of the brooches should be understood as approximate body zones rather than exact points, since their final location may have been affected by decomposition, sediment pressure, and the movement of clothing or organic materials. The clearest distinction is therefore the contrast between single and paired deposition, while placement, gender-related evidence, body position, and orientation help refine the interpretation of each context.

Although paired brooch display is often discussed in connection with Germanic costume traditions, the north-western Pontic evidence shows that such objects could be adopted and reinterpreted within Sarmatian funerary contexts. The same evidence places Holmskoe and Hlinaia within a contact horizon in which Sarmatian traditions interacted with cultural elements that would later become more visible in Sântana de Mureș-Chernyakhov contexts.

Finally, the Holmskoe and Hlinaia graves underline the active role of Sarmatian communities in the circulation, selection, and funerary reinterpretation of Roman-period ornaments. The brooches thus provide valuable evidence for cultural transfer, funerary adaptation, and the interaction of Sarmatian, Germanic, Dacian, and Roman-provincial traditions in the post-Marcomannic period.

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Андрей Кривенко, Игорь Нисенбойм

О хронологии выпуска медных пулов Шехр ал-Джадида (Старый Орхей)

Key words: Golden Horde, Shahr al-Jadida, Old Orhei, copper pul, numismatics, Jochids, Abdallah.

Cuvinte-cheie: Hoarda de Aur, Şehr al-Jadida, Orheiul Vechi, pul, numismatică, Jucizi, Abdallah.

Andrei Crivenco, Igori Nisenboim

On the chronology of the copper pul from Shahr al-Jadid (Old Orhei)

The article is devoted to the chronology of the emissions of copper pul of the Golden Horde city of Shahr al-Jadida (Old Orhei), based on the analysis of numismatic material. The study examines the main types of urban copper coinage, their epigraphic and stylistic features, as well as die links. Comparison of the obtained data with the characteristics of the emissions and the stylistic features of the silver dang coinage of Shahr al-Jadida makes it possible to refine the dating of individual series of copper pul. The results of the research expand the possibilities of using this group of coins as reliable chronological markers and contribute to a better understanding of monetary circulation in Shahr al-Jadida during the final period of this Golden Horde city's existence.

Andrei Crivenco, Igori Nisenboim

Despre cronologia emisiunii monedelor de pul din cupru din Shehr al-Jadid (Orheiul Vechi)

Articolul este dedicat cronologiei emisiunilor de pul din cupru ale oraşului Hoardei de Aur Şehr al-Jadida (Orheiul Vechi), pe baza analizei materialului numismatic. Lucrarea examinează principalele tipuri de monedă urbană din cupru, particularităţile lor epigrafice şi stilistice, precum şi legăturile de ştanţă. Corelarea datelor obţinute cu caracteristicile emisiunilor şi cu stilistica dangilor de argint de la Şehr al-Jadida permite precizarea datărilor pentru anumite serii de pul din cupru. Rezultatele cercetării extind posibilităţile de utilizare a acestui grup de monede ca repere cronologice fiabile şi completează imaginea circulaţiei monetare din Şehr al-Jadida în perioada finală a existenţei acestui oraş al Hoardei de Aur.

Старый Орхей является наглядным примером исторического поселения, при изучении которого монетные находки сыграли ключевую роль наряду с археологическими данными. Именно нумизматические материалы позволили установить название золотордынского города на этом памятнике и уточнить хронологию его кратковременного подъёма в 1360-е гг. [Ianina 1977]. Указанный временной отрезок завершает этап более чем столетнего господства Золотой Орды в регионе, начавшегося в середине XIII в. Вместе с тем именно в этот период сложились условия для расцвета Нового Города. Поражение золотоордынских военачальников Хаджибея, Кутлубуги и Дмитрия (Деметрия) от войск литовского князя Ольгерда в битве при Синих Водах в 1362 г., вероятно, повлияло на решение ордынских властей переместить региональный центр из Костештского поселения, выполнявшего эту функцию в предшествующие десятилетия, в Новый Город (ныне Старый Орхей) в более защищённое место в излучине реки Реут. Это предположение основывается на анализе находок

розеточных пулов, широко представленных на обоих поселениях. Их поздние разновидности, в том числе чеканенные в 760-761 гг., достаточно широко зафиксированы в Старом Орхее, тогда как в Костештском поселении их встречается ничтожно мало [Crivenco 2025, 170-171]. Другим значимым доводом выступает сопоставление хронологических профилей монетных находок на обоих памятниках. Общим для них является наличие монет времени Джанибека. Однако для Костештского городища характерно, что остальные монеты в подавляющем большинстве датируются более ранним периодом. В Старом Орхее ситуация обратная: основная масса находок (помимо монет эпохи Джанибека) принадлежит к более позднему времени.

В короткий срок Новый Город интенсивно застраивается и укрепляет свой статус, что подтверждается началом чеканки в 765 г. х. (1363/1364 гг.) городской серебряной монеты с наименованием города в тюрко-персидской форме – Ыанги Шехр (табл. 1). Размещение имени хана Абдаллаха на этих монетах позволяет

предполагать его пребывание в Новом Городе [Ianina 1977, 209] и свидетельствует о возросшем политическом значении данного центра. Расцвет города сопровождался активной строительной деятельностью, что подтверждается результатами археологических исследований памятника [Postică, Kavruk 2018, 45].

Чеканка городской серебряной монеты продолжалась и в последующие годы – с 766 по 770 г. х., однако уже преимущественно с использованием арабского наименования Шехр

ал-Джадида, равнозначного по смыслу прежнему. Прекращение выпуска датированных дангов в 770 г.х. свидетельствует об уходе золотоордынских властей из поселения и фиксирует завершение краткого периода расцвета ордынского города на берегах Реута. В дальнейшем он трансформировался в молдавский средневековый город, сыгравший значимую роль в развитии Молдавского княжества.

Наряду с датированными серебряными монетами в золотоордынском Новом Городе

Год по хиджре	Месяц и год по григорианскому календарю	Нумизматические данные и реконструкция исторических событий
762	ноябрь 1360 – ноябрь 1361	Предполагаемый перенос регионального центра из Костешть в более защищенный Старый Орхей, сопровождаемый перемещением жителей. Резкий спад денежного обращения в поселении Костешть [Crivenco 2025]. Обращение розеточных пулов 760-761 г.х. в Старом Орхее и их практическое отсутствие среди находок в Костештах.
763	ноябрь 1361 – октябрь 1362	
764	октябрь 1362 – октябрь 1363	
765	октябрь 1363 – октябрь 1364	Прибытие в городском центре Старого Орхее хана Абдаллаха. Начало выпуска датированных серебряных дангов с его именем и персидско-тюркским наименованием монетного двора: Йанги Шехр ал-Махруса (Новый Город Богохранимый) [Ianina 1977, 209].
766	октябрь 1364 – сентябрь 1365	Смена наименования монетного двора на равнозначное арабское – Шехр ал-Джадида на дангах с именем Абдаллаха [Ianina 1977, 200]. По С.А. Яниной: выпуск анонимных медных пулов Шехр ал-Джадида с однострочным написанием «ал-Джадида» [Ianina 1977, 207].
767	сентябрь 1365 – сентябрь 1366	На серебряных монетах 767 г.х. из легенды лицевой стороны исчезло имя хана («абд хан») [Ianina 1977, 209; Nicolae 1999, 142]. Этот выпуск дангов без имени хана связывают с отъездом Абдаллаха на рубеже 766-767 гг. [Ianina 1977, 209]. По С.А. Яниной: продолжение выпуска анонимных медных пулов Шехр ал-Джадида с написанием «ал-Джадида» в две строки. По Е. Николае: начало выпуска медных пулов Шехр ал-Джадида с именем Кутлубуга в легенде [Nicolae 2003, 171]. Интерпретируется как проявление сепаратистских тенденций местного правителя, сменившего Абдаллаха.
768	сентябрь 1366 – сентябрь 1367	Спад выпуска серебряных дангов. Немногочисленные монеты содержат слово, прочитанное как «шейх» – титул, который мог принадлежать Кутлубуге [Nicolae 1999, 144; Nicolae 2003, 167]. По мнению ряда исследователей, на некоторых серебряных дангах присутствует наименование города Йанги Шехр ал-Махруса [Beitter, Druzhinin 2006; Druzhinin, Petrov 2016, 59]. По Е. Николае: продолжение выпуска медных пулов Шехр ал-Джадида с именем Кутлубуга.
769	сентябрь 1367 – август 1368	Некоторый всплеск выпуска серебряных дангов, несущих слово «эмир» – титул, который мог носить Деметрий (1367-1369) [Nicolae 1999, 143; Nicolae 2003, 168]. По мнению авторов: выпуск поздней подгруппы медных пулов с написанием «ал-Джадида» в две строки, стилистически близких к дангам этого года.

770	август 1368 – август 1369	Последний год выпуска дангов с указанием города под наименованием Шехр ал-Джадида ал-Махруса [Nicolae 2003, 168]. Ордынские власти покидают город.

Табл. 1. Реконструкция исторических событий золотоордынского Нового Города периода его наивысшей активности (1360-е гг.) на основе нумизматических материалов и сопоставления дат хиджры и григорианского календаря.

Table 1. Reconstruction of historical events in the Golden Horde settlement Novogo Goroda during the period of its greatest activity (the 1360s), based on the numismatic evidence and the correlation of Hijri and Gregorian dates.

чеканились и анонимные медные пулы с указанием места выпуска Шехр ал-Джадида. Анализ их хронологии и составляет основное содержание настоящего исследования.

Обзор исследований медных пулов Шехр ал-Джадида: легенда и хронологические оценки.

Первые сведения о медных пулах Шехр ал-Джадида (Нового Города) были введены в научный оборот Л.Л. Полевым на основе археологических раскопок 1947-1955 гг., в ходе которых были опубликованы монеты с легендой чекана Нового Города [Polevoi 1956, 79]. Системное изучение городских медных пулов было осуществлено С.А. Яниной, которая впервые предложила чтение легенд, высказала мнение о времени их выпуска, а также выделила два основных подтипа этих монет по особенностям написания легенды [Janina 1977, 207]. Существенный вклад в изучение монет Нового Города внёс и Е. Николае, в том числе предложивший собственное прочтение легенды медных городских пулов, которое стало основанием для иной интерпретации времени и характера их выпуска по сравнению с выводами С.А. Яниной [Nicolae 2003, 171]. Таким образом, центральное место в обсуждении хронологии и атрибуции медных пулов занял анализ их легенд, служивших основным источником для реконструкции времени и обстоятельств чеканки.

На оборотной стороне монет¹ размещена легенда с арабским наименованием города – «Шехр ал-Джадида», чтение которой не вызывает разночтений у исследователей. Ис-

пользование этого названия вместо прежней тюрко-персидской формы – «Йанги Шехр» впервые фиксируется на серебряных дангах Нового Города, датированных 766 г.х., что послужило для С.А. Яниной основанием считать данный год началом чеканки медных пулов. Исследователь также отметила, что городские пулы различаются по способу написания слова «ал-Джадида» в обозначении места выпуска – в одну или в две строки. Сопоставление с датированными серебряными дангами, на известных ей экземплярах которых двустрочное написание появляется в 767 г.х., позволило исследователю отнести часть медных пулов к чеканке этого года [Janina 1977, 207].

Легенда лицевой стороны пулов Нового Города вызывала значительные разночтения у исследователей, что существенно повлияло на атрибуцию данных монет. С.А. Янина предложила чтение «Azza man qana'a» – «Слава тому, кто довольствуется малым» [Janina 1977, 204-206]. Иное толкование предложил Е. Николае, допустив нетипичную последовательность чтения букв, что позволило ему интерпретировать легенду как имя «Kutluğboğa» («Кутлубуга»)² [Nicolae 2003, 171]. Исходя из

2. Детальную критику прочтения легенды как имени Кутлубуга предложил К.К. Хромов. На основе анализа надписи он показал, что легенда является арабской и представляет собой текст хадиса, а не тюркское имя, тем самым подтвердив интерпретацию С.А. Яниной и предложив её уточнённое прочтение: «кто малым доволен, тот велик» [Khromov 2021b]. По наблюдению И.А. Нисенбойм, аналогичная легенда встречается и на более поздних монетах ал-Джадида (780 г.х.) [Savosta 2013, 57 №. 16], что служит дополнительным аргументом против её прочтения как «Кутлубуга». Иначе пришлось бы признать, что Кутлубуга возобновил чеканку со своим именем спустя более 10 лет после ухода из Нового Города.

1. В работе С.А. Яниной лицевой стороной считается сторона с обозначением монетного двора. В настоящем исследовании лицевой признаётся сторона, содержащая фразу из хадиса – изречения пророка Мухаммада, – что обусловлено её приоритетным смысловым значением по сравнению со стороной, на которой указано место чекана.



этого прочтения, исследователь предположил, что выпуск медных пулов начался в 767 г.х. (и был продолжен в 768 г.х.), уже после отъезда Абдаллаха, и имел характер политической декларации нового правителя. В этой связи Николае рассматривает медные выпуски Нового Города как проявление сепаратистских тенденций местной власти по отношению к Золотой Орде [Nicolae 1999, 143; Nicolae 2003, 174].

В недавней работе один из авторов настоящей статьи принял датировку, предложенную С.А. Яниной (766-767 гг.х.). [Crivenco 2022]. В настоящем исследовании появилась возможность уточнить хронологию медных пулов Шехр ал-Джадида на основе новых данных стилистического сопоставления и анализа нумизматического материала. Допуская возможность начала их чеканки уже в 766 г. х., полученные результаты позволяют отнести выпуск одной из выделенных подгрупп пулов к более позднему времени – 769 г. х. Соответствующая аргументация и обоснование данного вывода последовательно изложены ниже.

Обоснование уточнённой хронологии медных пулов Нового Города

Детальный анализ характера штемпельных связей медных пулов Шехр ал-Джадида позволил разграничить монеты официальных оригинальных выпусков и подражательные эмиссии [Crivenco 2022, 187-188]. Оригинальные пулы отличаются высоким качеством исполнения и использованием орнаментального мотива ислими — растительного орнамента, ранее не зафиксированного на восточных монетах [Khromov 2021a]. Были выделены четыре группы штемпелей лицевой стороны (А, В, С, D)³ и три группы штемпелей оборотной стороны (I, II, III) (рис. 1). Наиболее ранними признаны пулы, сочетающие штемпели лицевой стороны А, В и оборотной стороной – I. Эти монеты характеризуются непрерывной цепью штемпельных пар, отражающей последовательность использования штемпелей, а также написанием «ал-Джадида» в наименовании монетного двора в одну строку. На данный подтип приходится подавляющее большинство

известных находок оригинальных выпусков пулов Шехр ал-Джадида; С.А. Янина датировала его 766 г. х., тогда как Е. Николае – 767 г.х.

Другой подтип представлен более поздними пулами с сочетанием штемпелей D/III (до 10 % от общего числа пулов официальной оригинальной серии), основным отличием которых является написание «ал-Джадида» в наименовании монетного двора в две строки. Выпуск этой группы С. А. Янина и Е. Николае отнесли к следующему году после эмиссии раннего подтипа – соответственно к 767 и 768 гг.х.⁴

Авторы настоящего исследования обращают внимание на ряд дополнительных признаков, позволяющих уверенно отличать эту позднюю группу пулов Шехр ал-Джадида (D/III) от ранних и более распространённых. К их числу относятся изменённая стилистика оформления и иное пространственное расположение букв легенды, свидетельствующие о переработке штемпельного рисунка. Для пулов типа D характерно использование элементов ислими на обеих сторонах монеты (на оборотной стороне орнаментация носит более сдержанный характер), тогда как в более ранних выпусках данный орнамент присутствует только на лицевой стороне. Кроме того, пулы этого типа отличаются меньшим диаметром монетного кружка – в пределах 15-16 мм – и большей унифицированностью его размеров по сравнению с ранними выпусками, где диаметр варьирует от 15-18 до 20 мм. При этом весовые характеристики, по всей видимости, не претерпели редукции [Crivenco 2022, 205, №№ 422-459].

Расширение корпуса доступных для анализа штемпельных разновидностей серебряных дангов Нового Города на основе материалов В.М. Бейттера и Е. Г. Дружинина [Beitter, Druzhinin 2009] и Е.Г. Дружинина и П.Н. Петрова [Druzhinin, Petrov 2016], позволило выявить монеты 766 г. х. с двустрочным написанием названия «ал-Джадида». Отдельного внимания

3. В тексте использована система обозначений штемпельных групп, принятая в работе А. Кривенко [Crivenco 2022].

4. Е. Николае относит продолжение выпуска группы пулов Шехр ал-Джадида к 768 г.х.; однако такая датировка плохо согласуется с характером серебряной чеканки Нового Города в этот год, для которой фиксируются резкое снижение объёма эмиссии и заметная деградация художественного уровня легенд. Предположение об активном выпуске эстетично выполненных медных пулов в 768 г.х. вступает в противоречие с зафиксированным спадом количества и качества серебряной чеканки.



Рис. 1. Медные пулы Шехр ал-Джадида различных штемпельных групп, по классификации А. Кривенко [Crivenco 2022]; буквами обозначены соответствующие сочетания штемпелей: А – А/І, В – В/І, С – С/ІІ, D – D/ІІІ.

Fig. 1. Copper pools of Shahr al-Jadid of various die groups, according to A. Crivenco's classification [Crivenco 2022]; letters indicate the corresponding die combinations: A – A/I, B – B/I, C – C/II, D – D/III.

заслуживает крайне малочисленная подгруппа пулов Шехр ал-Джадида с сочетанием штемпелей С/ІІ, представленная всего двумя известными экземплярами [Crivenco 2022, 205, №№ 420-421]. Для этих монет также характерно двустороннее написание названия «ал-Джадида».

Общим признаком дангов 766-767 гг.х. и пулов подгруппы С/ІІ является выраженное стилистическое сходство оформления (рис. 3), выявленное в ходе изучения дангов Шехр ал-Джадида 766 и 767 гг.х. В частности, на оборотных сторонах этих монет в слове «ал-Джадида» первый харф даль (ﺀ) завершается характерным декоративным «завитком» (рис. 2). Все три штемпеля реверса дангов Нового Города с данной особенностью почерка (из 17 выявленных штемпелей 766 г.х.) располагаются в конце штемпельной сетки этого года. Та же деталь присутствует на всех штемпелях реверса 767 г.х. вплоть до смены компоновки аверса и реверса в середине года, после которой в обращение вошли иные варианты штемпелей. Во второй половине 767 г.х. название монетного двора «ал-Джадида» на дангах уже писалось в одну строку буквами одинакового размера.

По всей видимости, подгруппа С/ІІ завершала раннюю серию чеканки пулов Шехр ал-

Джадида данного периода, к которой относятся и монеты штемпельных сочетаний А/В-І. На близость этих групп указывает также стилистическое сходство оформления оборотной стороны пулов С/ІІ с наиболее поздним штемпельным вариантом (І.16) в цепи сочетаний ранней подгруппы пулов В/І. Совокупность приведённых наблюдений позволяет отнести выпуск подгруппы пулов С/ІІ к концу 766 или первой половине 767 гг.х.

По мнению ряда исследователей, тюрко-персидское наименование города – Йанги Шехр – эпизодически возвращается на монеты Нового Города после его замены в 766 г.х. на арабскую форму Шехр ал-Джадида. В частности, на отдельных выпусках дангов 768 г.х. исследователи читают наименование монетного двора Йанги Шехр ал-Махруса [Druzhinin, Petrov 2016, 62]. Подобная вариативность может отражать параллельное использование различных языковых форм названия города, что, вероятно, было связано с многоэтничным и многоязычным характером городской среды, а также с участием в монетном производстве разных групп населения. Не исключено, что носителями арабского варианта названия были переселенцы, прибывшие вместе с ханом



Рис. 2. Данги Нового Города 766 г. х. (Zeno № 301105, 351794) (A, B) и 767 г.х. (Zeno № 351919, 351794) (C, D) и пул подгруппы C/II (E) с двустрочным написанием «ал-Джадида». Стрелкой показано характерное окончание харфа как общая стилистическая черта данных монет.

Fig. 2. Dangs of New City dated 766 AH (Zeno Nos. 301105, 351794) (A, B) and 767 AH (Zeno Nos. 351919, 351794) (C, D), and a pul of subgroup C/II (E) bearing the two-line inscription “al-Jadida”. The arrow indicates the characteristic ending of the harf, a common stylistic feature of these coins.

Абдаллахом в период его кратковременно-го пребывания в Новом Городе. Именно с их присутствием могут быть связаны отдельные нововведения в городской жизни, включая внедрение прихотливого растительного орнамента ислими на медных пулах Шехр ал-Джадида, доселе невиданного на восточных монетах.

Эти новые выявленные данные позволяют обозначить следующие наблюдения:

1. Появлением двустрочного написания элемента «ал-Джадида» в названии монетного двора уже в 766 г. (а не только в 767) ослабляет аргументацию С.А. Яниной, связывающую двустрочное написание «ал-Джадида» исключительно с датировкой пулов 767 г.х. В результате данный признак утрачивает однозначное хронологическое значение и не позволяет надёжно разграничивать медный выпуск Нового Города по годам.

2. Использование различных наименований Нового Города на протяжении всего кра-

ткого периода чеканки городской монеты, зафиксированное их попеременным появлением на серебряных дангах, показывает, что разница в наименовании города также не может служить надёжным хронологическим ориентиром. В связи с этим критерий, предложенный С.А. Яниной и связывающий датировку с рубежом 766 г.х., отражённым в смене наименования города на серебряных дангах, нуждается в дополнительном обосновании. Сохраняется и ряд других вопросов, связанных с данной проблематикой⁵.

5. В частности, остаётся неясным, почему чеканка медной монеты не началась одновременно с серебряной, а была отложена на год, а также, почему среди основ, использованных для первых пулов Нового Города, присутствуют цветочные пулы и монеты Хызра и Кильдибека 762-763 гг.х., но отсутствуют выпуски 764 г.х. Эти наблюдения вновь возвращают к ранее высказанной, хотя и недостаточно аргументированной, гипотезе о возможном начале выпуска медных пулов не в 766, а уже в 765 г.х., одновременно с началом чеканки серебряных дангов с наименованием «Йанги Шехр» [Crivenco 2022, 198]. Последующие исследования, основанные на новых нумизматических материалах, позволят проверить указанную гипотезу и установить более точную дату начала чеканки медных пулов.

Представляется целесообразным вновь обратиться к вопросу уточнения хронологии медных пулов Нового Города, опираясь на датированные серебряные выпуски как более надёжный хронологический ориентир. При этом следует учитывать не только чтение легенды, но также и стилистическое сходство монет этих групп. Важность такой методики подчёркивала ещё С.А. Янина, которая при исследовании тождества дангов Йанги Шехр и Шехр ал-Джадида обращала внимание на «единство палеографического и художественного решения...», а также «манеру заполнения монетного кружка, расстановку строк, слов, букв, украшений» [Janina 1977, 200].

Рассмотрим изменения в легенде серебряных дангов, включая титулатуру, а также динамику объёмов их эмиссии в период их кратковременного выпуска. Так, на дангах 767 г.х. из легенды исчезает имя Абдаллаха [Janina 1977, 209]. На немногочисленных анонимных дангах 768 г.х. появляется слово, распознаваемое как титул «шейх». В последующие годы фиксируется использование титула «эмир» на более многочисленных дангах 769 г.х. и на ограниченных выпусках 770 г.х., которыми завершается функционирование золотоордынского монетного двора Нового Города [Nicolae 1999, 142-143; Boldureanu, Nicolae 2015, 130]. Характер чеканки серебряных дангов позволяет выделить определённую последовательность эмиссий: значительный объём выпуска в 765-767 гг.х., резкий спад в 768 г.х., небольшой всплеск в 769 г.х. и окончательное затухание в 770 г.х. [Nicolae 2003, 168; Beitter, Druzhinin 2006; Druzhinin, Petrov 2016, 62].

Указанные изменения в легенде дангов интерпретируются как отражение политических событий: отъезда Абдаллаха из Нового Города на рубеже 766-767 гг.х. [Janina 1977, 209], его замены в 767-768 гг.х. последующим правителем Кутлубугой, который мог носить титул «шейх», а затем в 769-770 гг.х. – другим правителем, Деметрием, вероятно носившим титул эмира [Nicolae 1999, 142-143] (Табл. 1).

Авторы полагают, что зафиксированные изменения в чеканке серебряных дангов могли отразиться и в выпуске городских медных пулов, которые также способны отражать смену властных этапов в истории Нового Города. В этой связи выдвигается предположение, что пулы поздней группы D/III были отчеканены

не в 767 г.х., как полагала С.А. Янина, то есть непосредственно вслед за ранними эмиссиями (А, В/І), а после определённого перерыва – уже в 769 г.х., на завершающем этапе функционирования золотоордынского Нового Города. В подтверждение данной гипотезы ниже приводится совокупность аргументов.

Медные пулы раннего и позднего подтипов не имеют штемпельных совпадений, что позволяет рассматривать их как разделённые во времени выпуски.

Анализ стилистического оформления серебряных дангов 769 г.х. выявляет близость «почерка» монетного мастера в отдельных элементах легенды с пулами поздней группы D/III, что также указывает на более позднюю датировку этой группы. Среди дангов 769 г.х. выделяется несколько штемпелей аверса и реверса, демонстрирующих сходство с пулами группы D по ряду деталей. Легенды на этих дангах выполнены аккуратно и грамотно, однако заметно грубее по сравнению с выпусками 765-766 гг.х. Линии штемпелей, как и на пулах группы D, существенно шире, чем на более ранних выпусках.

Следует обратить на некоторые детали стилистического сходства пулов группы D и дангов 769 г. (рис. 3):

- на пулах группы D первая строка аверса «азза» заканчивается характерным (1) раздвоенным окончанием, которое несет декоративную функцию. Абсолютно аналогичный элемент присутствует в конце слова «амир», на нескольких вариантах штемпелей, как на аверсе, так и на реверсе;
- на медных монетах этой группы в слове «шехр» отсутствуют три диакритические точки над харфом «шин» (2). Аналогичная особенность наблюдается на всех дангах 769 г.х. При этом на серебряных монетах 765-767 гг.х. эти точки присутствуют, а даже они сохраняются на большинстве оборотных сторон, грубо выполненных дангов 768 г.х.;
- в слове «نق» буква «а» в середине (3) приплюснута в верхней части, как на пулах группы D, так и на некоторых вариантах аверса дангов.

Эти совпадения деталей оформления позволяют предположить, что стилистические особенности одновременно применялись при выпуске серебряных и медных монет.



Рис. 3. Общие стилистические черты монет Нового Города: пул D/III (A) и данги 769 г.х. (B, C).

Fig. 3. Shared stylistic features of New City coinage: a pul of subgroup D/III (A) and dangs dated 769 AH (B, C).

Важным аргументом в пользу поздней датировки подгруппы D/III является характер легенд подражательных пулов Шехр ал-Джадида. Практически весь известный по публикациям массив таких монет воспроизводит наименование монетного двора в одну строку и не демонстрирует двустрочного написания «ал-Джадида», характерного для варианта D/III. Если бы чеканка городских пулов этой подгруппы началась уже в 767 г.х., то есть непосредственно после выпуска более ранней серии, они очевидно должны были бы также стать образцом для подражаний. Крайняя редкость таких подражаний позволяет заключить, что пулы подгруппы D/III были выпущены на значительно более позднем этапе (не ранее 769 г.х.), и не оставили временного интервала, достаточного для массового возникновения подражательных эмиссий по их образцу.

Выводы

На основании анализа нумизматического материала, включая сведения о монетных находках, введенных в научный оборот в последние годы, а также стилистического и типологического сопоставления выпусков, представляется возможным уточнить ранее предложенные датировки медных пулов Шехр ал-Джадида. В целом разделяя вывод С.А. Яниной о начале чеканки этих монет в 766 г.х., авторы, тем не менее, полагают, что аргументы в пользу 765 г.х. следует сохранить в качестве рабочей гипотезы для будущей проверки.

Анализ особенностей легенды позволяет предложить уточнение хронологии подгруппы медных пулов (D/III), выделяемой, в первую очередь, по признаку двустрочного написания слова «ал-Джадида» (в отличие от однострочного написания на монетах ранней серии – A, B/I). По мнению авторов, данная подгруппа могла быть выпущена не в 767 г.х., как предполагалось ранее, а позднее – в 769 г.х., то есть на заключительном этапе существования золотоордынского города.

Появление обособленной поздней серии городских медных пулов, вероятно, было связано с несколькими причинами. К ним можно отнести оживление монетного производства при новом правителе – «эмире», чей титул впервые появляется на серебряных дангах 769 г.х. и которого исследователи соотносят с правителем Деметрием, известного по венгерской грамоте 1368 г. как «Domini Demetrii, principis Tartarorum». Другой причиной могла стать практическая необходимость в дополнительной чеканке для обеспечения денежного обращения Нового Города. Наконец, следует учитывать и возможные фискальные мотивы.

Практическая значимость предлагаемых уточнений состоит в возможности более точного использования медных пулов Шехр ал-Джадида в качестве хронологических маркеров при датировке археологических комплексов. Выделение ранних и поздних выпусков позволяет более обоснованно разграничивать куль-

турные слои, относящиеся к краткому периоду расцвета города на основании находок соответствующих монет.

Дальнейшая публикация новых монетных находок и их анализ создадут предпо-

сылки для уточнения хронологии, а также для углубления представлений об экономической и политической истории золотоордынского Нового Города – одного из важнейших памятников домолдавского прошлого региона.

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Mykola Shataylo

Coins of the State of the Teutonic Order in Prussia in the Territory of Medieval Ukraine and Neighboring Lands: The Contemporary Scholarly Discourse

Key words: historiography, numismatics, coin, numismatic sources, methodology, monetary circulation, die analysis, topography of coin finds, Middle Ages, Teutonic Order, scholarly discourse, coin hoard.

Cuvinte-cheie: istoriografie, numismatică, monedă, surse numismatice, metodologie, circulație monetară, analiza ștanțelor, topografia descoperirilor monetare, Evul Mediu, Ordinul Teutonic, discurs științific, tezaur monetar.

Mykola Shataylo

Coins of the State of the Teutonic Order in Prussia in the Territory of Medieval Ukraine and Neighboring Lands: The Contemporary Scholarly Discourse

The article examines the distribution and historiography of coins of the Teutonic Order's state in Prussia within the monetary circulation of Eastern Europe, with particular attention to the Ukrainian, Belarusian, and Moldavian lands of the late Middle Ages. It has been established that the spread of Teutonic coinage exhibited a clearly defined regional differentiation, determined by the intensity of economic, political, and military contacts with the Order's state. While in the border regions of the Kingdom of Poland these coins could play a significant role in monetary circulation, in the lands of the Grand Duchy of Lithuania they functioned as a secondary element of a multi-currency system, whereas in the Principality of Moldavia their presence was episodic.

The article outlines the main directions in the development of historiography on this issue. Two interrelated levels of research are identified: the first, in which Teutonic coins are considered within broader archaeological, topographical, and regional numismatic studies; and the second, represented by specialized works in which this material is treated as an independent subject of analysis. Within the latter, key research problems are defined, including the topography of finds, the relationship between single finds and hoards, issues of attribution, the problem of counterfeiting, and the use of numismatic materials for reconstructing economic connections.

The historiographical analysis demonstrates that, despite the growing number of studies, Teutonic Order coinage has only relatively recently emerged as a distinct object of research. For a long time, it remained embedded within broader numismatic syntheses, which resulted in the fragmentary character of its study. Additional difficulties arise from terminological ambiguity and varying levels of source attribution. As a result, the current state of research is characterized by uneven development and requires further systematization of material and the development of coherent methodological approaches.

Mykola Shataylo

Monedele statului Ordinului Teutonic din Prusia pe teritoriul Ucrainei medievale și al regiunilor învecinate: discursul științific contemporan

Articolul examinează răspândirea și istoriografia monedelor statului Ordinului Teutonic din Prusia în circulația monetară a Europei de Est, cu un accent deosebit asupra teritoriilor ucrainene, belaruse și moldovenești din perioada târzie a Evului Mediu. Se constată că difuzarea monedelor teutonice a avut un caracter regional diferențiat, determinat de intensitatea contactelor economice, politice și militare cu statul Ordinului. În regiunile de frontieră ale Regatului Poloniei aceste monede puteau avea un rol semnificativ în circulația monetară, în timp ce în teritoriile Marelui Ducat al Lituaniei ele funcționau ca un element secundar al unui sistem monetar pluricomponent, iar în Principatul Moldovei prezența lor a fost episodică.

Articolul evidențiază principalele direcții de dezvoltare ale istoriografiei acestei probleme. Sunt identificate două niveluri interdependente de cercetare: primul, în care monedele teutonice sunt analizate în cadrul unor studii arheologice, topografice și numismatice regionale mai ample; și al doilea, reprezentat de lucrări specializate, în care acest material este tratat ca un obiect independent de analiză. În cadrul celui de-al doilea nivel sunt definite principalele probleme de cercetare: topografia descoperirilor, raportul dintre descoperirile izolate și tezaure, problemele de atribuire, fenomenul falsificărilor, precum și utilizarea materialelor numismatice pentru reconstituirea legăturilor economice.

Analiza istoriografică demonstrează că, în pofida creșterii numărului de studii, monedele Ordinului Teutonic au devenit doar relativ recent un obiect distinct de cercetare. Timp îndelungat ele au fost integrate în sinteze numismatice mai largi, ceea ce a determinat caracterul fragmentar al cercetărilor. Dificultăți suplimentare sunt generate de ambiguitatea terminologică și de nivelul inegal de atribuire a surselor. În consecință, stadiul actual al cercetării se caracterizează printr-o dezvoltare inegală și necesită o sistematizare suplimentară a materialului și elaborarea unor abordări metodologice coerente.

Introduction

As is well known, monetary circulation in the Ukrainian lands in the late Middle Ages, as in most of Central and Eastern Europe outside territories under Horde control, was based on Prague groschen. However, coins issued by other authorities also circulated alongside them. Among the minting centres whose coinage reached the Ukrainian lands, then part of the Grand Duchy of Lithuania and the Kingdom of Poland, was the state of the Teutonic Order in Prussia.

The founder of scholarly numismatic studies of the Teutonic Order, Friedrich August Voßberg, noted that within the monetary system of the Teutonic Order's state in Prussia, the coin functioned primarily as a bearer of a specific quantity of silver, which determined its purchasing power [Voßberg 1843, 60-67, 74-77]. It was precisely this characteristic that made it possible for Teutonic coins to circulate beyond the borders of the Order's state, regardless of their nominal denomination.

An important line of research in contemporary European medieval numismatics concerns the distribution of Teutonic Order coinage in Prussia across the territories of other states, considered within the broader context of interregional economic, political, and social contacts in the late Middle Ages. Relations between the medieval Ukrainian lands and the Order's state have traditionally been reconstructed on the basis of written sources from the second half of the thirteenth to the early sixteenth century. However, material evidence, above all numismatic finds, also provides direct archaeological indicators of such contacts. In recent decades, Teutonic Order coinage and its finds in Ukraine and neighbouring regions have attracted increasing attention from both Ukrainian and international scholars.

Main Body of the Study

To understand the place of Teutonic Order coinage in the monetary circulation of the medieval Ukrainian lands, it is essential to compare the situation in these territories with that in regions of Central and Eastern Europe directly adjacent to the Order's state, above all the Polish lands, as well as in neighbouring regions, including the Belarusian lands of the Grand Duchy of Lithuania and medieval Moldavia.

As demonstrated by Maria Meclewska, the influx of Teutonic coinage into the Polish lands, primarily Pomerelia (Gdańsk Pomerania), Kuyavia, Mazovia, and northern Greater Poland, continued throughout the entire existence of the Teutonic Order's state in Prussia (1226-1525) [Meclewska 1969, 81]. The author regards this phenomenon as one of the key elements in the monetary history of medieval Poland. Particularly illustrative is the situation in the border regions of the Polish Kingdom, especially in Kuyavia and Mazovia, which maintained direct contact with the Order's state. From the very first decades of its minting, Teutonic coinage effectively dominated monetary circulation in these areas until the end of the fifteenth century, as evidenced by both hoard material and written sources [Meclewska 1969, 82].

Moreover, it functioned not only in large-scale exchange but also in everyday economic practices, such as peasant rents, urban payments, and judicial fines, indicating its deep penetration into all levels of socio-economic life [Meclewska 1969, 83].

This situation was determined by intensive trade connections, within which Mazovia and Kuyavia functioned both as a transit zone for large-scale international exchange and as a space of active local trade. These regions thus acted as an economic intermediary between the Polish lands and the state of the Teutonic Order, facilitating a steady inflow of Order coinage [Meclewska 1969, 84-85]. At the same time, other mechanisms of its distribution were also significant, including credit operations, advance payments for goods, merchant activity, as well as non-economic factors such as military service and political contacts [Meclewska 1969, 86-87].

By contrast, in regions more distant from the direct influence of the Order's state, such as Lesser Poland, Silesia, and, to some extent, Greater Poland, Teutonic coinage did not play a leading role and circulated alongside other foreign coins as one element within a broader international monetary system [Meclewska 1969, 82-83]. Thus, even within the Polish lands, its role was uneven and directly dependent on the intensity of economic contacts with Prussia.

Thus, the Polish material demonstrates that in the border regions of the Kingdom of Poland adjacent to the Teutonic Order, Teutonic coinage

could constitute the foundation of monetary circulation. In contrast, in Polish lands more distant from the Order, Teutonic coins functioned merely as one component within a multi-currency system shaped by diverse economic connections. It is precisely this model of the functioning of Teutonic coinage in Eastern Europe that is reflected in the works of modern scholars.

Teutonic Order coins discovered in the territory of Ukraine reflect patterns of monetary circulation connected with everyday economic activity and provide evidence of real economic links between regions. Numismatic material obtained both through archaeological research and from other sources, particularly as a result of detector finds, makes it possible to refine the scale and directions of coin circulation, as well as to reconsider certain historiographical assumptions. At the same time, the specificity of the source base lies in the fact that Teutonic coins in the Ukrainian lands are predominantly represented by single finds and only much more rarely as part of monetary or mixed coin-and-object hoards. Such a character of the material complicates interpretation, yet at the same time reflects the actual mechanisms of coin circulation and loss.

The first references to finds of Teutonic coins in Ukrainian territories date back to the second half of the nineteenth and the early twentieth centuries, particularly in the works of Konstantin Strashkevich [Strashkevich 1866] and M. Greim [Greim 1891].

Thus, K. Strashkevich, describing a hoard discovered in 1844 in the village of Kozyntsi (Bratslav district, Podolia Governorate), noted that it contained two coins of the Teutonic Order's state in Prussia, namely shillings of Heinrich Reuss von Plauen (administrator of the Order, 1467-1469) and Heinrich Reffle von Richtenberg (1470-1477). M. Greim, in turn, published information on a hoard discovered in 1889 in the village of Tatarsky (Ushytsia district, Podolia Governorate), in which Teutonic coins accounted for seven specimens out of a total of 1,268 coins dating from the fourteenth to the sixteenth centuries.

Unfortunately, during the Soviet period, the issue of Teutonic coin finds not only failed to become a subject of specialized study but was, in fact, largely ignored. For example, in two monographs by the well-known Ukrainian Soviet-era scholar

Mikola Kotliar [Kotliar 1971; 1981], these coins are not mentioned at all. Moreover, numismatists who were formed within the Soviet scholarly tradition, for ideological reasons, generally avoided using the term "Teutonic Order" in numismatic studies, replacing it with generalized geographical designations such as "Prussia," "Prussian merchants," or "Prussian coins." Such an approach led to the obscuring of the political nature of the Order's state and made precise numismatic attribution of the respective emissions more difficult.

Representatives of the Soviet numismatic school, even after the collapse of the Soviet Union and the banning of the Communist Party, continued to employ this inaccurate term "Prussian coins" in reference to coinage of the fourteenth and fifteenth centuries. A particularly illustrative example is the work of the well-known Belarusian numismatist Valentin Riabtsevich, published in 1995 [Riabtsevich 1995].

With the shift in ideological paradigms, the terms "Teutonic Order" and "the State of the Teutonic Order in Prussia" have come into use in contemporary Ukrainian historiography. In the works of modern Ukrainian scholars, particular aspects of the identification, attribution, and interpretation of Teutonic Order coin finds on the territory of Ukraine have been addressed.

Thus, in the work of the prominent Ukrainian archaeologist Hlib Ivakin [Ivakin 1996], relevant materials were examined within a broader historical-topographical context of the development of Kyiv. This approach made it possible to integrate individual numismatic finds into the general picture of urban life in the late Middle Ages. The scholar, in particular, mentions the discovery on the Podil of shillings issued under Ludwig von Erlichshausen (1450-1467) and Martin Truchsess von Wetzhausen (1477-1489).

The study by Olexander Pozikhovskiy and Roman Shust [Pozikhovskii, Shust 2005], devoted to monetary circulation in Volhynia based on hoard materials from the Ostroh Reserve collections, is of particular importance for the present topic. It contains data on complexes that included Teutonic Order coins. In particular, within a coin deposit discovered in 1995 in the city of Ostroh on Drevlianska Street, shillings of Michael Kuchmeister von Sternberg and Paul von Rusdorf were identified.

In a study by S. Demydko, O. Pohorilets, and S. Stopenchuk [Demydko et al. 2006, devoted to a late medieval fortification near the settlement of Medzhybizh, Teutonic coinage, specifically a shilling of Konrad von Erlichshausen, is discussed within the context of archaeological materials.

For the study of Podolian material, the work of R. Savvov [Savvov 2016] is also of considerable importance. In this study, the monetary circulation of the Podolian Principality is analyzed, and Teutonic Order coins are considered as one of the elements of external monetary influences. In particular, the researcher provides information on finds of Teutonic coins: single specimens of shillings were discovered on the outskirts of the village of Kuzmyn (Haisyn district) [Savvov 2016, 16] and near the village of Hrubna (Sokyriany district) [Savvov 2016, 18], as well as two shillings found near the village of Stara PISOCHNA in Khmelnytskyi region [Savvov 2016, 16].

References to regional finds are also contained in the work of A. Shostopal [Shostopal 2007], where coin hoards from the Cherkasy region are presented as part of a broader numismatic landscape of the area. The researcher notes the discovery, in May 2006, in the village of Pishchane (Zolotonosha district, Cherkasy region), of a shilling of the Teutonic Order's state in Prussia; however, unfortunately, without identification of the Grand Master under whom it was issued.

The article by V. Bezpal'ko and D. Lukashov reports the presence of a groschen of Johann von Tiefen within a coin hoard discovered in the village of Teterivske (Ivankiv district, Kyiv region) [Bezpal'ko, Lukashov 2012].

Certain information regarding finds of Teutonic coins is also contained in the works of A. Kryzhanivskyi. In his research, references to Teutonic coinage are largely contextual and arise in connection with the analysis of hoard compositions and trade routes [Kryzhanivskyi 2021]. The author does not provide a direct quantitative or typological analysis of these coins but records the very fact of their presence within monetary complexes. In particular, it is noted that the occurrence of Teutonic shillings in hoards is a documented phenomenon, confirmed both by tabulated find data and by previous studies (notably those of V. Orlyk).

These finds are primarily interpreted by the author as evidence of trade communications rather

than local monetary circulation. The text clearly advances the idea that the territory of Podolia and adjacent regions, particularly the borderlands of Halych Rus', the Belz land, and the Podolian Principality, functioned as transit zones of international trade, where heterogeneous monetary complexes accumulated. It was under such conditions that Teutonic coins appear in hoards.

Particularly significant is the author's observation concerning the directions through which these coins penetrated the region. Kryzhanivskyi connects their appearance with trade routes passing through Podolia and the Belz land, extending further toward the Baltic region. Special emphasis is placed on possible contacts via Mazovian and Belz territories, which opened routes toward Gdańsk and, consequently, to the economic sphere of the Teutonic Order. In this context, Teutonic coins function not as a local currency but as indicators of transit trade between the Baltic and Black Sea regions.

At the same time, the analysis of this study allows for an important conclusion: Teutonic coins do not form a distinct layer within the structure of finds but appear alongside a broad spectrum of other monetary systems, including Lviv, Prague, Polish, Moldavian, and Golden Horde coinages. This points to the polycentric character of monetary circulation and confirms that even in zones of intensive trade, Teutonic coinage did not occupy a dominant position but constituted only one component of a complex regional monetary system.

Equally important is the fact that the author effectively employs numismatic finds, including Teutonic coins, as a tool for reconstructing trade routes. Through the analysis of hoard compositions and the geography of finds, he demonstrates a shift in trade flows in the late fourteenth and early fifteenth centuries, when Podolia transformed from a transit territory into a key center of commodity exchange. In this context, Teutonic coins emerge as one of the elements reflecting the integration of the region into the broader Baltic-Black Sea trade system.

Within the context of the aforementioned studies, the article by M. Ochkur is devoted to the analysis of the circulation of Western European coinage in the monetary system of Volhynia during the fifteenth to seventeenth centuries. The finds of Teutonic Order coins in Volhynia, examined by Ochkur, demonstrate a model typical of

Eastern Europe, namely their limited yet stable penetration into regional monetary circulation.

First and foremost, the author emphasizes that all identified coins of this origin date to the fifteenth century and are represented both by single finds and as components of hoards, which defines them as a significant, though not dominant, element within the monetary structure of Volhynia [Ochkur 2022, 280]. Typologically, these finds are characterized by the predominance of small silver denominations, particularly shillings and groschen, whereas other types, such as halbschoter, bracteates, or klippe coins, occur much more rarely [Ochkur 2022, 280-281]. This suggests their primary use in everyday transactions rather than in large-scale trade, distinguishing them from, for example, Western European thalers or ducats, which functioned as high-value means of payment [Ochkur 2022, 274-275].

From a territorial perspective, the highest concentration of finds is observed in the western part of Volhynia, particularly in the Volodymyr-Volynskyi, Dubno, and Rivne districts, where 28, 27, and 20 coins respectively have been recorded, figures that significantly exceed those of other regions [Ochkur 2022, 280-281]. A smaller number of finds is associated with the Lutsk and Kovel districts, while in the Zhytomyr, Kremenets, and Sarny districts they are sporadic in nature [Ochkur 2022, 281-282]. Such a distribution clearly indicates a western vector of penetration and a direct connection with the Baltic region and the state of the Teutonic Order.

The chronological distribution of the finds demonstrates their concentration in the fifteenth century, with isolated cases extending into the early sixteenth century, for example a groschen-klippe of Albert of Brandenburg-Ansbach [Ochkur 2022, 280]. At the same time, the most representative emissions are those from the reigns of Michael Kuchmeister von Sternberg, Paul von Rusdorf, Martin Truchsess von Wetzhausen, and Johann von Tiefen, corresponding to the broader pattern of intensive minting of small silver coinage in the Teutonic Order's state during the fifteenth century [Ochkur 2022, 280-281].

A notable feature of the analyzed corpus is that a significant portion of the information on finds derives from materials associated with detector-based discoveries. This considerably

expands the source base, while at the same time raising questions regarding their scholarly verification and contextualization [Ochkur 2022, 280]. Nevertheless, this does not diminish their value for reconstructing the topography of finds; on the contrary, it allows for a much more detailed mapping of the distribution area of these coins.

Summarizing the material presented, the author arrives at an important conclusion: despite the considerable number of recorded finds and their wide geographical distribution, Teutonic Order coins did not play a significant role in the monetary circulation of Volhynia [Ochkur 2022, 282]. At the same time, their presence, attested both in hoards and in single finds, indicates stable economic and trade contacts between the Volhynian lands and the regions of the Baltic basin, as well as the state of the Teutonic Order. This allows these coins to be interpreted as important indicators of interregional connections, though not as a structural component of the local monetary system.

It should also be noted that, although in the aforementioned works the issue of Teutonic coinage did not always constitute an independent subject of research, these studies nonetheless formed an important empirical and historiographical foundation for its subsequent specialized investigation.

A significant turning point in the study of this topic, in our view, occurred from 2012 onward, when it became the subject of systematic scholarly analysis in the works of Vasyl Orlyk [Orlyk 2012; Orlyk 2015 a-c; Orlyk 2016 a-b; Orlyk 2017 a-b; Orlyk 2018 a-b; Orlyk 2019]. Already in his early publication, "False Coins of the Teutonic Order State in Prussia in the Currency of South-Rus Lands of the Lithuanian Grand Duchy" [Orlyk 2012], Professor V. Orlyk raises the issue of counterfeit Teutonic coins and their functioning within the monetary circulation of the Ukrainian lands of the Grand Duchy of Lithuania.

In this work, it is demonstrated that, despite the relatively small share of Teutonic emissions in the overall monetary circulation, they were sufficiently widespread in Volhynia and Podolia. At the same time, the existence of their imitations is documented, indicating the real integration of these coins into local economic processes. Particular attention is devoted to the problem of counterfeiting and the analysis of the technologies used in producing imitations, which allows such

forgeries to be treated as a distinct indicator of the intensity of circulation.

A separate group of Orlyk's studies is devoted to rare varieties and individual emissions, demonstrating that even uncommon types of Teutonic coinage penetrated the monetary market of the Ukrainian medieval lands, primarily as a result of economic contacts. The scholar has also examined certain aspects of minting technology, metal composition, and crisis phenomena within the monetary system of the Order's state in the early fifteenth century. This has led him to conclude that Teutonic coins circulated beyond the borders of the Order's state according to their intrinsic metal value.

Particularly informative, with regard to the adaptation of Teutonic coins to the local monetary environment, is a study devoted to a clipped shilling of the Teutonic Grand Master Michael K  chmeister von Sternberg, discovered in the Lviv region.

In his subsequent works, the researcher devotes considerable attention to the topography of finds. In particular, publications focused on the discovery of Teutonic Order coins in Ukraine have contributed to a clearer understanding of their regional concentration, primarily in Volhynia and adjacent territories, which correlates with the historical trade connections of these lands with Prussia. At the same time, it is emphasized that the majority of finds are isolated losses, which complicates the construction of a comprehensive topographical model, yet at the same time reflects the everyday character of the use of these coins.

This issue is most fully presented in the article "Topography of Finds in Ukraine of Coins of the State of the Teutonic Order in Prussia and Its Livonian Branch (Consolidated Data by Regions)" [Orlyk 2017b], where the known finds were systematized by region, the source base was outlined, and the importance of numismatic materials for reconstructing economic connections was demonstrated.

An important place within the body of Orlyk's works is occupied by studies that go beyond strictly numismatic analysis and employ coins as historical sources for broader reconstructions. In particular, in a study devoted to the localization of the Battle of the Vorskla River, numismatic finds, including Teutonic coins, are used as evidence to

refine the location of the historical event and to reconstruct the routes of troop movements. Such an approach demonstrates the potential of the interdisciplinary use of numismatic materials and significantly broadens the scope of their application in historical research.

Thus, in contemporary Ukrainian historiography, two interrelated levels of interpretation of this problem can be identified. The first is associated with the works of H. Ivakin, A. Pozikhovskiy and R. Shust, S. Demidko, O. Pohorilets and S. Stopenchuk, A. Shostopal, R. Savvov, and M. Ochkur, in which Teutonic coins were examined within broader archaeological, topographical, or regional numismatic studies. The second is represented by the corpus of works of Vasyl Orlyk, in which this issue acquired a specialized character and was developed as an independent field of research.

Within this body of work, a clearly defined set of key problems emerges: the topography of finds, the relationship between single finds and hoards, the role of Teutonic coins in the structure of monetary circulation, issues of attribution and identification of rare varieties, the problem of counterfeiting, as well as the use of numismatic materials for the reconstruction of historical events and economic connections. The principal conclusion that follows from these studies is that the coins of the Teutonic Order's state in Prussia did not constitute a significant share of monetary circulation in the Ukrainian lands; however, they formed an organic component of it, associated with trade, and in some cases also military and political contacts, and left a noticeable trace in the numismatic record, primarily in the form of single finds and, to a lesser extent, within hoards.

An important element for the comparative analysis of the distribution of coins of the Teutonic Order's state in Prussia is also the material from the Belarusian lands, where the functioning of Teutonic coins can be traced within the broader structure of monetary circulation of the Grand Duchy of Lithuania, and to which a number of works by Belarusian numismatists are devoted. In particular, in the study *Numismatics of Belarus* by Valentin Riabtsevich [Riabtsevich 1995], coins of the Teutonic Order's state are not highlighted as a separate group but are considered within the general context of monetary circulation in the Be-

larusian lands of the Grand Duchy of Lithuania in the fourteenth and fifteenth centuries.

Their presence is traced indirectly, through the composition of hoards and generalized descriptions of finds, without specific analysis or quantitative assessment. In particular, the list of hoards includes complexes described as containing "Prussian and Polish coins of the fifteenth–sixteenth centuries" [Riabtsevich 1995, 178]. Such a formulation does not allow Teutonic emissions to be distinguished from the broader category of "Prussian" coins, yet it indicates their possible presence within these assemblages. Thus, information on Teutonic coins in most cases has a generalized character and depends on the level of attribution of the hoards.

V. Riabtsevich also directly points to the problem of the incompleteness of the source base: "Many monetary and mixed hoards... have not been officially recorded... and are sometimes known only from collectors" [Riabtsevich 1995, 178]. This means that the corpus of recorded finds, including coins of Teutonic origin, is incomplete, and their actual distribution cannot be determined with precision. In the summarized statistical data, V. Riabtsevich provides the total number of recorded coins (152 specimens); however, this figure refers to the entire body of finds of various origins and does not allow Teutonic emissions to be highlighted as a separate group [Riabtsevich 1995, 174–175]. Accordingly, their share within the overall structure of monetary circulation cannot be precisely determined on the basis of this work.

At the same time, the author emphasizes that in the Belarusian lands of the Grand Duchy of Lithuania, coins of the Livonian Order were more widespread: "...in the western Rus' (Belarusian) lands of the Grand Duchy of Lithuania, silver shillings of the Livonian Order were widely circulated" [Riabtsevich 1995, 174]. This indirectly indicates the lesser significance of Teutonic (Prussian) emissions within the structure of monetary circulation.

Thus, according to the data presented by V.N. Riabtsevich, coins of the Teutonic Order's state in the Belarusian lands of the Grand Duchy of Lithuania are recorded primarily indirectly, as part of generally described hoards, and are not distinguished as an independent element of the monetary system. The absence of their separate accounting, as well as the dominance of other

coin groups, particularly Prague groschen and Livonian emissions, allows them to be regarded as a secondary and quantitatively indeterminate component of monetary circulation.

In the article "Monetary Circulation in the Belarusian Lands in the Fourteenth-Fifteenth Centuries" by V. Iurgenson [Iurgenson 2008], it is demonstrated that the foundation of monetary circulation in the region consisted primarily of Prague groschen, which dominated the coin stock, especially in the fifteenth century, as confirmed by both hoard complexes and single finds [Iurgenson 2008, 63–64]. It was these coins that determined the structure of the monetary system, whereas other coins, including those of foreign origin, played a secondary role. Against this background, coins of the Teutonic Order's state and the Livonian Order appear as one of the many components of a multi-currency circulation system.

As the researcher notes, their presence in the Belarusian lands is confirmed both by written sources and archaeological materials. Early emissions are represented primarily by shillings of the Teutonic Order and artigs of the Livonian Order, which in contemporary documents often appear under the common designation "shelagi" [Iurgenson 2008, 66]. The main influx of these coins is associated primarily with the military-political events of the late fourteenth and early fifteenth centuries, particularly the wars with the Teutonic Order, among which the Polish-Lithuanian-Teutonic War (the Great War of 1409–1411) was of key importance [Iurgenson 2008, 66].

At the same time, later emissions of Teutonic and Livonian shillings, dated to the second half of the fifteenth century, appear in the Belarusian lands in a different context, namely as a result of the intensification of trade relations between the Grand Duchy of Lithuania and Livonia [Iurgenson 2008, 66]. Thus, the dynamics of their distribution reflect a shift in the nature of contacts, from military and political to economic.

At the same time, the author emphasizes that even with the presence of a relatively wide spectrum of foreign coins, including Teutonic ones, their share in the overall structure of monetary circulation remained insignificant. They functioned alongside Czech, Polish, Galician, Kyiv, and other emissions, forming a diverse yet clearly hierarchized system in which the leading position belonged to the Prague groschen [Iurgenson 2008, 63–66].

In the publication “A Hoard of the Fifteenth-Sixteenth Centuries from near Vawkavysk: Preliminary Results of Research” by A. Karach [Karach 2016], Teutonic coins are examined within the framework of a large monetary complex originating from the territory of the Grand Duchy of Lithuania (near Vawkavysk, modern Belarus). Within this hoard, which numbers in the thousands of specimens, Order emissions are not highlighted as an independent or dominant group but are recorded merely as one component of the overall structure of coin circulation. The very manner of presenting the material indicates their quantitative insignificance and lack of determining influence on the composition of the hoard.

From the analysis of the data presented by the Belarusian numismatist, it follows that coins of the Teutonic Order's state were part of the region's monetary circulation but performed an auxiliary function, circulating alongside other European emissions. They do not form a separate complex and do not determine the chronological or structural parameters of the hoard, which is characteristic of the territories of the Grand Duchy of Lithuania as a whole. At the same time, the very fact of their presence within a large hoard testifies to the integration of the northwestern lands of the state into the sphere of economic contacts connected with the Baltic region and, in particular, with the state of the Teutonic Order.

Thus, the materials of the hoard from near Vawkavysk confirm a general pattern characteristic of Eastern Europe: coins of the Teutonic Order's state functioned as one of the secondary elements of a multi-component monetary system shaped by diverse economic connections. Accordingly, the materials from the Belarusian lands demonstrate a situation similar to that observed in Ukrainian territories. The appearance of Teutonic coins in the Belarusian lands was conditioned both by military-political and by trade contacts. This once again underscores the regional specificity of the functioning of Order emissions in Eastern Europe and contrasts with the situation in the Polish lands directly adjacent to the Teutonic Order's state in Prussia, where their role was considerably more significant.

The issue of finds of Teutonic Order coins in the territory of medieval Moldavia has been addressed in the works of Grigore Foit [Foit 1967]

and Lilia Dergacheva [Dergacheva 2011]. In particular, Foit recorded Teutonic coins within a hoard discovered in 1964 at Fântâna Mare (Suceava County, Romania). The composition of this hoard included 94 coins of the sixteenth-seventeenth centuries of various denominations. The core of the assemblage consisted of Polish emissions (72 specimens), while Teutonic coinage was represented by a single specimen, described in the text as a divisional emission of the Order [Foit 1967, 35–36].

Our own visual analysis of the iconography of this coin indicates that it is a shilling of the Grand Master Johann von Tiefen (1489-1497). As can be seen, the share of Teutonic coins in this hoard amounts to 1 out of 94, that is, approximately 1.06%. The context of the find is a typical mixed late medieval hoard with a dominance of Polish denominations and a minor presence of other emissions. The study contains no description of single finds; the Teutonic coin is known only as part of this hoard, and it is emphasized that this represents the first such find in the region.

In the dissertation of Lilia Dergacheva, the situation is somewhat expanded. The author notes that the main corpus of Teutonic coins she analyzed originates from a hoard discovered in Iași (Romania), while outside of it only a single stray find is known – from the Troțuș region (the Troțuș River valley, modern Romania). The Iași hoard includes coins issued under the Grand Masters Ludwig von Erlichshausen (1450-1467), Heinrich Reuss von Plauen (1467-1469), Heinrich Reffle von Richtenberg (1470-1477), Martin Truchsess von Wetzhausen (1477-1489), and Johann von Tiefen (1489-1497). The number of coins for each Grand Master is not specified; however, their presentation as a group indicates a concentrated influx within a single complex. The overall proportion of Teutonic coins is not calculated, but the author explicitly notes that their quantity is “small” [Dergacheva 2011, 107-108].

For understanding the distribution of a particular type of coin within a given territory, information on single finds is important alongside hoard material, and evidence of concentrations of such finds is especially significant. However, Dergacheva records only a single stray find, a coin from the Troțuș region (modern Romania), which she identifies as a shilling of Heinrich Re-

uss von Plauen (1467-1469). Thus, in the territory of the former Principality of Moldavia, the corpus of single finds of Teutonic Order coins does not form a distinct category and is represented by only one case.

The context of the finds in the works of Romanian and Moldovan scholars is essentially the same: Teutonic coins appear within mixed hoards together with Prague, Polish, Hungarian, and other emissions and do not form separate groups. They do not determine the structure of the hoards but function rather as an incidental or secondary component of monetary circulation.

Conclusions

The synthesis of the material presented provides grounds to conclude that the distribution of coins of the Teutonic Order's state in Eastern Europe exhibited a clearly pronounced regional differentiation, determined by the intensity of contacts with the Order's state in Prussia. In the border regions of the Kingdom of Poland, Order emissions could play a significant role in the structure of monetary circulation, whereas in the Ukrainian and Belarusian lands of the Grand Duchy of Lithuania they functioned as a secondary component of a multi-currency monetary system. In these regions, their presence is recorded predominantly in the form of single finds and much less frequently as part of coin hoards, reflecting the episodic character of their circulation. Within the Principality of Moldavia, these coins were virtually absent; their presence, limited to a few specimens in two hoards, appears entirely incidental, as this principality did not maintain direct contacts with the commercial representatives of the Order.

At the same time, an analysis of the historiography indicates that the current state of research on the coinage of the Teutonic Order is shaped by a number of methodological and source-related limitations. First and foremost, it should be emphasized that in most studies these coins were not treated as an independent object of analysis but were considered within broader archaeological or numismatic syntheses. As a result, their study remains largely fragmentary and dependent on the degree of investigation of hoard complexes or materials from individual sites. A significant problem remains the lack of terminological precision, manifested in the use of generalized cate-

ries such as "Prussian coins," which encompass heterogeneous emissions, including those of the Teutonic Order's state. Such an approach, attested in a number of studies, complicates the identification of specific types and effectively hinders precise quantitative analysis. In this context, the problem lies not only in terminology but also in the varying levels of attribution of the sources.

Equally important is the condition of the source base. A substantial portion of finds, especially those originating outside systematic archaeological investigations, has not been properly recorded or introduced into scholarly circulation. This results in significant gaps in the corpus of materials and necessitates caution in reconstructing the scale of distribution of Order emissions. Another important issue is the unevenness of the source base in regional terms. Ukrainian lands are characterized by the presence of a considerable body of single finds, which has enabled scholars to form a corpus of studies and partially reconstruct the topography of the distribution of Teutonic Order coinage. By contrast, in the Principality of Moldavia, the source base is almost exclusively represented by hoards, while single finds are virtually absent. In the Belarusian material, in turn, a significant portion of finds is presented in a generalized form, which complicates their detailed analysis. This results in differing levels of representativeness of the data and complicates their direct comparison.

Thus, the current state of research on the coinage of the Teutonic Order in Eastern Europe is determined by a combination of objective and historiographical factors. On the one hand, the limited role of Teutonic coins in the monetary circulation of most regions accounts for their secondary character within monetary systems; on the other hand, the fragmentary nature of the source base, terminological ambiguity, and the uneven distribution of scholarly attention create specific challenges for their study. This determines the need for further systematization of the corpus of finds and the development of coordinated approaches to their analysis within the Eastern European scholarly discourse. Despite significant progress in the study of this issue, it has not yet achieved full institutionalization and requires further accumulation of source material, its critical analysis, and its integration into a broader historical context.

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Non-ferrous metalworking of the Upper Kyiv in the 10th-13th centuries

Key words: Kyiv Rus, Upper Kyiv, non-ferrous metals, bronze casting and jewelry workshops, metalworking smith and locksmith workshops, raw materials and production wastes, crucibles and smelting ladles, casting molds and tools.

Cuvinte cheie: Rusia kieveană, Kievul de Sus, metale neferoase, ateliere de turnare a bronzului și bijuterii, ateliere de fierărie și lăcătușerie, materii prime și deșeuri de producție, creuzete, matrițe și unelte de turnare.

Viacheslav Kryzhanovskiy

Non-ferrous metalworking of the Upper Kyiv in the 10th-13th centuries

The Upper Kyiv is the oldest part of the city, where the administrative center with princely palaces, church estates, and boyar residences was located. The inhabitants of these complexes required a significant number of items made from non-ferrous metals. Between 1907 and 2013, excavations were conducted at 20 areas, where 83 specialized objects and 1363 artifacts were discovered and studied, including materials from 14 cultural layers that may have originated from nearby production structures. Among the identified features were 6 bronze casting workshops, 22 jewelry workshops, 6 smithy/locksmithy workshops, and 23 dwelling-workshops. Most of these objects date to the 12th – the beginning of the 13th century. Some of them were combined with ironmaking/ironworking and/or glassmaking/glassworking crafts. Numerous production structures formed five specialized craft centers in the Upper City, covering areas from 0.5 to 6 hectares. Within their fillings, 12 marketable metals, 503 semi-finished products, 690 casting vessels, 15 casting molds, 34 tools, and 112 examples of production waste were found.

The emergence of a significant number of non-ferrous metalworking facilities in Upper Kyiv is explained by their proximity to the grand princely courts with their palace complexes, the estates of the boyar elite, the marketplace square, and religious buildings.

Viacheslav Kryzhanovskiy

Prelucrarea metalelor neferoase în Kievul de Sus în secolele X-XIII

Kievul de Sus – este cea mai veche parte a orașului, unde se afla centrul administrativ cu palate cneziale, edificii bisericești și reședințe boierești, ai căror locuitori aveau nevoie de o cantitate semnificativă de produse din metale neferoase. În perioada 1907-2013, pe teritoriul a 20 de sectoare de săpătură au fost descoperite și cercetate 83 de complexe și 1363 de artefacte, inclusiv materiale din 14 straturi culturale, care ar fi putut ajunge acolo din cele mai apropiate ateliere de producție. Printre complexe au fost identificate 6 ateliere de turnare a bronzului, 22 de ateliere de bijuterie, 6 ateliere de fierărie/lăcătușerie și 23 de locuințe-atelier. Majoritatea complexelor datează din secolele al XII – începutul secolului al XIII-lea. Unele dintre ele erau asociate cu prelucrarea fierului și/sau cu meșteșugul topirii/prelucrării sticlei. O serie de complexe de producție au format cinci centre meșteșugărești specializate ale Orașului de Sus, cu suprafețe cuprinse între 0,5 și 6 hectare. În umplutura complexelor au fost înregistrate 12 tipuri de metale comerciale, 503 semifabricate, 690 de vase de turnare, 15 forme de turnare, 34 de unelte și 112 exemplare de deșeuri de producție.

Apariția unui număr semnificativ de complexe de prelucrare a metalelor neferoase pe teritoriul Kievului de Sus se explică prin apropierea de curțile marelui cneaz cu complexele lor palatine, de curțile nobilimii, de piața centrală și de edificiile de cult.

The Upper Kyiv (“Upper City,” and its components: Kyiv Dytynets or “city of Volodymyr,” “city of Yaroslav,” “city of Iziaslav-Sviatopolk”) – the upper part of the city, located on Starokyivska and Mykhailivska Hills – was concentrated state, princely, feudal-manorial, and church-monastic crafts (fig. 1).

At different times, the territory of the Upper Kyiv was researched by such scientists as V. Khvoika, F. Movchanivski, V. Bogusevich, M. Karg-

er, V. Goncharov, S. Kilievich, P. Tolochko, G. Ivakin, M. Sahaidak, Ia. Borovs’kii, I. Movchan, A. Kozlovs’kii, and others. The generalizing work on the study of ancient Kyiv craft monuments in the Upper City was the monograph of S. Kilievich “Dytynets of Kyiv of the 9th – the first half of the 13th centuries” [Kilievich 1982], in which, among other things, known at that time production workshops in the oldest Kyiv part – Dytynets – related to the processing of non-ferrous metals

were listed and described. Since then, many similar objects have been researched in its territory and in the rest of Upper Kyiv, expanding the idea of the development of this branch of the craft.

Materials and methods

This article analyzes 83 archaeological objects, including materials in cultural layers of ancient Rus time, from 20 excavation areas of the Upper Kyiv (table 1, fig. 1, fig. 2). The excavations are presented chronologically, beginning with the earliest and ending with the latest. Some of these objects are represented here for the first time.

Different production structures were classified according to the following criteria. Workshops engaged in bronze casting, which specialized in foundry processes, are recognizable through characteristic finds, including metal raw materials and casting vessels. Their production focused on copper-based alloys (lead bronze, tin bronze, and brass) and the manufacture of finished products derived from these materials. Jewelry workshops were for the production of deco-

orative ornaments, attire fittings, sacred objects, and equestrian harnesses from non-ferrous and precious metals. They were characterized by specialized tools, casting molds, and small-volume casting vessels. Metalworking smith and locksmith workshops represent distinct functional spaces: the former for the production of colored metal items via hot or cold forging, the latter for the repair of existing objects. However, due to the similarity of artifacts recovered from these sites, a clear differentiation is challenging, and the combined classification “smithy/locksmithy” is commonly applied. Distinct from other workshops, they lack casting molds and vessels, have limited metal raw materials, and show traces of semi-finished or broken items. In dwelling-workshops, founders and jewelers were able to operate within typical residential spaces. Various types of manufacturing were conducted in universal workshops, utilizing shared facilities and thermal engineering structures. Workshops or dwelling-workshops and their surroundings featured a variety of thermal engineering structures – from production

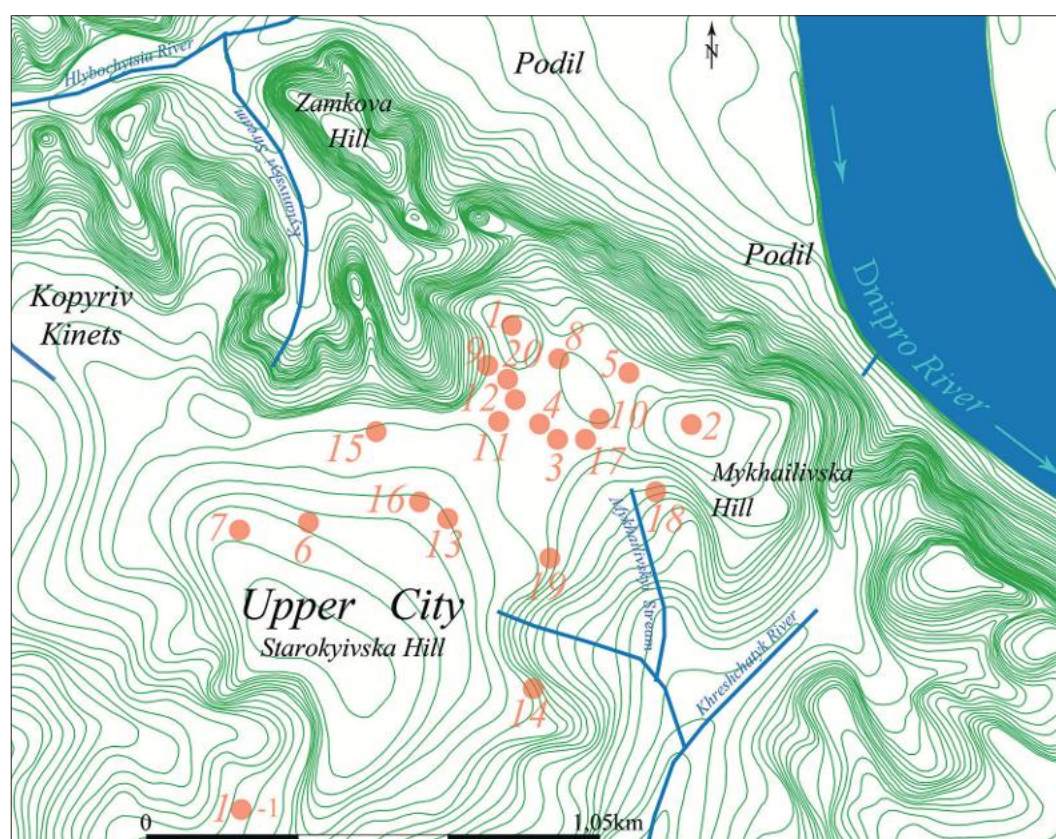


Fig. 1. Location of excavation areas of Upper Kyiv on the modern topographic map.

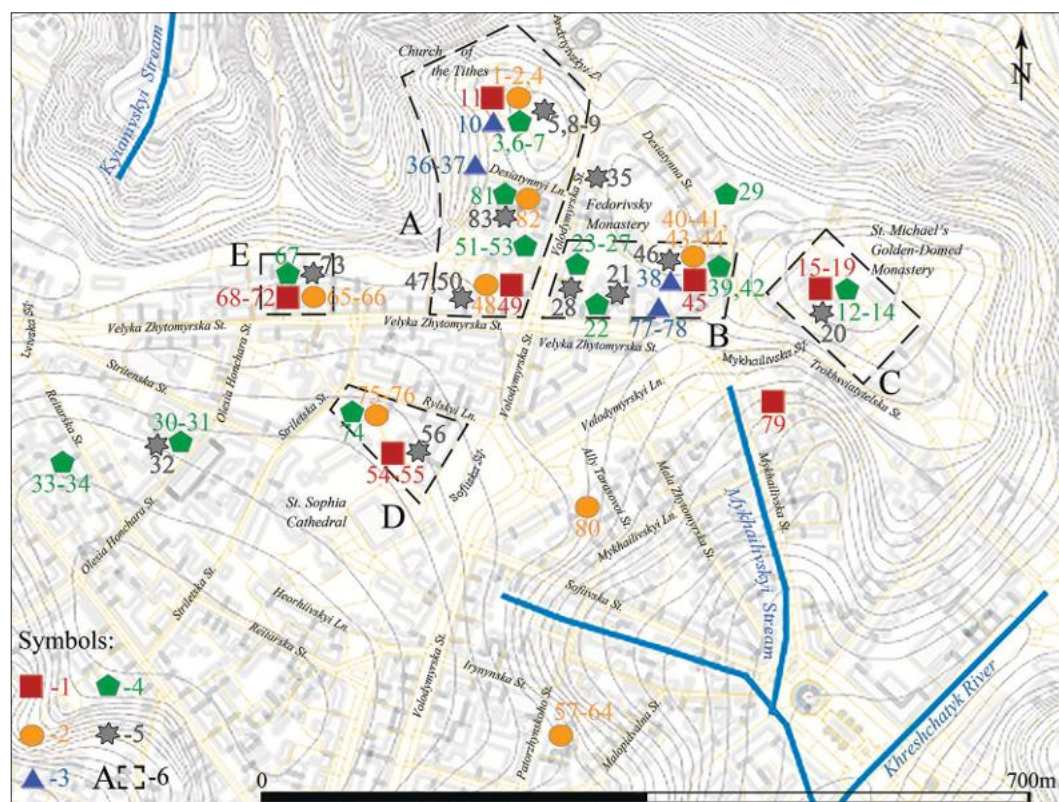


Fig. 2. Location of objects and craft centers, related to the processing of non-ferrous metals of Upper Kyiv on the modern map: 1 – bronze casting workshops; 2 – jewelry workshops; 3 – metalworking smithy/locksmithy workshops; 4 – dwelling-workshops; 5 – cultural layers; 6 – areas of the production centers.

kilns to ordinary cooking ovens and open hearths – all able to reach temperatures high enough to melt some metals. Warehouses, pits, and cellars used for storing raw materials, finished goods, or production wastes might also have formed part of the workshops. The planigraphic and stratigraphic measurements of archaeological objects may not accurately reflect their original dimensions, due to preservation conditions affected by modern urban development.

Artifacts from ancient Rus cultural layers were analyzed, which, to one degree or another, identify the presence of specialized non-ferrous metal production in a certain territory. Some such finds were accidentally found in some objects.

Identification of workshops was made possible through specialized artifacts unearthed in the fillings of objects: metal raw materials (ore, marketable metals, blanks, unfinished and broken items – semi-finished products), tools of labor (casting vessels – crucibles and smelting ladles, casting molds, tools), and production waste (scraps and spatters of metal, slags). Documented amounts of various ar-

tifacts are provided, though they might differ from the true values, since many scientific reports and papers lack exact numerical details. Lacking laboratory analysis of the non-ferrous metal artifacts described in the article, the metal was provisionally classified through paired name variants – “copper/bronze” and “tin/lead.” The paired name “crucible/smelting ladle” was used to denote casting vessels, the exact type of which could not be established. Most of the crucibles/smelting ladles were covered with non-ferrous glassy slags or crust and also had pieces of glass-like mass adhered to the inside of them. Some non-ferrous metal products from the fillings of archaeological objects were intended for repair or had been scrap, which accumulated for subsequent remelting. Fragments of enamel, smalt, glass threads, and amber were used in jewelry production. Domestic pottery fragments, covered with non-ferrous metal or glassy slags, may indicate a high intensity of casting processes in production workshops.

Typological, statistical, cartographic, and chronological methods formed the core of the re-

search methodology. Analysis of the ceramics in the fills provided the basis for dating the objects. The artifacts used in the article are currently preserved in the Archaeological Museum of the Institute of Archaeology of the National Academy of Sciences of Ukraine, the collections of the National Museum of the History of Ukraine, and the Kyiv History Museum.

Objects and finds

Over a long period, various archaeological objects have been researched at the excavation areas of Upper Kyiv, in the fillings of which, artifacts related to the processing of non-ferrous metals were found [Khvoika 1913, 63-75; Gushchin 1936, 23; Karger 1945, 10-14, fig. 7-13; Karger 1948; Rybakov 1948, 262, 361, 381, fig. 104,1; Karger 1949, 8-9; Korzukhina 1950, 229-231, fig. 4,1; Karger 1951, 15-35, fig. 6-23; Karger 1952, 7-10; Goncharov *et al.* 1955, 9; Korzukhina 1956, 323, 326, fig. 2,2-5, fig. 4,1-3, fig. 5; 328, 339, №11; Goncharov 1957, 126, 128, 130-132, 134, fig. 4,4; Karger 1958, 307-316, 320-328, 383, 385, 393-395, 399, 401, fig. 62-64, table XXXV, fig. 86,1-2, fig. 89,1, fig. 91,1, fig. 92, table LVIII; Tolochko, Kilievich 1965, 6, 9; Tolochko, Kilievich 1966, 6; Tolochko, Kilievich 1967; Kilievich 1969; Tolochko, Kilievich 1971, 237; Kilievich 1972, 290-291; Borovs'kii 1973; Kilievich 1973, 6-9; Kilievich 1975; Borovs'kii 1976, 104-107, fig. 8-10; Kilievich 1976, 199, 211; Tolochko 1976, 161-162; Kilievich 1977, 94-97, 99, 126-135; Sagaidak 1979, 19; Borovs'kii, Sagaidak 1980, 3; Kilievich, Braichevskaia 1981, 1-4; Tolochko 1981, 271; Kilievich 1982, 97-98, 121-122, 124, 160, 168-169; Kilievich, Orlov 1985, 61-62, 64-65, 67, fig. 2, fig. 4,1-3,5, fig. 6,1-2; Borovskii *et al.* 1989, 11-13, 16-18, 20, 27-30; Borovs'kii, Kaliuk 1993, 16, 27-28; Ivakin *et al.* 1997, 73, table 120,2, fig. 6,34; Ivakin *et al.* 1998, 39-40, 108-110, 115-116, 136-137, 153, 199, 201-204, fig. 142,10, fig. 183-184, fig. 186; Movchan *et al.* 1998a, 16, 19-23, 32-34, fig. 16-20, sheet 8; Movchan *et al.* 1998b, 117-118; Ivakin *et al.* 1999, 10-11, 52, 91, fig. 14,5,7; Movchan *et al.* 1999a, 3-4, 6-8, 11-13, 23-26, 28-36; Movchan *et al.* 1999b, 3, 16-17; Movchan *et al.* 1999c, 27; Movchan *et al.* 1999d, 125; Movchan *et al.* 1999e, 126; Movchan *et al.* 2000, 3, 34-36; Movchan *et al.* 2001; Movchan *et al.* 2002a, 7, 16-23, 27-28, 42-44; Movchan *et al.* 2002b, 5-7, 19-21;

Movchan, Klimovs'kii 2002, 10-18, 62-84, 88-91, 100-104, 115-116; Ivantsov 2003, 283, 289-290, 324-328, fig. 213, fig. 216-217; Klimovs'kii 2003; Movchan *et al.* 2003a, 4-11, 15-18, 23-25, 29, 31, 42-44; Movchan *et al.* 2003b, 9-11; Movchan *et al.* 2003c, 188; Movchan *et al.* 2003d, 194; Movchan *et al.* 2003e; Movchan 2004, 6, 9-14; Ievlev, Kozlovs'kii 2009, 139-150; Kozlovs'kii *et al.* 2009, 143; Kozlovs'kii, Ievlev 2010, 303-304; Zotsenko, Ievlev 2010, 371; Kozlovs'kii *et al.* 2013, 9-12, 34-39; Ievlev, Kozlovs'kii 2014, 227-228, 232; Ievlev *et al.* 2016, 79-81; Krizhanovs'kii 2020; Ivakin *et al.* 2023, 34-35, 69, 168-169, 207-209, fig. 70,2b, fig. 197,7, fig. 198,11-12, fig. 200, 3,8, fig. 241, fig. 244; Koziuba 2023, 74; Koziuba 2024, 18-21, 23, fig. 8,4, fig. 12,2, fig. 19]. Their main results are summarized in Table 1.

Among the presented materials, it is worth singling out those that previously received insufficient attention or have not yet been published.

⁷¹ The remains of a log house – object 33² (dwelling 1³), preserved to a height of four courses of logs with a diameter of 15-18 cm, constructed in a shallow pit (about 60 cm deep) – were discovered. The thermal engineering structure was located in the northern corner. Near this dwelling-workshop, where specialized non-ferrous metal casting could be, object 34 (pit) was found, with dimensions of 1.2 m in width and 1.4 m in depth. In its filling, a piece of tin/lead weighing 4.45 kg was found (table 1, fig. 1, fig. 2) [Sagaidak 1979, 19]. These objects could have been components of a non-ferrous metalworking complex.

¹¹ The object 48 was the remains of the thermal engineering structure [Movchan *et al.* 1999c, 27] – a part of an iron-working complex, and could have been used for processing non-ferrous metals. The object 49 (object 3 – pit) – almost complete and fragmentary, heavily oxidized/corroded copper/bronze products (so-called “treasure” of dishware) were found in its filling [Movchan *et al.* 1998a, 32-34, fig. 16-17, fig. 19-20, sheet 8]. The “treasure” consisted of a bowl, an aquamanile, and fragments of a large riveted vessel or vessels – in total, 376 fragments

1. Numbering of excavation areas where objects and finds related to non-ferrous metalworking were located.

2. Numbering of the archaeological objects and ancient Rus cultural layers, which are related to non-ferrous metalworking.

3. The original name of researching archaeological objects.

Excavation areas: Numbers & location (years of research)	Object numbers	Dimensions (m)	TES in objects	Dating (centuries)	Notes	Marketable metals	Semi-finished products	Casting vessels	Casting molds	Tools	Trimmings/Spatters (Melts)/Slags
1 Volodymyrska St., 2 (1907-1908, 1936-1937, 1948, 1965-1966, 1969, 1975)	1 JW	L-3.4	1-0.6×0.4; 2-W-1.18	11-13	vestibule W-1.4				+		-/-/+
	2 JW	4.8×3.6; 4.6×3.6; 3.8×3.6	1-L-1.7; 2-2.8×1.35	11-13	L-shape & 3 rooms			1		2	
	3 DW	3.1×2.75		12-13				1	+		
	4 JW	A- ≈ 5m ²	D-0.15	11-12				200	+		-/-/+
	5			11-13	CL				+	+	
	6 DW		+	11-13			+		1		+/-/-
	7 DW		+	11-13							+/-/-
	8			10-12	CL			1			
	9			10-12	CL			1			
	10 SW		1-D-0.6; 2-+	10-11							-/-/+
	11 BW	2.8×2.8	D- ≈ 0.5- 0.6	11-13							-/-/+
2 Trokhsviatytska St., 8 (1938, 1949, 1997-1999)	12 DW	3.2×3.1- 3.6	1.5×1.17	12-13	"Artist's dwelling"		7			1	
	13 DW	2.9×2.45		10-13	stairs L-1.15	1	+				+/-/-
	14 DW	3.5×2.4		12-13			+			5	
	15	3.15- 3.3×2.6- 2.7		12-13	*			3			
	16			12-13	*						-/-/1
	17 BW	4.35×4		12-13		2	10	7			
	18			12-13	*						-/-/3
	19			12-13	*			2			
	20			11-13	CL	5	1	18		1	+/-/-
3 Velyka Zhytomyrska St., 4 (1946)	21			11-13	CL		+		1		
	22 DW			13						1	

4 Volodymyrska St., 7-9 (1955)	23 DW	4×3.3	1.4×1.3	13	entrance W-0.8		+				
	24 DW	L-3.2&4	1-+; 2-+	11	** hoard of jewelry						
	25 DW	D-0.9		12-13	TES			1			
	26 DW	2×3		12-13	TES						
	27 DW	1.4×1.2		12-13	TES			+			
	28			10-13	CL			1			
5 Desiatynna St., 2 (1973)	29 DW	≈ 4×3	+	12-13					1		
6 Olesia Honchara St., 10 (1973)	30 DW	4.2×2.8	1.5×1.4	12-13	**						
	31	0.8×0.6		13	*** TES						
	32			12-13	** CL						-/-/+
7 Reitarska St., 35 (1979)	33 DW	L-4.2	+	12							
	34	W-1.2		12	*** pit	1					
8 Volodymyrska St., 3 (1980)	35			10-11	CL		+				
9 Desiatynnyi Ln., 10 (1981)	36 SW	L-4.3& 1.65& 0.35	A- ≈ 1m ²	10-11	entrance 1.2×1.3		1				-/-/+
	37 SW			10-11					3		
10 Velyka Zhytomyrska St., 2 (1988-1989, 2001-2002)	38 SW	D- ≈ 3		11	cellar	+	+	3		1	
	39 DW	L-3.1& 2.7&2.8		12-13				2	1	3	
	40 JW	1.8×1.2- 1.6		11	TES		2	426	4	1	-/+1
	41 JW	2.8×2.8		11-13			+			2	
	42 DW	4.4× 4.25	1.75×1.5	13		+	1			1	
	43 JW	2.25×2.1		13		+					
	44 JW	D-2-2.2		11			1	+			
	45 BW	D-2.3		11	pit			+			
	46			13	CL	+		2			

11 Volodymyrska St., 12 (1993, 1998)	47			10-11	CL				1		
	48 JW			10-11	TES						
	49 BW	1.15×1.1		12-13	pit; “treasure” of dishware		378				
	50			12-13	CL					1	
12 Volodymyrska St., 8 (1999)	51 DW	2.7×2.5		13	entrance W-1.35	+	20	1		2	+/-/-
	52 DW	L-3.1		12-13		1					
	53 DW	$\approx$ 2.5×2.5	+	13						2	
13 Volodymyrska St., 20-22 (1999)	54	A- $\approx$ 6m ²		11	*						-/-/+
	55	6×5		11	*						
	56			11	CL			+			-/-/+
14 Patorzhynskoho St., 14 (2000)	57 BW	0.37× 0.37		13	*** TES						
	58 BW	0.6×0.43		13	*** TES						-/2/-
	59 BW			13	*** TES						
	60 BW	0.48× 0.35		13	*** TES						
	61 BW	0.44× 0.32		13	*** TES						
	62 BW	D-0.32		13	*** TES						
	63 BW	0.32× 0.39		13	*** TES						
	64 BW	0.22× 0.15		13	*** TES						
15 Velyka Zhytomyrska St., 20 (2001-2002)	65 JW	2.6×2.5		11			1	1		1	-/-/+
	66 JW	2×2		10-11			+			1	-/+/+
	67 DW	2.5×1.2	$\approx$ 1×0.7	11-12				1			-/3/-
	68 BW	0.55×0.3		11	pit		+	+			-/+/+
	69	D- $\approx$ 1		11	* pit					1	
	70	$\approx$ 5×4	1- A- $\approx$ 1m ² ; 2-1.3×1.2	12-13	*			6			
	71	3.5×2.5		11	*			1			
	72			10-13	* small ditch	+	50				-/+/-
	73			10-13	CL		+			1	+/-/-

16 Ryl'skyi Ln., 5 (2001-2002)	74 DW	3×1.7- 1.8		11-12				2			
	75 JW	3×0.76		11-12			1		1		
	76 JW	1.8×1.3		11-12	pit				1	1	
17 Velyka Zhytomyrska St., 2A (2002-2003)	77 SW	A- 24.5m ²		12-13	cellar	1	6			1	
	78 SW	3.2×3	1.2×1.2	11-12	**						
18 Mykhailivska St., 24A (2003)	79	D-0.7- 1.25		11-12	* pit						-/+/-
19 Ally Tarasovoi St., 1-5 (2004)	80 JW	≈ 3.8× 1.5	≈ 0.95×0.6	12-13							-/2/-
20 Desiatynnyi Ln., 3A-B, 5D (2008-2013)	81 DW	5×4.5	1-D- ≈ 0.8; 2-0.9×0.82	11-12	its pit ≈ 6×5; TES 2-outside				1	4	17/-/ 32
	82 JW	D-0.9		11-12	pit		24	2			
	83			11-12	CL	1		7		1	12/ (14)/ 26
Total	83					12	503	690	15	34	29/6 (14)/63

Table 1 Excavation areas where specialized objects and artifacts related to the processing of non-ferrous metals are located.

BW – Bronze casting workshops and their components; JW – Jewelry workshops and their components; SW – Smithy or locksmithy workshops and their components; DW – Dwelling-workshops and their components; TES – Thermal engineering structures; CL – Cultural layer; “+” – There are certain objects or artifacts here, but specific numerical data is lacking; “*” – Non-production objects where specialized finds were accidentally found; “**” – Non-ferrous metal products; “***” – Objects that, despite the absence of specialized artifacts in their fillings, may have been components of non-ferrous metalworking complexes.

were collected [Movchan *et al.* 1998a, 33-34, fig. 18-20]. All these items showed certain damage. It can be assumed that, besides the version of a hidden cache of valuable vessels that might have been used for washing or liturgical purposes [Movchan *et al.* 1998a, 34], they were broken and could have been stored in a pit for future repair or accumulated as scrap metal. In the cultural layer, object **50**, an iron jeweler's tweezer, was found (table 1, fig. 1, fig. 2) [Movchan *et al.* 1998a, 16, sheet 8].

14 The eight small thermal engineering structures – objects **57-64** for casting non-ferrous metals – were discovered (table 1, fig. 1, fig. 2). Near the second structure – object **58** – two splatters of white-colored high-tin bronze were found. [Movchan *et al.* 2000, 3, 34-36; Klimov'skii 2003]. In these objects, apparently built for single use,

maybe for remelting, both precious metals and copper/bronze could have been used to produce ingots of marketable metals. They could well have been dated to the 13th century, as they could have been located in the part of the ancient Rus cemetery that had ceased to function (following the example of the cemetery in Kopyriv Kinets) [Kozlov'skii, Krizhanov'skii 2019, 22].

15 The object **65** (object 89) – the jewelry workshop. Along its perimeter ran a step 50-70 cm wide, onto which a wooden log house was lowered during the construction of the structure. Two small storage shelves were found in the eastern and western walls of the structure. In its filling, at the floor level, a gold wire over 7 cm long, and 0.3 mm in cross-section, along with copper/bronze scales, a fragment of a crucible wall, and glass-like slags,

were found [Movchan, Klimovs'kii 2002, 65-68]. The object **66** (object 95) – the jewelry workshop. Two large and deep pits were recorded in the floor. In its filling, splatters of a tin-bronze alloy, copper/bronze plates, and fragments of melted and deformed objects made of non-ferrous metals, as well as glass-like slags, were found. And in the filling of the lower layer, a curved ceramic nozzle was found [Movchan, Klimovs'kii 2002, 68-70]. The object **67** (object 75) – the dwelling-workshop. The thermal engineering structure fell into it from the above-ground part; it was located about 1 m from the northern wall of the structure and was built on a bedding of white kaolin clay. The thickness of the three recorded bottoms of the thermal engineering structure ranged from 7 to 12 cm; fragments of pottery, mainly pot walls, were used for their repairs. In its filling, a crucible wall fragment, and three splatters of non-ferrous metals were found [Movchan, Klimovs'kii 2002, 102-104]. The object **68** (object 69) – an oval pit for production waste. In its filling, numerous fragments of crucibles, coated with glass-like slags, some of which had remains of non-ferrous metal fused to their inner surfaces, were found. Similar residues were also recorded on fragments of domestic pottery walls. Together with these finds, casting (copper/bronze) slags, splatters of non-ferrous metals, and large pieces of glass-like slags or masses were found. Plates of non-ferrous metal (copper/bronze) were also found here [Movchan, Klimovs'kii 2002, 115-116].

Within this excavation area, several other structures, into which specific items related to the processing of non-ferrous metals were discovered. In the filling of object **69** (object 105), a copper/bronze matrix in the form of the Tree of Life, used for embossing an image on the central part of barms, was found. In the filling of object **70** (object 38), the remains of a crucible consisting of six fragments, including a handle and a wall fragment with a hole, were found. In the filling of object **71** (object 58), a fragment of a crucible wall was found. In the filling of a small ditch (in front of the entrance to one of the estates) – object **72**, splatters of non-ferrous metals, and heavily oxidized non-ferrous metal items that could not be identified, as well as small fragments of tin/lead (≈ 50) – were found.

In the cultural layer, object **73** was found: splatters of metal, a fragment of a ceramic nozzle,

and fragments of various copper/bronze products, some of which – such as plates, rivets, trimmings, etc. – may have been used as non-ferrous scrap (table 1, fig. 1, fig. 2) [Movchan, Klimovs'kii 2002, 10-18, 62-84, 88-91, 100-101].

18 In the filling of the object **79** (circular grain pit 3), splatters of tin/lead were found (table 1, fig. 1, fig. 2) [Movchan *et al.* 2003b, 9-11]. These items could have come from a nearby non-ferrous workshop.

19 The object **80** (object 8) – the jewelry workshop. In its filling, two pieces of opaque green and black smalt were found, which may have been used in jewelry production. At a distance of 0.7 m from the western wall of this structure, in its central part, the collapsed remains of the thermal engineering structure were discovered. At a distance of 0.25 m from it, a shallow stoke pit was recorded. During the dismantling of the thermal engineering structure's bottom, two melts of tin/lead mass that had the characteristic shape of drips accidentally spilled during melting were found (table 1, fig. 1, fig. 2) [Movchan 2004, 6, 9-14].

Discussion

Between 1907 and 2013, archaeological excavations conducted across 20 areas in the Upper Kyiv discovered and studied 83 objects and 1363 artifacts associated with the processing of non-ferrous metals (table 1, fig. 1, fig. 2).

Bronze casting workshops and their components – objects **11**, **17**, **45**, **49**, **64**, and **68** (a total of 6) – were located within excavation areas **1-2**, **10-11**, and **15** (a total of 5). *Jewelry* workshops and their components – objects **1-2**, **4**, **40-41**, **43-44**, **48**, **57-66**, **75-76**, **80**, and **82** (a total of 22) – were located within excavation areas **1**, **10-11**, **14-16**, and **19-20** (a total of 8). *Smithy* or *lock-smithy* workshops and their components – objects **10**, **36-38**, and **77-78** (a total of 6) – were located within excavation areas **1**, **9-10**, and **17** (a total of 4). *Dwelling-workshops* and their components – objects **3**, **6-7**, **12-14**, **22-27**, **29-30**, **33**, **39**, **42**, **51-53**, **67**, **74**, **81** (a total of 23), were located within excavation areas **1-7**, **10**, **12**, **15-16**, **20** (a total of 12). The objects **22**, **30**, **33**, **67** likely belonged to smiths-founders, while those of jewelers were objects **3**, **6-7**, **12-14**, **23-27**, **29**, **39**, **42**, **51-53**, **74**, **81**.

Within one or several workshops, there could be multidisciplinary production – a com-

bination of non-ferrous metalworking, primarily with ironmaking/ironworking and glassmaking/glassworking crafts. The objects **10, 17, 22, 26-27, 32-33, 36-38, and 48-49** (a total of 12) likely functioned as *universal workshops* or their components. In these, the processing of non-ferrous metals was combined with ironmaking/ironworking operations [Pan'kov 2012, 42-51]. The objects **12-13, 17, 33-34** (a total of 5) additionally specialized in glassmaking/glassworking operations [Karger 1958, 404; Zhurukhina 2021, 128-145].

In ancient Rus cultural layers – objects **5, 8-9, 20-21, 28, 32, 35, 46-47, 50, 56, 73, and 83** (a total of 14) – were located within excavation areas **1-4, 6, 8, 10-11, 13, 15, and 20** (a total of 11), there are the specialized artifacts related to the non-ferrous metal processing identify. Possibly, there were production workshops near those objects. Some finds were got from cultural layers or production objects to some non-production objects: **15-16, 18-19, 31, 34, 54-55, 69-72, 79** (table 1, fig. 1, fig. 2).

All of these objects can be conventionally divided into the following chronological periods, based on the duration of their existence (table 1).

The objects **10, 35-37, 47-48, and 66** (a total of 7) date to the second half of the 10th century – the first half of the 11th century. The objects **24, 38, 40, 44-45, 54-56, 65, 68-69, and 71** (a total of 12) date to the 11th century. The objects **4, 67, 74-76, 78-79, 81-83** (a total of 10) date to the end of the 11th century – the first half of the 12th century. The objects **33-34** (a total of 2) date to the 12th century. The objects **3, 12, 14-19, 25-27, 29-30, 32, 39, 49-50, 52, 70, 77, and 80** (a total of 21) date to the second half of the 12th century – the beginning of the 13th century. The objects **22-23, 31, 42-43, 46, 51, 53, and 57-64** (a total of 16) date to the first half of the 13th century. The objects **1-2, 5-9, 11, 13, 20-21, 28, 41, and 72-73** (a total of 15) have a broad dating range from the 10th to the 13th (10th-12th, 10th-13th, and 11th-13th) century, as it was not possible to determine their exact time of existence more precisely (table 1).

Most of the object's date to the 12th – the beginning of the 13th centuries. During that chronological period, Kyiv reached its greatest economic prosperity due to the city's numerous trade connections, which were reflected in the popularity of non-ferrous metal crafts.

In the fillings of the objects were found 12 marketable metals, 503 semi-products, 690 casting vessels, 15 casting molds, 34 tools, and 112 production wastes (table 1).

The concentration of a significant number of bronze casting workshops, jewelry workshops, smith or locksmith workshops, and dwelling-workshops in certain districts of the city created craft centers, where the processing of non-ferrous metals took place. Thus, on the territory of the Upper Kyiv during the 10th – the first half of the 13th century, five such centers (fig. 2) were formed [Kilievich 1982, 168-170; Krizhanovs'kii 2020].

The craft center A was located in the northern part of the Starokyivska Hill, in the territory of Dytynets ("city of Volodymyr"), and its total area may have reached about 6 hectares. At six excavation areas, 17 specialized archaeological objects were discovered and researched, two of which were related to bronze casting, 11 to jewelry, and 4 to smithy/locksmithy businesses. The workshops in this center likely served the Grand Prince's court with its palace complexes, catered to the needs of the boyar nobility, the clergy from the Church of the Tithes, and the nearby marketplace "Babyn Torzhok" [Aseev 1982, 23-24; Kilievich 1982, 57-70, 153-155; Ivantsov 2003, 154].

The craft center B was also located in the territory of Dytynets, to the southeast of the center A, with a total area of approximately 1.3 hectares. At four excavation areas, 16 specialized archaeological objects were discovered and researched. One of them was associated with bronze casting, 11 with jewelry, and 4 with smithy/locksmithy businesses. The workshops in this center likely served the estate of the Fedorivsky Monastery and served the princely court of Mstislav Volodymyrovych, which was located nearby [Goncharov 1957, 134-135; Aseev 1982, 116-117].

The craft center C was located on the Mykhailivska Hill, in the territory of the "city of Iziaslav-Sviatopolk," with a total area of approximately 2 hectares. At one excavation area, 4 specialized archaeological objects were discovered and researched. One of them was associated with bronze casting, and 3 with jewelry businesses. The workshops in this center likely served the estate of the St. Michael's Golden-Domed Monastery [Ivakin *et al.* 2023].

The craft center D was located on the Starokyivska Hill, in the central part of the territory of the “city of Yaroslav”, with a total area of approximately 1 hectare. At two excavation areas, 3 specialized archaeological objects associated with jewelry businesses were discovered and researched. The workshops in this center likely served the estate of the St. Sophia Cathedral [Ievlev, Kozlovs’kii 2009].

The craft center E was located in the territory of the “city of Yaroslav,” to the west of the center A and to the north of the center C. Its total area was approximately 0.5 hectares. At one excavation area, 4 specialized archaeological objects were discovered and researched. One of them was associated with bronze casting, 2 with jewelry, and 1 with smithy/locksmithy businesses. The workshops in this center likely catered to the needs of the local boyar estates and the ordinary urban population [Movchan, Klimovs’kii 2002].

Conclusions

During the 10th – the first half of the 13th century, from 20 excavation areas of the Upper Kyiv, 83 objects and 1363 specialized artifacts were

found within their fills. There were discovered 6 bronze casting workshops, 22 jewelry workshops, 6 smithy/locksmithy workshops, 23 dwelling-workshops, and specialized artifacts from 14 cultural layers, which could have gotten there from nearby workshops. In some cases, they combined with ironmaking/ironworking and/or glassmaking/glassworking crafts that used similar equipment, tools, and technologies for the primary processing of raw materials. Most objects date to the 12th – the beginning of the 13th century, which reflects the political, socio-economic, and cultural development of Kyiv during those periods.

The emergence of these objects was influenced by their proximity to the Grand Prince’s courts with their palace complexes, boyar nobility estates, religious buildings – Church of the Tithes, Fedorivsky Monastery, St. Michael’s Golden-Domed Monastery, St. Sophia Cathedral – and marketplace “Babyn Torzhok”.

Some objects formed five specialized craft centers. Its territory could have ranged from 0.5 to 6 hectares.

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**Epigraphic Stable Formulae:
Manifestations of the Phenomenon in the Context of the
Written Heritage of the Armenian Highlands**

Key words: epigraphic inscription, cuneiform inscription, Aramaic inscription, stable formulae, structure, titulary, motive, purpose, expectation, curse, blessing.

Cuvinte-cheie: inscripție epigrafică, inscripție cuneiformă, inscripție aramaică, formule stabile, structură, titulatură, motiv, scop, așteptare, blestem, binecuvântare.

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Epigraphic Stable Formulae: Manifestations of the Phenomenon in the Context of the Written Heritage of the Armenian Highlands

The epigraphic culture of the Armenian Highlands is noteworthy for its distinctive manifestations, among which the structure of the text stands out with a number of specific features. The phenomenon becomes especially intriguing when studied diachronically, through a comparison of pre-Christian and Christian written heritage.

A comprehensive study of stable epigraphic formulae – examined here for the first time on the basis of the cuneiform inscriptions of the Kingdom of Van, the Aramaic inscriptions of Classical Armenia, and Armenian medieval epigraphic inscriptions – reveals that the tradition of composing inscriptions in the Armenian Highlands follows a unified canonical system. Within this system, the introductory, occasion-event, purpose-expectation, and concluding (curse-blessing) formulae of the text are clearly distinguished.

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Formule epigrafice stabile: manifestări ale fenomenului în contextul patrimoniului scris al Ținuturilor Înalte Armene

Cultura epigrafică a Ținuturilor Înalte Armene se remarcă prin manifestările sale distinctive, dintre care structura textului se evidențiază printr-o serie de trăsături specifice. Fenomenul devine deosebit de interesant atunci când este studiat diacronic, prin compararea patrimoniului scris precreștin și creștin.

Un studiu cuprinzător al formulelor epigrafice stabile – analizate aici pentru prima dată pe baza inscripțiilor cuneiforme ale Regatului Van, a inscripțiilor aramaice ale Armeniei Antice și a inscripțiilor epigrafice medievale armene – relevă faptul că tradiția compunerii inscripțiilor în Ținuturile Înalte Armene urmează un sistem canonic unitar. În cadrul acestui sistem, sunt clar delimitate formulele introductive, cele de tip ocazie-eveniment, scop-așteptare și cele de încheiere (blestem-binecuvântare) ale textului.

Introduction

Among the most significant achievements in human history are language and writing, which constitute the primary means of transmitting information and facilitating communication. Writing is also regarded as one of the greatest accomplishments of mediated communication, possessing its own stages of development and distinctive characteristics [Grigoryan 1940, 11-13; Robinson 2013, 7-13]. The present study is primarily intended to elucidate the structural features of the epigraphic heritage of the Armenian Highlands by establishing a typology of the stable formulae attested in inscriptions and their asso-

ciated formulaic patterns¹. These stable formulae are examined not merely as repetitive linguistic units, but as conventionalized written expressions that reflect established norms of epigraphic composition within specific historical and cultural contexts.

Notably, although the content-related, palaeographic, linguistic, and word-formational characteristics of these inscriptions have repeatedly been the subject of scholarly investigation, their structural features are equally significant in their own

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right – have thus far remained largely overlooked. In Armenian scholarship, this issue has recently been addressed on the basis of colophons in Armenian manuscripts [Harutyunyan 2019, 198-217]. Stable formulae have also been examined within the sphere of folklore, particularly in folktales [Khemchyan 2011, 206-229]. Earlier still, the folklorist Sargis Harutyunyan conducted a similar study using epigraphic material; however, his analysis focused specifically on formulae of curse and benediction attested in cuneiform inscriptions, Armenian inscriptions, and manuscript colophons [Harutyunyan 1975, 25-101].

Taking into account the various manifestations of the phenomenon attested within the rich epigraphic heritage of the Armenian Highlands, the present study examines it within the framework of three principal chronological phases – those of the Kingdom of Van, Classical Armenia, and the medieval Armenian epigraphic tradition – highlighting the most salient and characteristic features of each period.

Stable Formulae in the Cuneiform Inscriptions of the Kingdom of Van

In the mid-ninth century BC, within the Armenian Highlands – specifically in the basin of Lakes Van and Urmia – the Kingdom of Van, namely Biainili-Urartu, was formed. In the newly established kingdom, the cuneiform writing system was adopted², and already during the reign of Išpuini, the son of Sarduri (ca. 830-810 BC), a script reform was implemented, resulting in the creation of a local cuneiform script [Melikishvili 1960, 33; Hmayakyan 1994, 19]. This writing system, alongside its content-related, ideological-semantic, and other characteristics, also possessed distinct structural as well as formulaic features. These are most clearly observable in extensive inscriptions, which, as a rule, consist of an introductory section, the main body of the text, and a concluding part. The latter usually summarizes the royal titulary attested in the cuneiform inscription and includes a curse formula [Melikishvili 1960, 93-106; Movsisyan 2021, 212-213].

The inscriptions composed during Išpuini's sole reign (ca. 830-820 BC) are generally concise

and predominantly construction-related in character. In such inscriptions, the main point was to place on record the king's building activity, which was to be carried out “by the greatness of Ḫaldi”, “by the might of Ḫaldi” or “by the power of Ḫaldi”, the supreme god of the Urartian pantheon [Arutiunian 2001, N 14 A-D, N 17-19, 25; Salvini 2018, A 2-1, A 2-3 a-d, A 2-7 A-B, A 2-8, A 2-10, A 2-11]. In the shortest inscriptions left by the king, the following formulation is attested: “Išpuini, the son of Sarduri, built this house (structure)” [Arutiunian 2001, N 16; Salvini 2018, A 2-2 A-G]. It may be surmised that in such inscriptions the name of the deity remained implicit, tacitly presupposed within the surrounding textual context.

According to currently available data, the titulary³ of King Išpuini is attested only in inscriptions discovered in the area of the *Upper Anzav* fortress: “By the might of Ḫaldi, Išpuini, the son of Sarduri, built this fortress to perfection⁴. He is a mighty king, a great king, king of the universe, king of Biainili (the land)” [Arutiunian 2001, N 531-532; Salvini 2018, A 2-6 A-C]. Furthermore, at the end of the inscription on a stela discovered at *Karahan*, which records construction and agricultural works, the benedictory formula mentions not only the king's name but also that of the crown prince: “By Ḫaldi (the god), by the ‘Gate of Ḫaldi,’ by Ua(ni) (the god), may there be life for Išpuini, the son of Sarduri, and (for) Menua, the son of Išpuini ...” [Arutiunian 2001, N 20 A₁₄₋₁₉; Salvini 2018, A 2-9 A₁₄₋₁₉, B₁₀₋₁₅]. As in comparable Mesopotamian examples, this benediction likewise seeks a blessing for the donor from the very deity who has received the offering [Steymans 1995, 374]. Accordingly, it may be observed that the benedictions attested in Urartian cuneiform inscriptions are predominantly associated with construction activities and, in certain cases, also with stelae erected for the gods [Arutiunian 2001, N 120, N 121; Salvini 2018, A 5-79, A 5-80].

Significantly, upon the crown prince Menua's accession to co-rulership alongside Išpuini (ca. 820-810 BC), Urartian inscriptions began to document events bearing witness to victorious

2. According to W. Mayer, the borrowing of the cuneiform writing system from Assyria by the Urartians took place as early as the 10th century BC; however, no written monuments have been preserved [Mayer 2013, 111-112].

3. The royal titularies of the Urartian kings are also closely related to Assyrian inscriptions [Mayer 2013, 111; Grekyan 2018, 50].

4. The Armenian term *hnjulquuq* (Urartian equivalent: rendered conventionally as “to perfection”) denotes outstanding or exceptional quality of workmanship.

military campaigns and conquests. In the introductory sections of stela inscriptions commemorating events of a military nature, the supreme deity is likewise invoked: “To Țaldi, the lord, Iȥpuini, the son of Sarduri, and Menua, the son of Iȥpuini, erected this stela. Țaldi marched forth and made [the enemy] submit to his weapon... Țaldi is mighty; the weapon of Țaldi is mighty. By the might of Țaldi they marched...” [Arutiunian 2001, N 32₁₋₉, 33₁₋₉, N 35₁₋₉; Salvini 2018, A 3-5 Ro₁₋₉, Vo; A 3-9 Vo₁₋₉].

Such inscriptions preserve structural patterns that portray the god Țaldi as a “leader”; at their core lies the record of a victorious campaign achieved through the deity’s power, in which Țaldi himself figures as a “participant” [Arutiunian 2001, N 32₁₅, N 33₁₈, N 35 Obv.₁₅, Rev.₁₉; Salvini 2018, A 3-5 Ro₁₅, Vo₁₈; A 3-9 Ro₁₅, Vo₁₉; Melikishvili 1960, 94-95]. A similar case is found in another inscription of a likewise military character composed in the names of Iȥpuini and Menua, where Țaldi again appears in stable formulaic constructions as one who “marches with his weapon”: “Țaldi (the god) marched with his weapon ...” [Arutiunian 2001, N 31, Obv.₁₆₋₂₇, Rev.₅₋₁₁; Salvini 2018, A 3-4 (Ro₁₅₋₂₆), (Vo₄₋₁₀)]. The text concludes with a curse formula: “Whoever breaks this inscription, whoever destroys it, whoever buries it in the earth, whoever throws it into water, whoever changes its place, whoever hides it from the sun, whoever compels anyone to do these (things), (or) says ‘destroy (the inscription)’, whoever says to another, ‘I did these (things)’, may Țaldi, Teisheba, and Šivini not leave either his name or his seed upon the earth” [Arutiunian 2001, N 31, HK₂₂₋₃₄; Salvini 2018, A 3-4, Vo₂₁₋₃₄].

In the Ancient Near East, curses were directed not only against the primary transgressor but also against his descendants. The individual who sought to eradicate the king’s name – that is, the memory of the king – was subject to a similar punishment, since in the absence of descendants his own name would likewise remain unremembered [Radner 2005, 84, 206; see Maraqtan 1998, 189-200].

Somewhat different in character is the Kelishin inscription composed during the period of the joint reign of Iȥpuini and Menua. Here, in addition to the damage of the stela, the curse is also directed against anyone who seizes the property attested in the inscription: “Iȥpuini, the son

of Sarduri, (and) Menua, the son of Iȥpuini ... declared: whoever drives the herd away from the ‘Gates of Țaldi’ ... may Țaldi (the god) destroy his offspring upon the earth”. This is followed by a curse directed against anyone who damages the stela, in which, for the first time, the local deities of the city of Ardini-Muȥaȥir are also mentioned [Arutiunian 2001, N 30₂₅₋₄₁; Mayer 2013, 19; Salvini 2018, A 3-11 Vo₂₅₋₄₁, Ro₂₂₋₄₂]. The so-called imprecation designed to safeguard the property recorded in this inscription is pronounced by the kings themselves, since they appear as figures endowed with divine power, whereas the actual punishment – namely, the annihilation of the offender’s progeny – is reserved for the god Țaldi [Harutyunyan 1975, 36; Mayer 2013, 19]. In the tradition of the Ancient Near East, the curse formula of inscriptions was perceived as the written fixation of an orally uttered curse. Such formulae literally reproduce the verbal expressions pronounced for the protection of the inscription and the property recorded therein and were regarded as the most dangerous of threats [Watanabe 1984, 99; Radner 2005, 254].

In the Kelishin inscriptions, as well as in the inscriptions from Ashotakert that attest to the construction of the “Gates of Țaldi”, the title “lord of the city of Tushpa,” which thereafter became an integral component of the titulary of Urartian kings, is mentioned for the first time [Arutiunian 2001, N 36₃; Salvini 2018, A 3-2₃; Grekian 2024, 15].

During the period of the joint reign of Iȥpuini and Menua there also emerges the use of direct speech articulated in the king’s name, first attested in the inscription of the Gate of Meher and subsequently recurring numerous times in later cuneiform texts: “Iȥpuini, the son of Sarduri, says; Menua, the son of Iȥpuini, says: by the god Țaldi ...” [Arutiunian 2001, N 38₂₅₋₂₆; Salvini 2018, A 3-12₅]. A similar formulation appears in the inscription of the so-called “Tavriz Gates” on the eastern face of the Van Rock, which likewise begins with the king’s direct speech: “By the might of Țaldi, Iȥpuini says ...” [Arutiunian 2001, N 20₁₋₂; Salvini 2018, A 4-1₁₋₂].

The formula “Menua says ...” became widespread during Menua’s own reign (ca. 810-790/780 BC) and is attested in a wide range of inscriptions, including those recording military campaigns, construction activities, or the appointment of a viceroy

[Arutiunian 2001, N 47⁷⁻⁸, N 771-5, N 59 A¹⁷⁻¹⁹, N 80^{3,6}; Salvini 2018, A 5-1⁷⁻⁸, A 5-8¹⁷⁻¹⁹, A 5-21⁴⁻⁵, A 5-68^{3,6}]. In the brief inscriptions of later kings commemorating conquests in the northeastern and eastern regions of the Armenian Highlands, the opening formula is frequently reduced to the simple formulation: “By the greatness (command) of Haldi, by (his) might ... says ...” [Arutiunian 2001, N 180¹⁻³, N 249¹⁻³, N 388¹⁻², N 409¹⁻²; Salvini 2018, A 8-11¹⁻³, A 9-6¹⁻³, A 10-2¹⁻², A 11-4¹⁻²].

Following the same principle, inscriptions composed during Menua’s reign also contain, for the first time, a formulation referring to his accession to the paternal throne “by the command of Haldi” [Arutiunian 2001, N 148⁵, N 149³, N 123⁵; Salvini 2018, A 5-11 A⁵, A 5-11 B³, A 5-8 9⁵]. This formulation in itself elucidates contemporary conceptions of kingship as grounded in divine power and will.

Significantly, beginning with the reign of Menua (ca. 810-790/780 BC)⁵, the king himself is the one who pronounces the curse in the curse formula: “Menua says: whoever destroys this inscription, whoever breaks it, whoever compels another to do these things, whoever says to another, ‘I am the one who constructed this canal’, – may Haldi (the god), Teisheba (the god), Shivini (the god), (and all) the gods annihilate him under the sun” [Arutiunian 2001, N 47, 53; Salvini 2018, A 5-1, A 5-3]. The recording of the curse as uttered by the king continues in the Urartian written tradition until the fall of the kingdom. Judging from testimonies of the Classical period, the curse became an inseparable part of life, something that only a god could alter, while its inscription rendered it perpetual [Wiefel 1969, 219].

Another innovation attested in cuneiform inscriptions during the reign of Menua is the formulaic constructions concerning the subjugation of a conquered land by the god Haldi “before Menua” [Salvini 2018, A 5-11-3]. This formulation is related to Middle Assyrian inscriptions [Grekyan 2018, 47-48] and is also attested subsequently, particularly in the inscriptions of Argishti, the son of Menua (ca. 790/780-770/750 BC), and Sarduri, the son of Argishti (ca. 770/750-730 BC).

In the inscriptions bearing the name of Menua, another formulaic construction – related to

Middle Assyrian inscriptions – is attested for the first time, namely the formula of the king’s appeal to the gods prior to a campaign: “I prayed to Haldi (the god) ...” [Salvini 2018, A 5-2 A-F; Grekyan 2018, 45-46]. This formula is also attested subsequently, again in the annals of Argishti, the son of Menua, and Sarduri, the son of Argishti, as well as in inscriptions relating to the events recorded therein. In the epigraphic text of a stele discovered at Sarighamish, commissioned by King Argishti, the son of Menua, the following is attested: “Argishti says: ‘I prayed to Haldi (the god), Teisheba (the god), Shivini (the god), (and all) the gods; the gods heard me...’” [Arutiunian 2001, N 176⁹⁻¹²; Salvini 2018, A 8-6⁹⁻¹²].

Notably, in the inscriptions of certain monumental stelae composed during the reign of Menua, the royal titulary is attested at the beginning: “By the might of Haldi, Menua, the son of Ishpuini, erected this stele for Haldi, the lord. By the greatness of Haldi, Menua, the son of Ishpuini, is a mighty king, a great king, king of the land of Biainili, lord of the city of Tushpa” [Arutiunian 2001, N 59¹⁻¹⁶, N 75; Salvini 2018, A 5-8¹⁻¹⁶, A 5-17, A 5-24].

In an inscription discovered at Manazkert – presumably belonging to a temple cornerstone [Arutiunian 2001, N 90⁴⁻⁷; Salvini 2018, A 5-51⁴⁻⁷] – the extensive titulary of King Menua is attested. This same titulary is also employed by the last powerful king of the Kingdom of Van, Rusa, the son of Argishti (ca. 690/680-650/640 BC), in the inscriptions of the temple at Ayanis and the stele of Zvartnots: “...a mighty king, a great king, king of the universe, king of the land of Biainili, king of kings, lord of the city of Tushpa” [Salvini 2018, A 12-1 VII⁹⁻¹⁰, A 12-8²⁶⁻³⁰]. This titulary is likewise attested in the annals of Menua’s successor, Argishti, the son of Menua [Arutiunian 2001, N 174 A 3³⁻⁷; Salvini 2018, A 8-1 Ro⁵⁻⁷], as well as in the annals of King Sarduri, the son of Argishti, and in other inscriptions left by the latter [Arutiunian 2001, N 241 G¹²⁻¹³, N 242 A II+I⁶⁻⁸; Salvini 2018, A 9-1 Ro 6-8, A 9-3 VII¹²⁻¹³].

In the inscriptions and annals bearing the name of Argishti, the son of Menua, an innovation appears in connection with construction activities, namely the stable formulaic constructions: “(May there be) strength for the land of Biainili, (and) subjugation (?) for the hostile lands”

5. For the chronology of the Urartian kings [see Grekyan 2024, 8-9].

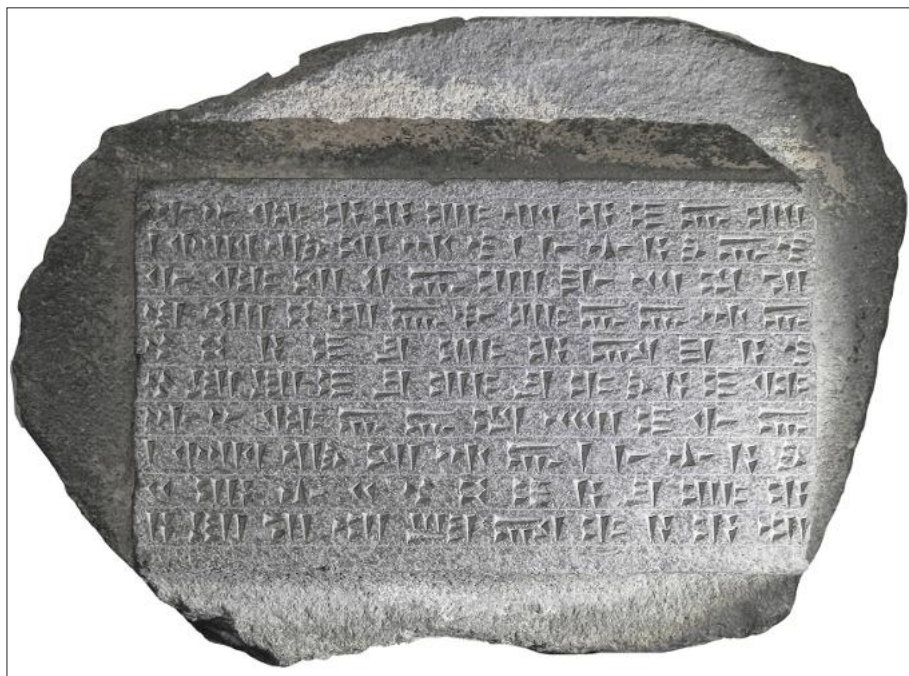


Fig. 1. The inscription of Argishti, the son of Menua, concerning the founding of the fortress of Erebuni, 782 BC (© V. Sargsyan 2023).

[Arutiunian 2001, N 173, II₃₃₋₃₄, N 174 A 2₁₆₋₁₇, N 197, N 198, N 200, N 201; Salvini 2018, A 8-1, Vo₁₆₋₁₇, A 8-3, II₃₃₋₃₄, A 8-17 A-B, A 8-18, A 8-19] (fig. 1). This is likewise attested in inscriptions of later kings within analogous contexts, preceding either the royal titulary or the curse formula [Arutiunian 2001, N 241 E₁₆₋₁₇, N 388₇, N 389₁₇₋₁₈, N 409₁₀; Salvini 2018, A 9-3, IV₁₆₋₁₇, A 10-1₇, A 10-2₁₇₋₁₈, A 11-4₁₀, A 11-6₁₂].

Notably, an inscription of Sarduri, the son of Argishti, discovered at Armavir, which is distinguished by an appeal addressed to future kings, followed by a curse directed at whoever might destroy the inscription: “The king who ... shall later be ruler, let him not abandon this fortress ... Sarduri says: whoever abandons this fortress, whoever destroys (it) ...” [Arutiunian 2001, N 275; Salvini 2018, A 9-13; Melikishvili 1960, 102].

As for the inscriptions bearing the name of King Rusa, the son of Sarduri (ca. 730-714 BC), of particular interest is the concluding section of the epigraph discovered at Gavar, which rather resembles a benedictory formula: “(May there be) strength for the land of Biainili, (and) subjugation (?) for the hostile lands. Rusa, the son of Sarduri, a mighty king, who rules over the land of Biainili” [Arutiunian 2001, N 388₆₋₈; Salvini 2018, A 10-1₆

]. The same formulation of ruling over the land of Biainili is also attested in the bilingual inscription from Topuzava left by the king, where Rusa, the son of Sarduri, is additionally designated by new descriptive formulae: “servant of the god Haldi” and “true shepherd of the people” [Arutiunian 2001, N 387₂₄₋₂₅; Salvini 2018, A 10-5 Ro₂₄₋₂₅, Vo₂₃]. Such formulations were, in all likelihood, conditioned by the fact that the legitimacy of Rusa, the son of Sarduri, was contestable, and they were borrowed from Assyrian inscriptions and prayers [Wilhelm 1986, 110; Mayer 2013, 60-61]. Comparable expressions are also attested in the inscription of Rusa, the son of Erimeña [Salvini 2018, A 14-2 Vo₃₁₋₃₂], as well as in the titulary of Argishti, the son of Rusa (ca. 710-690/680 BC): “a mighty king, king of the land of Biainili, servant of Haldi, true shepherd of the peoples” [Arutiunian 2001, N 406₂₈₋₃₂; Salvini 2018, A 11-2 Vo₂₉₋₃₁].

Finally, certain features attested in the curse formulae of the cuneiform inscriptions composed in the name of Rusa, the son of Argishti. Thus, in the extensive inscription of the stele erected at Zvartnots, the curse is directed against whoever damages it: “whether a native of Biainili or a foreigner” [Arutiunian 2001, N 421₄₀₋₄₂; Salvini 2018, A 12-8₄₀₋₄₂, A 12-1 VIII₇, A 12-2 VIII₆] (fig.



Fig. 2. The stele of Rusa, the son of Argishti, discovered during the excavations of the Zvartnots's temple, 7th century BC (© A. Harutyunyan 2016).

2). This phenomenon may be said to recur later in the curse formulae of medieval Armenian epigraphs, when no distinction was made regarding the ethnic affiliation of the one who defaced the sacred inscription (*see in the relevant section*). It is plausible that the curse formula attested in the Zvartnots inscription contains literal translations from Assyrian [Lehmann-Haupt 1931, 857], while in the epigraph known from the fortress of Kefkalesi, likewise composed in the name of the same king, the curser is the king himself: "Rusa says: 'Whoever destroys this inscription, may the Sun-god burn him' [Salvini 2018, A 12-10].

The foregoing analysis thus demonstrates that the earliest examples of epigraphic compositions endowed with distinct structural features in the Armenian Highlands are already attested from the period of the Kingdom of Van (9th-7th centuries BC). The more extensive cuneiform inscriptions left by the kings of Urartu demonstrate

that the tripartite structure and stable formulaic constructions of these written monuments – conditioned by the traditions of Old Near Eastern cuneiform writing of the second millennium BC – continued, with transformations, in subsequent periods characterized by the use of different writing systems.

Stable Formulae in the Aramaic Inscriptions of Classical Armenia

The epigraphic heritage of Classical Armenia, encompassing inscriptions in Greek, Aramaic, and Latin, is considerably extensive⁶, however, the phenomenon under consideration – namely, the stable formulaic constructions attested in epigraphs – is most prominently observable in the Aramaic inscriptions. Accordingly, it will be examined here exclusively on the basis of the Aramaic inscriptions composed during the reign of King Artaxias I the Pious (189-160 BC).

As documentary testimonies of national reunification and statehood, Aramaic inscriptions in the Armenian Highlands appear as early as the second century BC and continued in use through the Early Middle Ages. In Armenia, Aramaic inscriptions have also been documented through archaeological excavations at Garni and Artashat [Arakelian 1982, 33; Perikhanian 1964, 124]. They are distinguished by their formulaic character, conditioned by the function of the language as a medium of administration and international communication – a function that is manifested both in the external organization of the texts and in the structure of their linguistic components.

Aramaic inscriptions are, as a rule, characterized by a left-to-right direction of writing. The text is often carved on a smoothed stone surface without any ornamental elements, a feature that points to the primacy of communicative and functional purposes. The number of lines is usually lim-

6. Among the inscriptions of the Classical period, particular note should be made of funerary inscriptions bearing the abbreviation "D. M." at the top, one of which was discovered in 1969 in the village of Pokr Vedi in Armenia. The epigraph commemorates Gaius Valerius Crescent, a soldier of the First Italic Legion, who fell during the campaigns of Emperor Trajan [Speidel 2020, 146]. As for the abbreviation "D. M.", it is expanded as *Dis Manibus*, that is, "dedicated to the Manes" [Rosivach 2016, 152]. In ancient Roman belief, the Manes were regarded as the spirits of the dead, whose veneration held central importance in life. Such inscriptions were intended to secure the benevolence of these spirits toward the living.

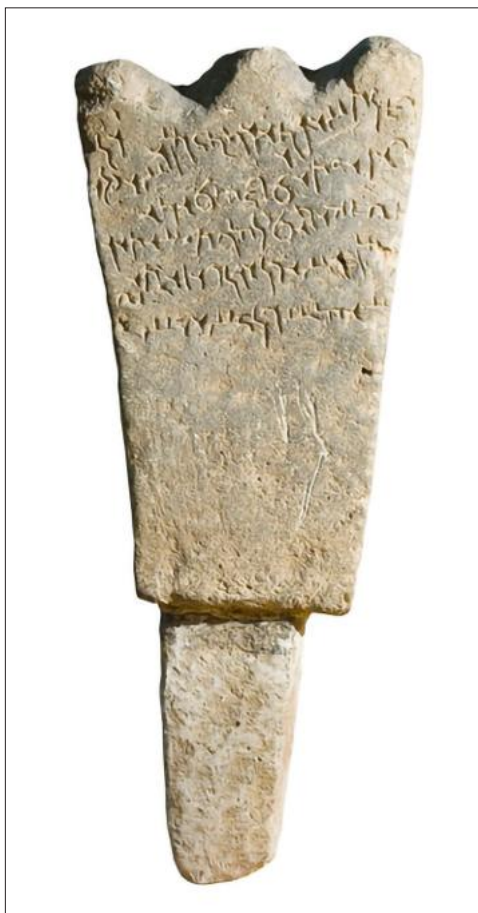


Fig. 3. A limestone boundary stone-monument from the 2nd century BC discovered in Teghut, bearing an Aramaic inscription (© History Museum of Armenia).

ited, and the size of the letters is relatively uniform, though at times uneven and irregularly carved.

Of particular interest are the so-called “Artaxian boundary stones” erected by King Artashes. These are stone stelae generally measuring 1-1.5 m in height, with a trident-shaped upper part, bearing Aramaic inscriptions carved on one of their broad faces. These inscribed stone monuments functioned as boundary markers in those areas of the realm where the state frontier had been demarcated. Especially distinctive and unique are the trident-like elements at the upper part of the stones, which may be associated with the phenomenon known as the *corona muralis*. This is the crown symbolizing city walls, towers, or fortresses, which during the Artaxiad period appears as a particular form of royal decree issued by the king.

Artashes I, the founder of the Artaxiad dynasty, proclaimed independence in Greater Ar-

menia in 189 BC following the defeat of the Seleucids at the Battle of Magnesia (190 BC) and the conclusion of the Treaty of Apamea [Polibii 2005, XXV/2, 12]. Having reunified the Armenian provinces, he expanded and restored the country and undertook land reforms, the most vivid testimony of which is provided by the stone monuments – boundary stones – erected by the king in order to demarcate communal and private lands [Sargsyan 1971, 526].

The earliest of the royal titulary of Artashes I has come down to us through the Aramaic inscriptions on the boundary stones. Such boundary stones were first discovered in Armenia at the beginning of the twentieth century, in the basin of Lake Sevan [Dupont-Sommer 1946-1948, 54]. The Aramaic inscriptions, consisting of several lines, were carved on the frontal face of the boundary stones.

Within the territory of the Republic of Armenia, sixteen such inscribed monuments are known. The majority were found in the Sevan basin, while several others were discovered at Ishkhanasar (Syunik) [Perikhanian 1965, 107], at Teghut [Périkhanian 1971, 170] (fig. 3; 4), and at other sites [Khachatryan 2014, 43-59; Hakobyan, Hmayakyan 2008, 181-189].

According to the testimony of the prominent archaeologist Gevorg Tiratsyan, the Ara-

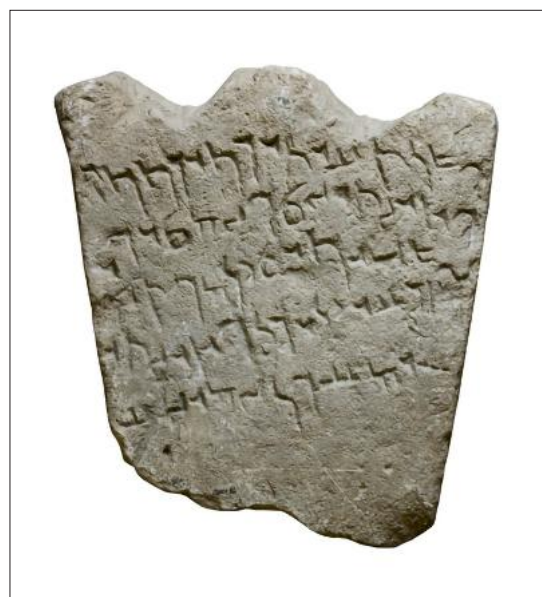


Fig. 4. A limestone boundary-stone monument from the 2nd century BC, discovered in Teghut, with an Aramaic inscription (© History Museum of Armenia).

maic word **RWNDKN** (Ervandakan), attested in the inscriptions, represents the general dynastic name of Artashes – “Yervandian” – and does not refer to the name of a land parcel, as had previously been assumed, for example by I. Diakonoff and K. Starkova [Tiratsyan 1957, 105, 110]. This dynastic designation does not occur in the titulary of other kings.

Artashes I, according to an inscription discovered at Sisian, also bore the Aramaic honorific title TB (“the Pious”) [Perikhanian 1965, 108] (fig. 5). This is clearly a specimen of Hellenistic royal title, corresponding to the Greek Εὐσεβής (“Pious”). Most likely, Artashes received this title in connection with the establishment of the cult of royal ancestors.

Let us now turn to the linguistic and structural features of the boundary-stone inscriptions. Primarily, language is Imperial Aramaic, which had been employed in so-called “bureaucratic” practice since the Achaemenid Empire [Tiratsian 1972, 99, 116]. The titulary attested in the inscriptions appears in both concise and expanded forms.

For example, in the inscriptions known from the Sevan basin the titulary is generally brief:

“Artashes, king, the son of Zareh” or “Artashes, king, the son of Zareh, Yervandian” [Borisov 1946, 97, 107]. Although these formulations are similar in nature, a certain variation in the sequence of the descriptive elements applied to the king can occasionally be observed. Thus, on one boundary stone we read: “King Artashes, the son of Zareh, the Yervandian, divided the land into portions” [Tiratsyan 1957, 107]; on another monument: “King Artashes, the noble Yervandian, the son of Zareh, divided the land here, in (such-and-such) village” (Tiratsian 1980, 99); or, again, “King Artashes, the Good, the Yervandian, the son of Zareh, and the crown-bearer Nikephoros (or Nikpar), the son of Akhshahrsart” [Perikhanian 1965, 108].

In the Spitak inscription discovered in 1977, the titular sequence is somewhat different. 𐤠𐤎𐤏𐤕𐤍 ...the sequence of the royal titles is somewhat different: “Artashes, king, Yervandian, the Good, the son of Zareh” [Tiratsian 1980, 99, 104]. Here the collective designation “Yervandian” is placed not at the end, but immediately after the word “king,” followed by the honorific title “the Pious,” which stands between the dynastic name and the patronymic, while the indication “the son of Zareh” appears only at the end [Markaryan 2017, 224].

The abbreviated formulation of Artashes’ royal titulary, observable on the *Sevan* monuments, suggests that this titulary was in use during the initial years of his accession to power in Armenia [Markaryan 2017, 224].

The adoption of the dynastic name “Yervandian” in the inscriptions allowed King Artashes to underscore his kinship ties not only to the preceding Yervandian rulers of Armenia but to the Achaemenids as well. According to Strabo, the lineage of the Yervandunis traced its origin to the Persian Hydarnes, who was a descendant of the Achaemenid dynasty [Strabo 1964, XI, XIV, 15].

Another characteristic feature of the inscriptions preserved on the boundary stones is the presence of a section indicating their function. The text was generally composed according to established and widely accepted formulae that were stable and nearly invariable. As a rule, the inscription first presents the king – here, Artashes the Pious – from whose authority the command is issued; this is followed by an emphasis on his kinship with the Yervandian royal house, which

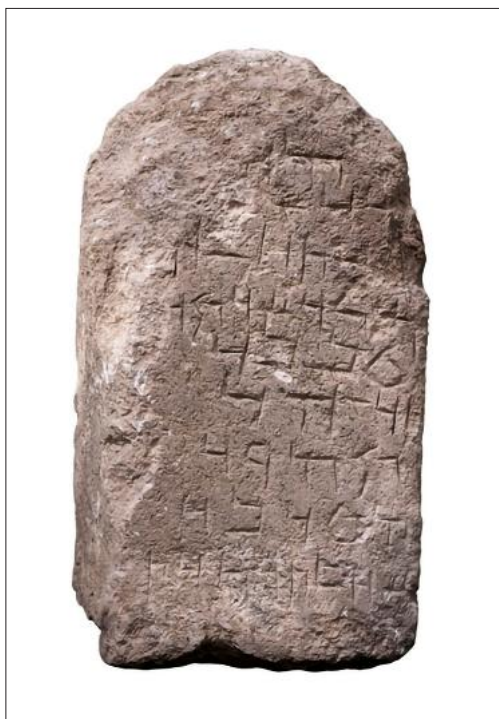


Fig. 5. A boundary-stone monument from the 2nd century BC discovered in Sisian, bearing an Aramaic inscription (© History Museum of Armenia).

served to affirm the dynastic legitimacy of the preceding dynasty; finally, the functional purpose of erecting the monument is specified, namely the delimitation of the village's land ownership.

Thus, the Aramaic documents inscribed on the monuments erected by Artashes I are of exceptional significance in elucidating the history of the restructuring of the Armenian nation. They constitute key milestones in the history of writing as one of the most salient manifestations of the formation of statehood.

Stable Formulae in the Armenian Medieval Inscriptions

Following the invention of the Armenian alphabet by Mesrop Mashtots (405 AD), inscriptions composed in the Armenian language and written in the newly created script gradually spread throughout the Armenian Highlands. The earliest known Armenian inscription to date – preserved only in the form of a plaster cast copy – originates from the Cathedral of Tekor (displayed at the History Museum of Armenia, 2.83×88.5×7.8 m, Inv. No. 3074) (fig. 6,a-b). The period of leadership of the figures mentioned in the inscription – Prince Sahak Kamsarakan (†505 AD) and Catholicos Hovhan Mandakuni (478-490 AD) – together

with the paleographic characteristics of the letter forms, make it possible to date the inscription at least to the 480s: ...Սահակ Կամսարական, շինեաց զայս վկայարան Սրբոյ Սարգսի... եւ հիմարկեցաւ տեղիս ի ձեռն Յովհանու հայոց կաթաղիկոսութեան... – ...**Sahak Kamsarakan built this martyrium of Saint Sargis ... and this place was founded during the catholicosate of Yohan of the Armenians...** [Ghafadaryan 2007, 118-119, 121; Greenwood 2004, 80; Harutyunyan *et all.* 2025, 33]. Like this inscription, the other inscriptions known from the early medieval period are also predominantly constructional in nature, which primarily clarifies the central purpose of composing inscriptions in the early Christian era: namely, to record and transmit to future generations the accomplishment of construction works.

Certain formulaic features are already noticeable in the structure of 5th-7th century inscriptions. It should first be noted that early medieval written sources had not yet adopted the practice of recording dates numerically. Therefore, the principal method of indicating time during that period was to mention the names of the secular and ecclesiastical leaders reigning at the time, and occasionally also the specific year of their rule, or even the exact month, date, and day.

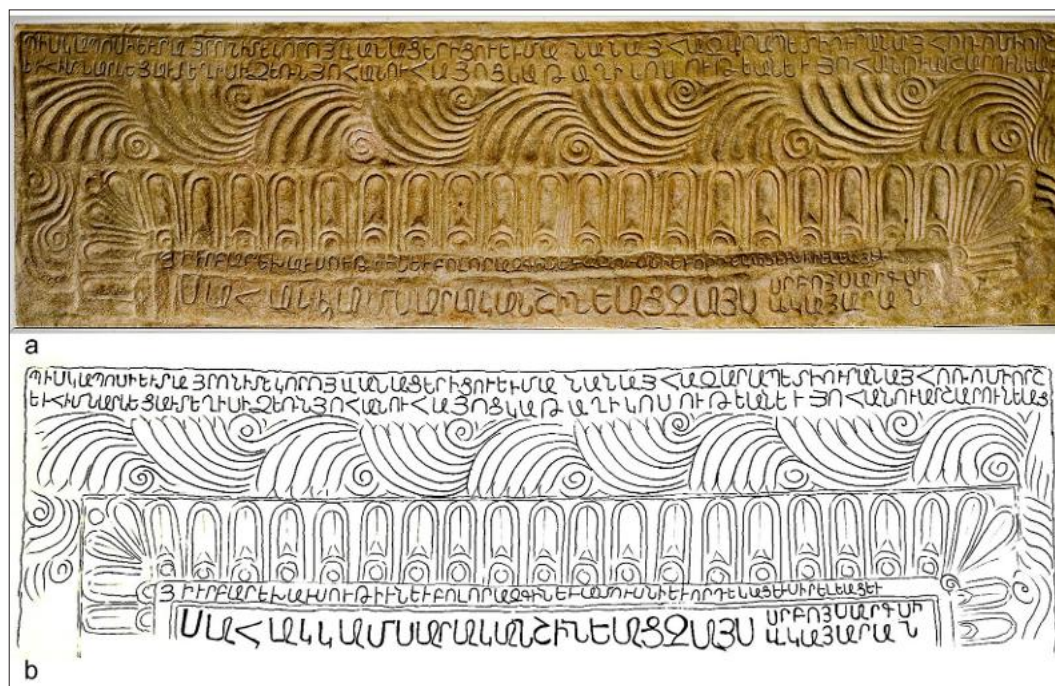


Fig. 6, a-b. The oldest Armenian inscription, Tekor's temple, 480s AD (© History Museum of Armenia).

This phenomenon became especially widespread in inscriptions of the 6th-7th centuries, eventually turning into an almost essential component of their introductory section. For instance, if in the case of the building inscription of the Tekor's Cathedral the direct mention of the secular and ecclesiastical leaders of the country was crucial for dating the inscription, then in the now-lost inscription of the ruined Church of Saint John the Baptist of Bagavan, the beginning and completion of the church's construction were explicitly recorded. The construction was said to have begun on the 30th day of the month of Hrotits, in the 21st regnal year of the Byzantine king Heraclius (Heraclius I, 610-641 AD), corresponding to June 16, 631 AD, and to have been completed on the 20th day of Navasard in the 29th regnal year of the same emperor, that is, July 9, 639 AD, during the catholicosate of Ezer (Ezras), Catholicos of the Armenians (630-641 AD): Քսան եւ ւփ ամոյն աստուածապահ Երակղի թագաւորի, Հրոտից ամսոյն, որ ար երեսուն էր, եւ Եզրաս Հայոց կաթողիկոս եւ Սուրբ վանաց երէց, հաճոյիւքն Աստուծոյ հիմն արկի սրբոյ եկեղեցոյս եւ ի քսան եւ իններորդ ամի նոյն Երակղի թագաւորի, յամսեան Նաւասարդի, որ ար քսան էր, յաւուրն ուրբաթ, եղեւ կատարումս... – **In the twenty-first year of the God-protected King Heraclius, on the thirtieth day of the month of Hrotits, I, Ezras, Catholicos of the Armenians and priest of the holy monastery, by the grace of God laid the foundation of this holy church; and in the twenty-ninth year of the same King Heraclius, in the month of Navasard, on the twentieth day, on a Friday, its completion took place...** [Orbeli 1963, 386; Barkhudaryan 1963, 26; Greenwood 2004, 825].

Similarly, the now-lost inscription of the Church of Saint Anania in Alaman likewise follows a comparable formula. According to it, the church was constructed in the 27th year of the reign of King Heraclius, that is, in 637 AD, under the patronage of Nerseh, the lord of the Shirak and Arsharunik cantons: Քսան եւ երթնեմոյ Հերակղի բարեպաշտ թագաւորի, Ներսէի Շիրակայ եւ Արշարունեաց տեառն... – **In the twenty-seventh year of the pious King Heraclius, Nerseh – the lord of Shirak and Arsharunik...** [Orbeli 1963, 395; Greenwood 2004, 81-82]. According to the three-line inscription on the western

wall of the church of Mren Cathedral, the church was built in the 29th/30th year of the reign of King Heraclius, that is, in 639/640 AD, during the rule of David Kuropalates, who was the patrician (governor) and commander-in-chief of the Armenians and Assyrians, under the episcopacy of Bishop Theophilos, and in the time of Nerseh – the lord of the Shirak and Arsharunik cantons: Ամոյն քսան եւ իններորդի (կամ՝ երեսներորդի – Ա. Հ.) Հերակղի բարեպաշտ թագաւորի, յիշխանութեան Դաւթի ամենագոյ պատրկի, կուրապաղատի եւ սպարապետի Հայոց եւ ասորոց եւ եպիսկոպոսութեանն սրբաւորի տեառն Թեովփիղոսի եւ ի տանուտերութեան Ներսէի Շիրակայ եւ Արշարունեաց տեառն... – **In the twenty-ninth (or thirtieth – A. H.) year of the victorious King Heraclius, during the rule of David, the most renowned patrician, kuropalates, and commander-in-chief of the Armenians and Assyrians, under the episcopacy of the God-loving Bishop Theophilos, and in the lordship of Nerseh – the lord of Shirak and Arsharunik...** [Orbeli 1963, 401; Greenwood 2004, 837; Karapetyan 2012, 55]. Incidentally, Prince Nerseh Kamsarakan is also mentioned, together with his spouse Shushan and his son Hrahat, in the building inscription of the Church of the Holy Mother of God in Talin Cathedral [Orbeli 1963, 434; Greenwood 2004, 86₁₂].

The building inscription of the now-destroyed Church of Saint Theodoros of Bagaran is composed according to the same dating principle. In this case, the patron of the construction is But from the Araveghian lineage, who initiated the building of the church in the 34th year of the reign of the Persian king Khosrov Parvez, that is, in 624 AD. However, four years later, in 628 AD, he was killed by a certain Gobti and Khumath, and the construction work was completed only three years afterward, in 631 AD, under the care of his spouse Anna, on the 20th day of the month of Tre, that is, on October 9: Երեսուն եւ չորրորդ ամի Խոսրովայ արքայի, երանելի Տէր Բուտ Առուեղեան ձգեաց հիմունս սուրբ եկեղեցոյս եւ երեսուն եւ ութ ամոյն Գոբթի եւ Խումաթ կորուսին զԲուտն եւ յետ երից ամաց մահուան Բոին կատարեաց սուրբ եկեղեցիս Աննայ Բոին ամուսին, Տրէ ամսեան ի քսան... – **In the thirty-fourth year of King Khosrov, the blessed Lord But**

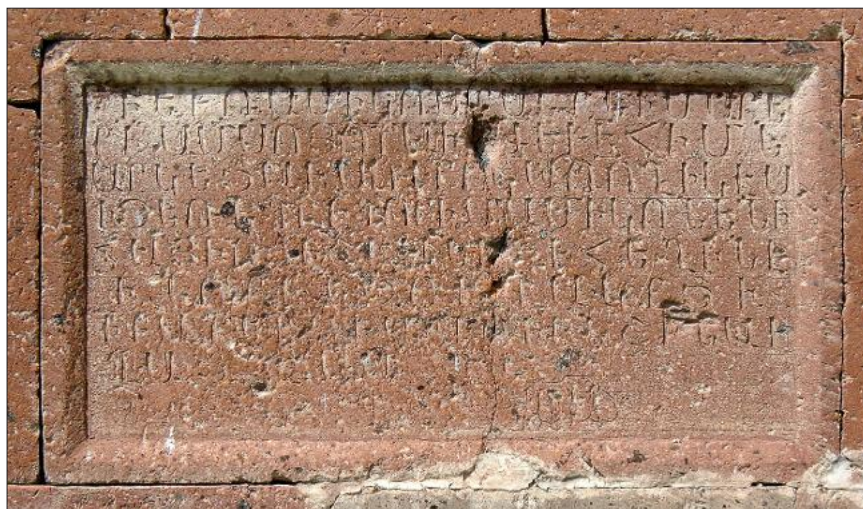


Fig. 7. The Building Inscription of Aruch's Cathedral, 662 AD (© Hrayr Baze Khacherean 2017).

Araveghian laid the foundations of this holy church; and in the thirty-eighth year, Gobti and Khumath killed But; and three years after But's death, Anna, But's spouse, completed this holy church, on the twentieth day of the month of Tre... [Orbeli 1963, 393; Greenwood 2004, 81₃]⁷. Another one, in the inscription preserved externally on the eastern wall of the Church of Saint Gregory the Illuminator in Aruch Cathedral, the foundation of the church is attributed to the 21st year of the reign of the Byzantine emperor Constantine (Constans II, 641-668 AD), on the 15th day of the month of Mareri, which corresponds to March 25, 662 AD (in the original text recorded as 29, later corrected): Ի ԷԼ Թ (=Ա) ամի Կոստանտինի, Մարերի ամսոյ, որ արք Ժ ԷԼ Ե (15), հիմարկեցաւ Սուրբ Կաթողիկէս... – **In the twenty-ninth year of Constantine, in the month of Mareri, on the 15th day, the Holy Cathedral was founded...** [Orbeli 1963, 402; Matevosyan 1987, 58; Greenwood 2004, 86₁₁] (fig. 7).

As we can see, in the aforementioned building inscriptions the masters recorded the fact of the

churches' construction with characteristic formulae, such as: "was founded" (հիմարկեցաւ – Tekor, Aruch), "laid the foundation" (հիմա արկի, ձգեաց հիմունս – Bagavan, Bagaran), or simply "I built/was built/we built/builder" (շինեցի/շինեցաւ/շինեցաք/շինաւ – Alaman, Talin, Mren, Vagharsapat, Ateni, etc.). At the same time, the inscriptions also record the purpose and expectation of those who initiated the construction of a given church, which, as a rule, are confined to supplicatory requests for intercession before the Lord, for the salvation of souls, or for being remembered by the readers. At times, this shifts from the individual to the collective, seeking intercession: ...Կամսարականաց, ԷԼ Սրենոյ, ԷԼ ամենայն երկրի... – **...for the Kamsarakans, and for Mren, and for the whole land...** [Orbeli 1963, 401]. It may be observed that Armenian epigraphy in the early Middle Ages, according to the examples known to us, was already to some extent systematized, displaying formulaic expressions stemming from the nature of inscriptions themselves, and possessing a clear three-part structure: introduction, motive, and intended purpose or expectation, namely:

a. *Introduction* – which, within the context of the time, summarizes the names and titles of secular and spiritual leaders, and sometimes also includes the specific year of their reign (as well as the month, date, and day).

b. *Motive* – which constitutes the core event prompting the composition of the inscription, whether it be the founding of a church, the beginning of construction, its completion, and so forth.

7. The tradition of indicating the beginning and completion of construction work in inscriptions is sometimes also observable in later centuries. For example, the building inscription of the main church of the Marmashen monastery records the beginning of the church's construction in the year of the Armenian era 437 (988 AD) and its completion in 478 (1029 AD) [Barkhudaryan 2017, 94₁₃₆]. The construction of the Cathedral of Saint John the Baptist at Gandzasar Monastery was initiated by Hasan-Jalal Dola in the year of the Armenian era 665 (1216 AD) and completed in 687 (1238 AD), while its consecration took place in 689 (1240 AD) [Barkhudaryan 1982, 38-40₈₂]. The examples can be continued.

c. *Purpose and expectation* – which encapsulates the appeal for mediation and intercession, or for the salvation of souls, in return for the works accomplished.

Let us turn to the inscriptions of the High Middle Ages. Beginning in the second half of the 8th century, Armenian inscriptions gradually started to record the date as well, with the letters of the Mesropian alphabet serving as numerical symbols according to their numeric values. Although several methods of interpreting dates circulated during the Middle Ages, the one most characteristic of inscriptions is the so-called “Great Armenian era”, whose starting point is considered to be July 11, 552 AD [Abrahamyan 1973, 112-114]. As a rule, the actual date-forming numeral letters were preceded or followed by set formulae, such as: “in the Armenian yea/date” (ի թուին Հայոց), “of the Armenian chronology”

(թուականութեան Հայոց), and other standardized expressions. As such, the earliest known dated Armenian inscription to this day is considered to be the inscription bearing the Armenian date 232 (783 CE), preserved on the western face of the southern pillar of the Talin’s Cathedral. It was composed by a certain monk named Ukhtatur and his brother on the occasion of bringing water to Talin – that is, constructing a canal [Harutyunyan 2022, 86]. From this perspective, the inscription is once again construction-related in character; however, it is noteworthy in that it is also reinforced with a formula of curse – something that seems to have been absent from early Armenian inscriptions: ՄԼԲ (783 թ.) թուականութեան Հայոց, ես Ուխտատուր վանականս եւ Տուտի եղբայր իմ, բերաք զաղբիւրանիս ի Քարկապանու վատեն ի Թալին, թէ յիշխողաց որ իսկէ, իմ մեղացս պարտական եղիցի – **In the year of the Armenian era 232 (783 AD), I, the monk Ukhtatur, and Tuti, my brother, brought these water from the Karkapan to Talin. If anyone in authority should divert them, may he be accountable for my sins** [Harutyunyan 2024a, 190] (fig. 8,a-b): For inscriptions of this type, four main components can be typologized: time, actor(s), occasion/event, and the concluding formula (curse and blessing).

From the mid-9th century to the 15th century, alongside Armenian building inscriptions as well as Georgian inscriptions documented in the territory of Armenia, there is also a large number of dedicatory and canon-law inscriptions. These too are distinguished by a range of structural features [Sargsyan 2006, 109-133; Sargsyan 2007, 40-92; Muradyan 1977, 27-30]. A component of inscriptions from the specified period was not only the recording of the date specifying the time, but also the titles and names of rulers (sometimes including references to their ancestors), the motive, purpose, expectation, and, of course, the well-known formulae

of curse-blessing or commemoration, with which the inscription was typically concluded.

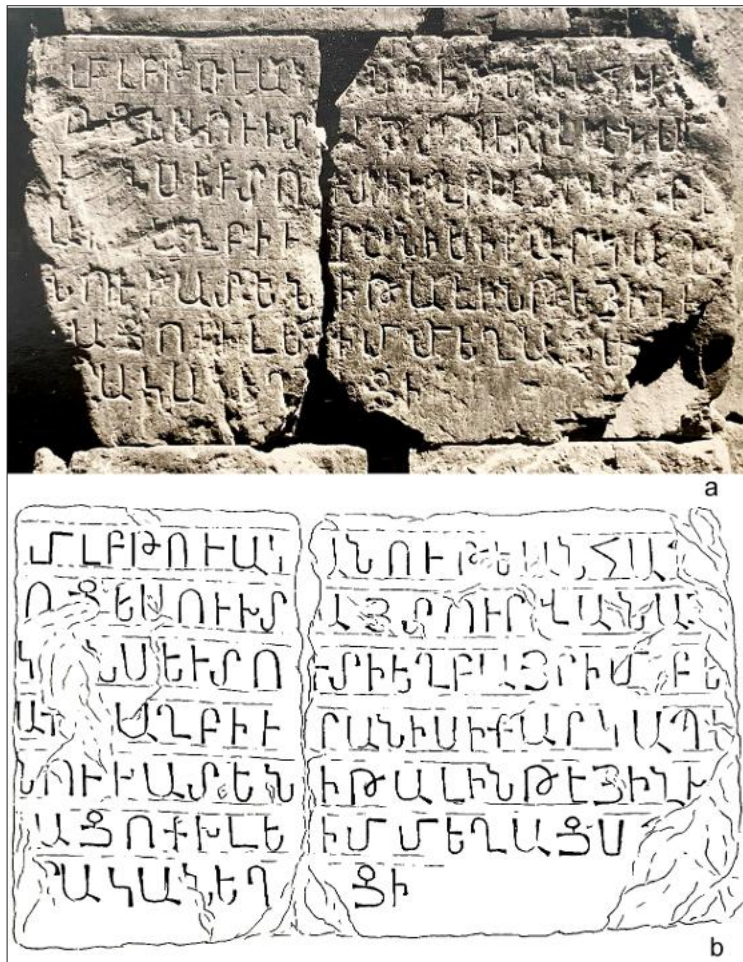


Fig. 8, a-b. Oldest Dated Inscription, Talin Cathedral, 783 AD (© A. Harutyunyan 2024).

Thus, the 874 AD inscription preserved on the eastern face of the drum of the Church of St. Karapet of Sevanavank, which is building-donative in nature, provides noteworthy information about the political events of the medieval Armenia, the institution of patronage, and the newly formed monastic landownership system. The text is composed in the name of Ashot I Bagratuni (885-890 AD), who had not yet been formally anointed king at the time, and his daughter – Princess Mariam. In it, Ashot is referred to with the title “king”, while Mariam is given the honorific title “Lady of Syunik”. Princess Mariam built churches in the monastery, and together with King Ashot they made donations to the monastery – namely, they transferred ownership of several villages, arable lands, and one vineyard each in Garni and Yerevan. The inscription is reinforced with curse-blessing formulae and concluded with the recording of the date [Melikset-Bek 2010, 374; Ghafadaryan 2007, 165].

First of all, the introductory section of inscriptions from the mentioned period, actions are generally presented as occurring by the will, grace, name, or simply divine power of God – similar to the well-known openings of Urartian cuneiform inscriptions from the Kingdom of Van, where events are likewise carried out through the power, greatness, or might of the god Haldi (see the first part of this article). This may also be a direct manifestation of otherworldly conceptions and medieval perceptions of sacred writing, as reflected in the practice – found in many inscriptions – of placing a carved cross at the beginning and concluding the text with the Lord’s “Amen” (as seen in Saghmosavank, Hovhannavank, Kecharis, and others).

In the context of events occurring by the will of God, the aforementioned Sevanavank’s inscription presents the so-called actors: Mariam – Lady of Syunik, and King Ashot: Կամսան Աստուծոյ, Միւնեաց տիկին Մարիամ..., միացաւ թագաւորն Աշոտ... – **By the will of God, Mariam – Lady of Syunik... and King Ashot... were joined...** [Melikset-Bek 2010, 374; Ghafadaryan 2007, 165]. They undertake to participate in two key actions: the construction of churches and the granting of estates to the monastery: ...շինեցի զեկեղեցիքն յանուն Մբ Առաքելոցն... եւ տվաք վախմ Մբ Առաքելոցս... – **I built the churches in the name of the Holy Apostles...**

and we gave vakhm (inviolable estate – A.H.) to the Holy Apostles [Melikset-Bek 2010, 374; Ghafadaryan 2007, 165]. Then the villages and field tracts donated to the monastery are listed – Varsar, Gomadzor, Tsamakaberd, Berd, Ureatstap, and others – as well as vineyards in Garni and Yerevan. The inscription concludes with a curse-blessing formula and is finalized with the recording of the date specifying the time: ...նվ խափանէ, ՅԺԸ (318) հայրապետացն նզովեալ եղիցի, կատարիչքն աւրինին յԱստուած, թվին ՅԻԳ (874 թ.) – **...whoever violates it shall be cursed by the 318 patriarchs (of the Ecumenical Council of Nicaea – A. H.); may those who carry it out be blessed by God; in the year of the Armenian era 323 (874 AD)** [Melikset-Bek 2010, 374; Ghafadaryan 2007, 165].

The content of inscriptions known from the 9th-10th centuries and later directly attests to the existence of the new feudal landholding institution formed in medieval Armenia, under which monasteries became major landowners and tax-exempt establishments. In this context, an inscription acquires the value of a document certifying the completed “transaction”, illuminating the agreement “sealed” between the donor and the recipient, often concluding with the celebration of liturgical services set by the leader of the monastery or the monastic congregation – frequently on religious feast days designated by the donor. For example, the extensive 903 AD inscription on the drum of the Church of St. Gregory the Illuminator in Vanevan (fig. 9), which is building-donative in nature, exhibits a clear structural pattern. In the introductory section, the main actor appears first: Sparapet Shapuh Bagratuni, the son of Ashot I, who, during the reign of his brother, King Smbat I Bagratuni (891-914), and under Catholicos Hovhannes Draskhanakerttsi (898-929), in the year 903 AD, undertook – together with his sister, Princess Mariam of Syunik – to build a church in the Vanevan monastery for the sake of God, being fully aware that everything in life is transient and fleeting: ...իմացայ եւ ծանեայ, թէ ամենայն փառք եւ մեծութիւն ըսպառելոց են եւ վաղիւ կորընչելոց... – **...I have understood and realized that all glory and greatness are fleeting and long ago perished...** [Barkhudaryan 1973, 121₄₉₁]. The primary occasion for composing the inscription was not only the construction of the



Fig. 9. Building-Donative Inscription of Vanevan's Cathedral, 903 AD (© A. Harutyunyan 2020).

church, in connection with which the well-known saying about attaining virtue is cited: ...յորժամ բանքն սպառին եւ գործքն թագաւորեն – **When words run out, the deeds accomplished are crowned** [Barkhudaryan 1973, 122₄₉₁], but also the making of donations to the monastery, which served as a means of commemorating the donors. The text concludes with the recording of the date: ...ի թուին Հայոց ՅԾԲ (903) – **in the year of the Armenian era 352 (903 AD)** [Barkhudaryan 1973, 122₄₉₁].

The 1255 AD inscription of the scriptorium-church of Saghmsovank, also building-donative in nature, exhibits a more regular structure, with clear distinctions between the sections recording the time, the names, the occasion or event, the purpose, the expectation, and the curse-blessing

formulae (fig. 10). The inscription begins with a carved cross, followed by the recording of the date: † Ի թվին ՉԴ (1255) – **† In the year of the Armenian era 704 (1255 AD)**, after which the construction and donation are described, along with the nominal mention of the initiators – Kurd Vachutyan and his spouse Khorishah – who, in memory of their prematurely deceased daughter Mamakhatun, built the scriptorium-church and made donations: ...շինեցաք զգրատունս եւ հաստատեցաք զմատուռս յանուն դստեր մերոյ Մամախատունին, որ տարածամ փոխեցաւ ի Քրիստոս, եւ մեք զարդիր նորա արարաք խաչ ոսկի եւ Աւետարան ոսկեւորուի, Է (7) նափորս (շուրջաւ – Ա. Հ.) եւ վառ (խաչվառ – Ա. Հ.) եւ զարդք եկեղեցոյ... – **...we built the scriptorium and established the chapel in memory of our daughter Mamakhatun, who prematurely passed to Christ, and we donated her ornaments: a golden cross, a Gospel in a gold case, seven chasuble, one gonfalon, and other church utensils...** [Yeghiazaryan 1961, 44-45₁₈; Petrosyants 2023, 300-301]. Following the primary occasion comes the recording of the purpose and expectation – namely, the commemoration of Mamakhatun through the liturgical services to be performed for her, with the precise designation of religious feast days, such as: Christmas, Easter, Holy Mother of God, Holy Cross, etc [Yeghiazaryan 1961, 45₁₈; Petrosyants 2023, 301].



Fig. 10. Building-Donative Inscription of Saghmsovank's Church-Scriptorium, 1255 AD (© A. Harutyunyan 2020).

The inscription concludes with formulae of blessing and curse: ...կատարիչ գրոյս արինին յԱստուծոյ, ով խափանէ, դատի ի Տեառնէ. ամէն – **...may those who carry out this inscription be blessed by God; whoever disrupts it shall be judged by the Lord. Amen** [Yeghiazaryan 1961, 45¹⁸].

The donor could also belong to the clergy, even the leader of the monastery. According to the dated 1217 AD inscription of Sanahin monastery, the abbot Grigor Vardapet, donated a large cross (possibly reliquary), thirteen books, and other items to the local Church of the Holy Mother of God. In return, a regulation was established with blessing and curse formulae: ...գրեցաւ ինձ Սրբոյն Բարսղի տաւնին ամէն եկեղեցիքս՝ մինչ ի կատարած (վերջը – Ա. Հ.) աշխարհի: Որք յաւժար կամաւք կատարեն զինդիրս իմ՝ արինին յԱստուծոյ, իսկ թէ ոք խափանել ջանայ նզովս առցէ յԱստուծոյ եւ ամենայն սրբոց – **...he wrote to me on the Holy Basil, for all my churches (altars) – until the end of the world: Whoever faithfully fulfills my request shall be blessed by God, but if anyone tries to violate it, let them take my curse from God and all the saints** [Barkhudaryan *et al.* 2012, 45-46⁴⁴].

The same structural formulae typical of building or donative inscriptions is often observable in inscriptions of a canon-law nature as well. As an example, consider the 1295 AD charter of the Church of St. Hripsime in Vagharshapat, whose structure is entirely comparable to the previously mentioned examples (fig. 11). The inscription, beginning with the recording of the date, has an extensive introductory section in which the names of the local rulers and those exempting the monastery from the tenth of cotton (shariat) are attested: Ի պարոնութեան իշխանաց իշխանին մեծին Շահրնշահի եւ Աղբուղին, եւ Շիրին խաթունս ու Պայալուն խաթունս, ու Թաղթէս, ու Թալէս, ու Խոճէս, ու Ղայիրս... – **In the lordship of the great prince of princes Shahanshah, and Aghbugha, I – Shirin Khatun and Payalun Khatun, and Toghta, and Tala, and Khocha, and Ghayir...** [Harutyunyan 2016, 267-528]. Then the main occasion is stated: ...թողաք զճոխփսիմուցս զբաբակին շարիատն... – **...let the Shariat tax of cotton...**, followed by rather extensive curse formulae and a very brief blessing: ...արդ, ի մերոց

կամ յաւտարաց, ի մեծաց կամ ի փոքունց խափանել ջանայ, ՅԺԸ (318) հայրապետացն նզոված է, Կայէնի եւ Յուդայի մասնակից է, եւ յիր հաւատէն ապիգար է (նզովված է – Ա. Հ.), յամէն յազգէ նալլաթ է (նզովված է – Ա. Հ.), եւ արինեալ հող զնա մի՝ ծածկեցէ, կատարիչքն արինին յԱստուծոյ – **...but if anyone, whether of our people or of strangers, whether great or small, should attempt to violate it, they are cursed by the 318 patriarchs, a participant in Cain and Judah, and an enemy of the faith, accursed for all generations; and may they not cover their blessed land, and may those who carry out [this grant] be blessed by God** [Harutyunyan 2016, 267⁵²⁸].

The phenomenon is also noticeable in the case of late medieval inscriptions, except that during this period the classical donative inscriptions are replaced by brief commemorative notes composed in the names of visiting pilgrims; inscriptions of a canon-law in nature almost disappear,

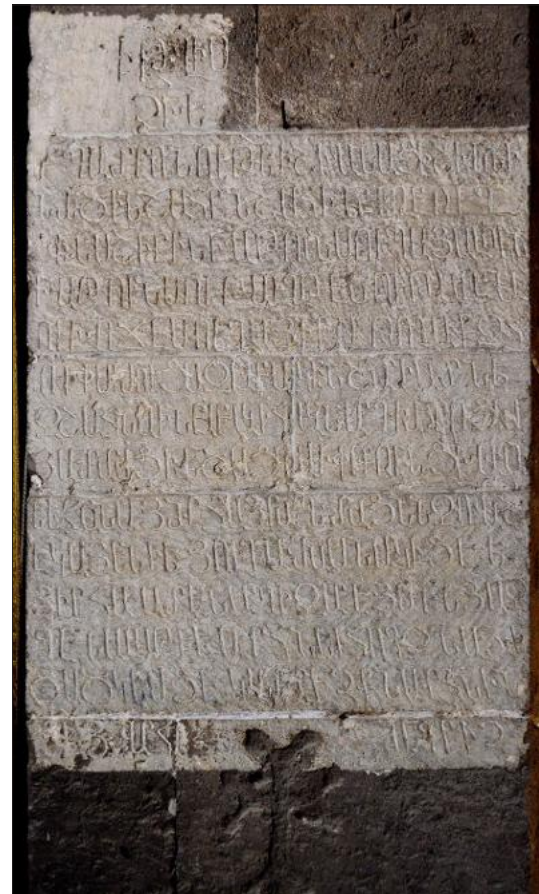


Fig. 11. Medieval Legal Inscription from St. Hripsime Cathedral, 1296 AD (© A. Harutyunyan 2021).



Fig. 12. A Building Inscription Mentioning the Names of the Patron and Members of his Family, 1693 AD (© A. Harutyunyan 2020).

while building inscriptions are sometimes composed in a more extensive form. Foremost among them are the nominal – often detailed – commemorations of the patron of the construction and the members of his family. For example, the metrical building inscription of the Holy Mother of God Church (Zoravor) in Yerevan mentions the names of Panos, a merchant-khoja and patron of the church built in 1693 AD on the site of the hermitage of Saint Anania's the Apostle during the catholicosate of Nahapet Yedesatsi, Catholicos of All Armenians (1691-1705), as well as those of his sons Eliaz and Movses, and his grandson Aharon: ...խօճայ Փանոս վերայձայնի, Սբ Աստուածածինս շինողի, յիշատակ ուրն եւ նախնի ծնողաց ուրոց, հարցն առաջի, որոց ուրոցն էլիագի եւ Մովսէսի քաղցր ողկոյզի, թոռան ուրոյ Ահարոնի... – ...**Khoja Panos, the builder of this Holy Mother of God church, in memory of himself and of his forefathers and parents before him, and of his sons – Eliaz and Movses, “sweet clusters of the vine” – and of his grandson – Aharon...** [Harutyunyan 2020, 168₁] (fig. 12). The names of Panos's father, Satibek, and his spouse, Hurikhan, can be read in the inscriptions on the khachkars embedded into the exterior of the eastern wall of the same church, where the inscriptions are once again formulated according to phraseological patterns characteristic of the period: Յիշատակ է Սբ խաչս Սատիպէկի որդի խօճայ Փանոսին, թվին ՌՃԽԲ (1693) – **This Holy Cross is in memory of Khoja Panos, the son of Satibek, in the year of the Armenian era 1142**

(1693 AD) or Յիշատակ է Սբ խաչս Փանոսի կողակից Հուրիխանին, թվին ՌՃԽԲ (1693) – **This Holy Cross is in memory of Hurikhan, spouse of Panos, in the year of the Armenian era 1142 (1693 AD)** [Harutyunyan 2020, 171_{2,3}].

A similar case is the metrical building inscription of the Shoghakat Church in Vagharshapat, which is likewise accompanied and supplemented by brief commemorative inscriptions on the khachkars embedded in the church walls (fig. 13). According to the inscription, the church was built in 1694 AD during the catholicosate of Nahapet Yedesatsi, through the means of Khoja Aghamal, originally from Nakhichevan: ...արդեամբք Աղամալին բարեպաշտօնի, գոլով քաղաքէն Նախիջեւանի, շինեաց յիշատակ փրկել զիր հոգին, հօրն Աղաջանին, մօրն Նանագուլին, նաեւ կենակցին իւր Մարիամին եւ որոց իւրոց՝ Ալբերդիոսին, Ագաթանկեղոսին, Աղէքսանդրոսին եւ Խարիսիմոս փոքր եղբայր սոցին, դստերաց իւրոց Նոյեմզարային, այլեւ զԱսանէթ եւ Նանագուլին... – ...through the efforts of the Aghamal, from the city of Nakhichevan, he built [this church] in memory for the salvation of his soul, for his father Aghajan, his mother Nanagul, as well as for his spouse Mariam, and for his sons Alberdios, Agathangelos, Alexanderos, and Kharisimos, the younger brother among them, and for his daughters Noyemzar, as well as Asaneth and Nanagul... [Harutyunyan 2016, 339₆₇₉]. If we take into account that many of their names are also attested in the khachkar commemorative inscriptions of the same church, it is



Fig. 13. A Building Inscription Mentioning the Names of the Patron and Members of his Family, 1694 AD (© A. Harutyunyan 2022).

also possible to reconstruct a partial genealogical tree of the Aghamalian family, which we have previously done [Harutyunyan 2016, 339].

As for the inscriptions on monumental memorials – particularly medieval khachkars and tombstones – they are likewise characterized by formulaic expressions, sometimes with identical openings and closings. If epitaphs are more commonly characterized by formulaic openings, such as: “this is the tomb”, “this is the resting place”, “this grave”, or “this monument”, as well as by lines lamenting those who died at a young age [Harutyunyan 2024b, 549,], then in the case of khachkars the commemorative inscription typically begins with well-known formulas, such as: “this Holy Cross is an intercessor” or “this Holy Cross is in memory” which became especially widespread in the developed and late medieval periods. On the basis of approximately two hundred inscribed monuments attested in the Noratus cemetery alone, it is possible to document several manifestations of this phenomenon [Barkhudaryan 1973, 13-49¹⁻¹⁸⁸], which are also typical of inscriptions on other monumental memorials as well.

As for earlier khachkars, their primary purpose and function can be clearly determined on the basis of the inscriptions themselves, whose structure is generally understood through the following four canonical components: occasion, act of erection, purpose, and request-message [Petrosyan 2008, 316]. With certain variations, these can be documented even in early examples of khachkar culture known from the mid-9th century, since khachkar inscriptions depart from their canonical structure

only in rare cases, and even then, only when there is a change in the occasion of erection [Petrosyan 2008, 315]. Thus, Queen Katranide I of Bagratid Kingdom, as early as 879 AD – six years before the official coronation of her husband Ashot I Bagratuni – erected a khachkar in Garni for the intercession of her own soul, referring to herself as queen: ...*Էս Կատրանիդէ, Հայոց թագուհի, որ կանգնեալ զսուրբ խաչս ի բարեխոսութիւն ինձ – I, Katranide, Queen of the Armenians, who have erected this Holy Cross for my intercession...* [Petrosyan 2008, 94]. According to the inscription of the 924 AD khachkar known from the village of Janfida (Armavir province, Armenia), Priest Gorg erected the monument: ...*ի բարեխոսութիւն հաւատացելոց – ...for the intercession of the faithful* [Yarutiwnian 2020, 466]. And, for example, the introductory part of the extensive inscription on the back of the 990 AD khachkar from Karmrashen – originally a “vishapak’ar” (dragon stone) later turned into a khachkar – directly describes how a certain Grgorik, by divine revelation, discovered the monument, brought it to the church with great difficulty, and erected it there as a khachkar: ...*աստուածային տեսչութեանք զսի զարձանս, բազում աշխատութեամբ եւ մեծ յուսաւ բերի ի դուռն եկեղեցոյս – by divine revelation I found this stone, and with great labour and great hope I brought it to the door of this church...* [Harutyunyan 2019, 505], then the event is authenticated: ...*կանգնեցի նշան սուրբ խաչ... – ...I erected the sign of the Holy Cross...* [Harutyunyan 2019, 505], followed by the statement of purpose and expectation: ...

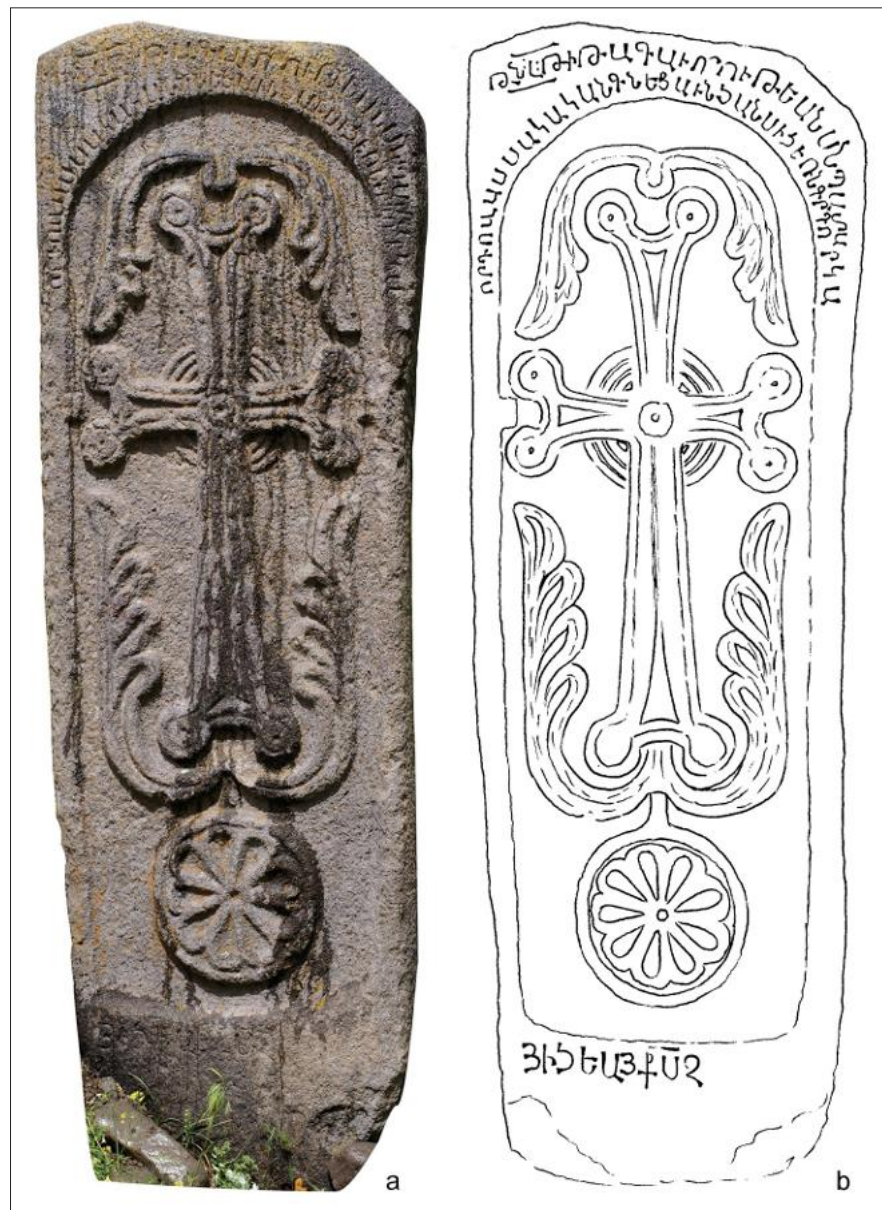


Fig. 14, a-b. The Dragon-Stone (Vishapakar) of Karmrashen turned into Cross-Stone (Khachkar), 990 AD (© A. Harutyunyan 2019).

իմ զաւակաց արեւշատութեան, որ աւուրս Ահել զալստեան Որդոյն Աստուծոյ, առեալ զսա դանպար լուսոյ ընդառաջ՝ տեսանել զփառս Քրիստոսի – **...for the well-being and long life of my children, so that on the day of the dread coming of the Son of God, taking this as a lamp of light, they may go forth to meet and behold the glory of Christ** [Harutyunyan 2019, 505], followed by the well-known formulae of request-message: ...որք ընթերնուք զգծագիրս ի վէմս քանդակեալս, յիշեցէք եւ զիս՝ յաւգնամեղս – **...you who read these carved writings on stone,**

remember me also, a sinner [Harutyunyan 2019, 505] (fig. 14,a-b; 15,a-b). Notably, the formula of commemoration characterizes the inscription as a “diagram carved on stone,” which is unique in its kind. Examples of this nature could be further multiplied; however, within the scope of the present study, those already cited are sufficient to clearly illustrate the phenomenon under consideration across its historical development.

Conclusion

Notably, the written culture of the Armenian Highlands has an ancient history. Over time, the

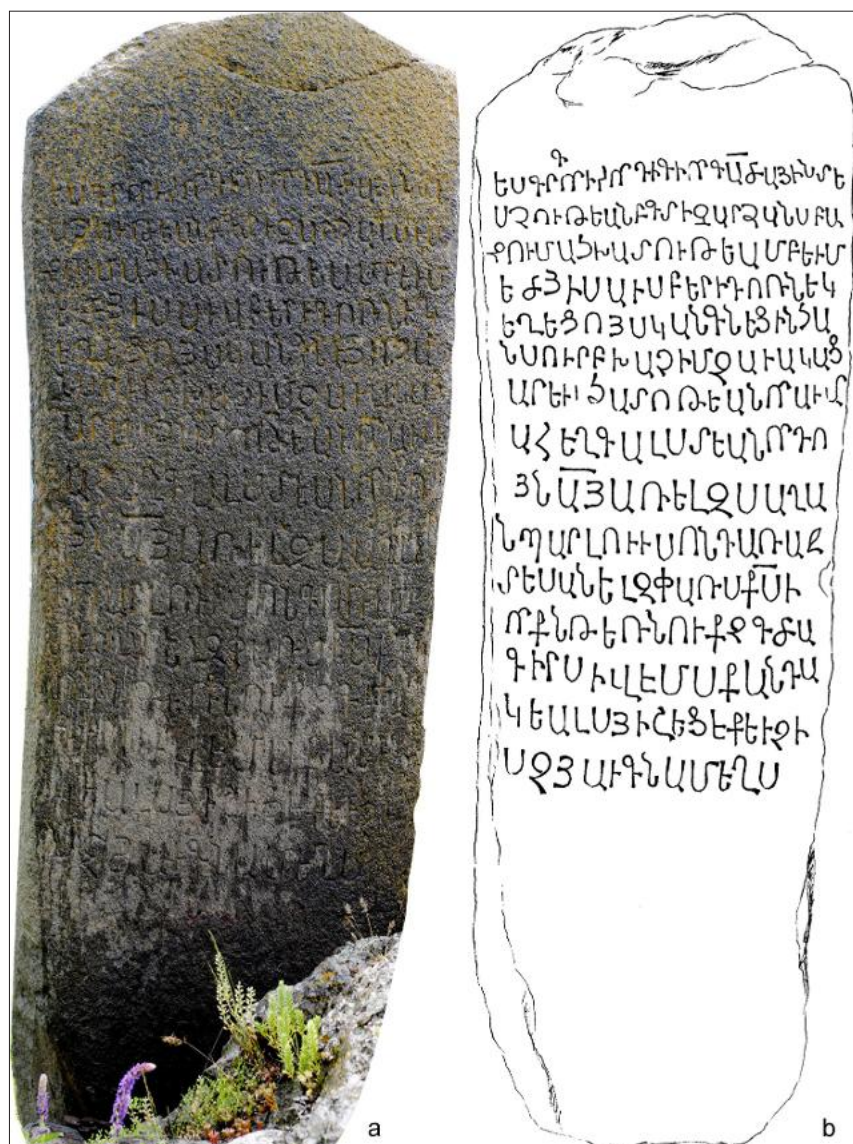


Fig. 15, a-b. The Dragon-Stone (Vishapakar) of Karmrashen turned into Cross-Stone (Khachkar), 990 AD (© A. Harutyunyan 2019).

transformations undergone by different writing systems have also been reflected in their structural features and stable formulae. What is noteworthy is that throughout all periods in the history of written culture, the traditional foundation of inscription composition has remained largely the same: to record events, thereby ensuring the commemoration of the individuals mentioned.

The question remains what additional components might accompany an inscription. In the introductory section, the executed works were sometimes attributed to God or divine power; the names of secular and spiritual leaders of the country were recorded with their respective titles;

especially in medieval inscriptions, emphasis was placed on the purpose of the act and what was to be received in return, most commonly expressed through the offering of liturgical services. The inscription was then concluded with formulae of curse directed at those who might violate or neglect the established order, and with blessings addressed to those who fulfilled it.

The epigraphic examples drawn from the three main stages illuminating the written culture of the Armenian Highlands demonstrate that both the cuneiform inscriptions of the Kingdom of Van, the Aramaic inscriptions of Classical Armenia, and the medieval Mesropian (Armenian)

inscriptions were composed with a single overarching purpose: to transmit information through writing to future generations, ensuring its preservation and continued legibility.

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Din istoria și istoriografia corului gotic al bisericii Sf. Maria din Sibiu

Key words: medieval architecture, Gothic, ecclesiastical architecture, parish church, historiography, archaeology.

Cuvinte-cheie: arhitectură medievală, gotic, arhitectură ecleziastică, biserică parohială, istoriografie, arheologie.

Maria Crîngaci Țiplic, Ioan Marian Țiplic

From the History and Historiography of the Gothic Choir of St. Mary's Church in Sibiu

St. Mary's Church in Sibiu is one of the most important Gothic religious monuments in Transylvania, its architectural development unfolding in successive stages throughout the 14th and 15th centuries, until the beginning of the 16th century (ca. 1520). The present study analyses interpretations of the construction and evolution of the church's Gothic sanctuary, drawing on documentary sources and presenting the main hypotheses advanced in the scholarly literature to date regarding its chronology and function over time. One of the most important discoveries is the identification, during the archaeological investigations conducted in 2013 under the coordination of Ioan Marian Țiplic, of a fragment of the foundation of the Romanesque apse of the parish church of Sibiu, an edifice already existing in the second half of the 12th century.

Maria Crîngaci Țiplic, Ioan Marian Țiplic

Din istoria și istoriografia corului gotic al bisericii Sf. Maria din Sibiu

Biserica Sf. Maria din Sibiu reprezintă unul dintre cele mai importante monumente religioase gotice din Transilvania, evoluția sa arhitecturală desfășurându-se etapizat pe parcursul secolelor al XIV-lea și al XV-lea, până la începutul secolului al XVI-lea (1520). Studiul de față analizează interpretările privind construirea și evoluția corului gotic al bisericii, pornind de la informațiile furnizate de izvoarele documentare și continuând cu prezentarea principalelor ipoteze formulate până în prezent în literatura de specialitate referitoare la cronologia edificării acestuia și la funcția lui de-a lungul timpului. Una dintre cele mai importante descoperiri este identificarea, în urma cercetărilor arheologice din anul 2013 coordonate de Ioan Marian Țiplic, a unui fragment din fundația absidei romanice a bisericii parohiale din Sibiu, edificiu existent deja în a doua jumătate a secolului al XII-lea.

Introducere

În momentul redactării documentului din 5 iulie 1321, prin care Heydenric, preotul paroh al Sibiului, împreună cu comunitatea locală ripostau împotriva prepozitului Sibiului și solicitau respectarea „dreptului deplin de patronat” asupra bisericii parohiale, aceasta era desemnată „cea mai veche și cea dintâi” dintre bisericile din provincia Sibiu, de la care celelalte biserici parohiale „și-au luat obârșia sau întemeierea”¹. Formularea sugerează o vechime a bisericii parohiale care trimite către a doua jumătate a secolului al XII-lea și reflectă disfuncția instituției ecleziastice înființate în 1191, când biserica germanilor din Transilvania a fost organizată ca o prepozitură liberă (*ecclesia Theutonicorum Ultrasilvanorum in praeposituram*

sit liberam institutam). De asemenea, documentul din 1321 pare să indice că arhitectura bisericii era una arhaică, față de tendințele goticului, care deja se manifesta în împrejurimi. La aceea vreme, este foarte probabil ca edificiul să fi fost încă dominat de elementele stilului romanic, configurat ca o bazilică cu trei nave, separate prin stâlpi masivi și cu un turn masiv în partea sa de vest. Același document evocă și pagubele provocate de invazia mongolă din 1241-1242, de contextul instabil marcat de luptele pentru restabilirea autorității regale de către Carol Robert² și de conflictul îndelungat dintre prepoziții Sibiului și preoții parohi ai Sibiului, în urma căruia biserica a fost lipsită de dreptul de

1. „...celelalte biserici parohiale din acea provincie, printre care <biserici> se știe că des pomenita biserică din Sibiu este cea mai veche și cea dintâi (*principalis et primaria*) [...] de la care și-au luat obârșia sau întemeierea celelalte biserici parohiale din sus zisa provincie...” [Urkundenbuch I, 350-352, nr. 380; DIR.C veacul XIV, vol. II, 41, nr. 42].

2. „Și fiindcă multă vreme a fost mai tare nedreptatea celor răi, adică atât năvălirea Tătarilor, cât și asuprirea tiranilor țării în așa măsură că nimeni n-a putut să se folosească de dreptul său și nici n-a putut până acum să-și ceară dreptul său, din pricina primejdiilor drumurilor și a stării turburi a regatului Ungariei, <acum> datorită îndurării dumnezeiești și strădaniei domnului Carol, ilustrul rege al Ungariei, că această stare tulbură s-a schimbat în mai bine...” [Urkundenbuch I, 350-352, nr. 380; DIR.C veacul XIV, vol. II, 14, nr. 42].

patronat (prerogativa alegerii libere a preotului) și de venituri importante (cel mai probabil de dreptul de strângerea dijmelor cuvenite). Toate aceste circumstanțe par să justifice, cel puțin parțial, de ce comunitatea sibiană nu a decis deschiderea unui șantier care să ducă la o „modernizare” arhitecturală a întregului edificiu ecleziastic. Astfel, se explică de ce la cumpăna secolelor al XIII-lea și al XIV-lea, biserica parohială din Sibiu se pare că mai păstra, într-o proporție mare, forma sa romanică originală.

Corul gotic al bisericii Sf. Maria din Sibiu de-a lungul secolelor XIV-XIX

Reacția comunității din Sibiu, alături de parohul lor Heydenric, împotriva prepozitului asupritor era firească și predictibilă, având în vedere că, în urmă cu patru ani, în 25 mai 1317 [Urkundenbuch I, 322-323, nr. 350; DIR.C veacul XIV, vol. I, 274-275, nr. 264], greavii Blafuuz de Vurpăr și Henning de Petrești, reprezentanți ai comunităților libere din provincia Sibiu, au obținut de la regele Carol Robert confirmarea vechilor privilegii ale sașilor deținute din anul 1224. Acestea, printre altele, specificau și dreptul de a alege preotul căruia să-i plătească dijele și în fața căruia să răspundă, după vechiul obicei. Toate aceste evenimente reprezintă indicii vagi care ne permit să presupunem că tranziția către stilul gotic al bisericii a fost mult întârziată și fusese inițiată nu cu mult timp înainte de anul 1321, prin conceperea unui nou plan al unei biserici mai ample, ale cărei lucrări au debutat prin construirea unui nou sanctuar și a cărei formă finală reprezintă un cor cu două travee acoperite cu bolți în cruce pe ogive sprijinite pe colonete susținute de console și o absidă poligonală acoperită de o boltă sixpartită. Cu siguranță, construcția corului gotic era deja finalizată în 1351, anul primei sale atestări scrise, când „pe treptele dinaintea altarului celui mare (*summum altare*), așezat în cor (*chorus*) și care este închinat în cinstea” Sf. Maria, notarul public *Johannes Johannis de Lerinda* redacta statutele capitlului sibian în prezența lui Nicolaus și Arnoldus, plebani de Alțâna și Turnișor, și a lui Johannes, decan de Sibiu [Urkundenbuch II, 81-83, nr. 666; DRH.C, vol. X, 69-74, nr. 71].

Un alt document prețios pentru reconstituirea cronologică a etapelor constructive ale sanctuarului, este cel din 1372, care indică faptul că

partea vestică a corului era delimitată de un letner (*lectorio*) [Urkundenbuch II, 388-390, nr. 989], cel din urmă fiind menționat în contextul înființării confraternității *Corporis Christi* care dorea să fondeze un altar dedicat Sf. Trup al lui Hristos pe platforma letnerului [Firea 2008, 56; Gross 2009, 226-235; Salontai 2010, 54]. Alte câteva repere istorice importante din istoria medievală a sanctuarului sunt reprezentate de pictarea, în anul 1445, de către Johannes de Rozenaw a monumentalei fresce a Răstignirii pe peretele nordic al corului și de emiterea, în anul 1460 [Urkundenbuch VI, 87-89, nr. 3234] în corul bisericii (*ad chorum parochialis ecclesiae gloriosissimae virginis Mariae opidi Cybiniensis*) a documentului, de către notarul public Urbanus Petri, pentru confraternitatea *Corporis Christi*. Importanța acestui din urmă document este de o mare însemnătate, deoarece consemnează (pe lângă confirmarea actului din 1372 [Urkundenbuch II, 388-390, nr. 989; DRH.C, vol. XIV, 254-258, nr. 166] și a indulgențelor primite în 1384 [Urkundenbuch II, 593-595, nr. 1194, 1196; DRH.C, vol. XVI, 562-563, nr. 406; 571-573, nr. 415]) atât finalizarea lucrărilor de extindere a bisericii în lățime și în lungime (*praedicta parochialis ecclesia gloriosissimae virginis Mariae in Cybinio in latitudine et longitudine decora aedificatione exstitit de praesenti amplificata*), cât și modul în care se oficia, în ziua de joi, liturgia solemnă pentru *Corporis Christi* la altarul de pe letner și celebrarea sfintelor sacramente [Firea 2008, 51, 62-63; Salontai 2010, 58; Firea 2021, 23-24]. Totodată, documentul marchează instituirea unei procesiuni săptămânale dedicate Trupului lui Hristos, care urma să se desfășoare prin biserică, de la cor, pe letner, până la altarul *Corporis Christi* (*processione in ecclesia praedicta in circuitu, in monastrancia ut decet de choro super lectorium ad altare corporis Christi*) și care era însoțită de un impresionant spectacol liturgic cu lumânări aprinse, clopote bătând și cântări solemne, susținute de acompaniament de orgă și de vocile membrilor confraternității în cadrul celebrării Sfintei Liturghii în cinstea Trupului lui Hristos.

După adoptarea Reformei protestante, spațiul interior al corului a primit, în decursul secolelor, diferite configurații. Mai întâi a fost demantelat segmentul central al letnerului din dreptul arcului de triumf [Salontai 2010, 56], moment în care comunitatea sibiană a decis ca polipticul

cu imaginea Mântuitorului răstignit, presupus a se fi aflat în fața letnerului [Kimakowicz 1913, 487-488; Firea 2016, 268-273], să înlocuiască altarul principal dedicat Fecioarei Maria din absida corului³. Retablul medieval cu imaginea Mântuitorului răstignit a fost mutat și păstrat pe masa altarului din absidă până în anul 1720 [Albu 2002, 36, nr. cat. 28; Firea 2016, 268-273], ulterior, după un periplu prin biserica Sf. Elisabeta (str. 9 Mai) și biserica Ursulinelor (str. Magheru), ajungând să fie dezmembrat și amplasat în diferite părți ale transeptului până la restaurarea din 2017-2022. În prezent, el se regăsește reasamblat parțial în ferulă. Alte modificări reconstituibile realizate în cor imediat după Reformă au avut loc în a doua jumătate a secolului al XVI-lea, când sculptorul în lemn din Brașov, Erasmus, bunicul preotului evanghelic Jakob Schnitzler (1636-1684), a sculptat stranele din lemn de stejar adosate pe zidurile de nord și de sud ale corului [Seivert 1777, 21; Möckesch 1839, 89, 112; Reissenberger 1884, 46-47; Albu, 42, 58, nr. cat. 35, 53]. Dintre acestea s-a mai păstrat baldachinul stranei, care are inscripționate anul și monograma meșterului „15//67 / E(RASMVS) S(CVLPTOR)” [Albu 2002, 58, nr. cat. 53]⁴ și care a intrat din anul 1905 în inventarul Muzeului Brukenthal [Beșliu Munteanu 2008, 67, foto 29] și strana care la un moment dat a fost mutată în Biserica Azilului [Avram 1991, 68; Beșliu Munteanu 2008, 67, foto 30] și readusă înapoi în Biserica evanghelică, unde, înainte de restaurarea din 2017-2022, fusese amplasată în ferula bisericii.

O altă etapă marcată de intervenții multiple în cor este a doua jumătate a secolului al XVII-lea, perioadă în care spațiului i se conferă un aspect parțial modificat, în acord cu doctrina luterană. Astfel, în 1650, partea superioară și, parțial, părțile laterale ale picturii realizate de Johannes de Roze-

naw în 1445 pe peretele de nord al corului au fost modificate de pictorul Georg Hermann, iar culorile picturii au fost reîmprospătate și fundalul scenei Răstignirii a fost adaptat la noua pictură, prin completarea cu un cer înstelat [Albu 2002, 14, nr. cat. 9; Bălint, Ziegler 2011, 9-17]. Modificările aduse imaginii gotice prin creșterea numărului reprezentărilor lui Hristos de la două (Răstignirea lui Isus și imaginea lui Iisus în închisoare – *vir dolorum*) la șapte (două figuri ale lui Hristos cu inscripțiile „gloria” și „humilitas”, precum și scenele cu Nașterea, Botezul și Învierea lui Hristos), alături de polipticul cu imaginea Mântuitorului răstignit din absida corului au avut menirea de a transforma simbolic sanctuarul catolic medieval într-unul luteran prin redarea într-un mod didactic al mesajului evanghelic al mântuirii lui Hristos, omniprezent, în spiritul credinței și teologiei luterane formulate plastic de Martin Luther în predica sa „*Sermon von der krafft der Hymelfart Christi, aus der Epistel Sanct Pauel zun Ephesern [Despre puterea Înălțării lui Hristos, din Epistola Sf. Pavel către Efeseni]*” [Bălint, Ziegler 2011, 21]⁵. După aproape 25 de ani, imaginea este completată prin decorarea bolții corului cu un cer înstelat, intervenție realizată conform dispozițiilor testamentare ale lui Valentin Röhrig, fost primar al orașului, decedat în 1674 [Möckesch 1839, 117; Neugeboren 1855, 11; Reissenberger 1884, 47; Albu 2002, 203, nr. cat. 235]. În 1679, în pe-retele de nord al corului este amenajată o mică tribună, cu acces dinspre etajul de deasupra sacristiei, pentru susținerea unei orgi de dimensiuni mai reduse, care fusese o donație din partea lui Georg Weiß, judele Sibiului [Möckesch 1839, 94-95, 117; Neugeboren 1855, 11; Reissenberger 1884, 47]. În 1720, vechiul poliptic medieval din cor a fost înlocuit cu un altar nou, de dimensiuni mai mari, care păstra tema răstignirii lui Christos [Möckesch 1839, 112-113]. Odată cu restaurările din 1853-1855, acesta a fost înlocuit, la rândul lui, cu actualul altar.

3. Samuel Möckesch precizează că după Reformă, în biserică a fost păstrat doar un singur altar, respectiv altarul mare din corul bisericii, cel cu imaginea Mântuitorului răstignit, care a rezistat până în anul 1720 [Möckesch 1839, 9]. El precizează că sub imaginea Mântuitorului răstignit, restaurată de Jeremias în 1701, s-a aflat anterior o inscripție „Hic est panis, qui de Coelo descendit./ Qui manducat hunc panem, vivet in aeternum Qui manducat hunc panem, vivet in aeternum./ Ecce panis Angelorum factus cibus viatorum./ Vere panis Filiorum non mittendus canibus.” informația preluând-o de la Johannes Seivert [Seivert 1777, 24].

4. Literatura de secol XIX mai amintește de o altă strănă, astăzi pierdută, care purta inscripțiile anilor 1546 și 1592 [Möckesch 1839, 54; Reissenberger 1884, 46-47; Albu 2002, 42, nr. cat. 35].

5. Autorii studiului au oferit o interpretare clară și bine argumentată a mesajului picturii: „în mod asemănător predicilor lui Luther despre devenirea în om a lui Dumnezeu, coborârea Sa pe pământ, moartea ispășitoare, pogorârea în Infern și urcarea la cer pentru eliberarea oamenilor din „închisoare” – adică din robia Morții, Iadului și Păcatului”, pictura reunește aparițiile lui Hristos ca Dumnezeu și om ca Mântuitor pe cruce, ca cel care coboară în Infern și se înalță la cer [Bălint, Ziegler 2011, 21].

O nouă etapă, care aduce transformări importante în interiorul corului, este reprezentată de perioada marilor restaurări din anii 1853-1855. În acești ani, pardoseala corului denivelată, care era în mare parte constituită din lespezi funerare care acopereau criptele mormintelor, a fost refăcută prin scoaterea pietrelor de mormânt, umplerea criptelor și refacerea unei noi pardoseli cu lespezi de gresie. Decizia de refacere a pardoselii a fost luată de comunitatea femeilor evanghelice din Sibiu⁶, care, în urma prăbușirii în anul 1843 [Neugeboren 1855, 12] a unei pietre funerare în interiorul unei criptei, s-a oferit să suporte zece ani mai târziu costurile pentru pavarea corului cu noi „plăci de piatră lucrate uniform” și pentru confecționarea unor noi ferestre (probabil că este vorba despre ferestrele neogotice, de la etaj, de pe latura de sud și de nord⁷ ale corului și transeptului), și și-a asumat responsabilitatea de a comanda un nou altar și un nou amvon (amplasat pe pilastrul nordic al arcului de triumf, după demontarea fragmentului de letner din brațul nordic al transeptului) care să fie realizate în stilul arhitectural al bisericii [Neugeboren 1855, 14]. Tot în cadrul acestei etape de lucrări intense de restaurare, arhitectul Johann Kraemer a refăcut fundația și baza pilastrului sudic al arcului de triumf, intervenția fiind generată de demontarea letnerului din brațul sudic al transeptului [Neugeboren 1855, 14-15]. Ultimele intervenții înregistrate în interiorul corului s-au desfășurat cu ocazia restaurărilor din 1910-1911, când cele trei ferestre lanceolate din absidă și cea de pe latura de sud a corului au fost reconstituite parțial prin completarea elementelor de menou și trafor lipsă, în conformitate cu morfologia goticului [Fabini 2013, 67; Lupescu 2020, 203].

Spațiul corului a îndeplinit, de-a lungul timpului, diferite funcțiuni. Pe lângă rolul său principal liturgic și devoțional, de a adăposti altarul principal și clerul participant la diferite acte rituale, corul a servit și ca loc de adunare a capitolului pentru judecăți sau de redactare a unor acte [Firea

2008, 47-74]. Totodată, el a fost folosit și ca loc de înmormântare pentru persoane ecleziastice de rang înalt și pentru familii patriciene. Astfel, un document din anul 1519 consemnează că Stephanus Taurinus, vicar episcopal de Alba, a fost înmormântat în corul bisericii parohiale, dinaintea ciboriului (*Stephanus thaurinus vicarius albensis (...) sepultus ante Ciborium in choro ecclesie parochialis*) [Müller 1880, 53; Firea 2021, 26]. Această însemnare reprezintă și cea mai veche atestare documentară a practicării înmormântărilor în interiorul corului. Putem bănuși că mormântul a avut și o lespede funerară, despre care însă nu ni s-a transmis nicio informație, mai ales dacă avem în vedere că șase pietre de mormânt din perioada pre-reformatoare s-au păstrat în biserică sau că sunt consemnate descrieri despre ele⁸.

Din anul 1692 ne parvine o foarte valoroasă inventariere a mormintelor și a pietrelor funerare din cor, ca, de altfel, din întreaga biserică, întocmită de senatul sibian, cu unele adnotări marginale, în 1721, și cunoscută drept „*Conspectus Sepulchrorum*” sau „*Gräber-Visitation*” [Albu 1998, 147-166; Albu 2002, 330-340]. Apoi, înainte de restaurarea radicală din 1853-1855, care a dus la îndepărtarea pietrelor funerare din paviment și la pierderea aproape completă a memoriei repartiției lor topografice⁹, Martin Samuel Möckesch, în 1839, și Johann Ludwig Neugeboren, în 1855, realizează fiecare câte o inventariere și descriere a pietrelor funerare aflate în biserică. Valorificând și combinând prețioasele informații din documentul „*Conspectus Sepulchrorum*” cu descrierile publicate de M.S. Möckesch și cu o schiță configurată după notițele lui J.L. Neugeboren, scrise înainte de restaurarea din 1853 [Albu 2002, XXVI] și publicată în 1947

8. Cele mai vechi lespezi funerare păstrate din interiorul bisericii Sf. Maria este cea a lui Georg Hecht (înainte de 1493?/1496), lespede funerară a lui Nikolaus Proll (1499), lespede funerară a Barbarei Medwischer, soția lui Georg Medwischer (Schneider) (1503), lespede funerară a voievodului Mihnea (1510), lespede funerară a lui Dionisius (dispărută, 1515), lespede funerară a lui Johannes Lulay (1521) [Albu 2002, 21-23, nr. cat. 18; 26-27, nr. cat. 21; 29-30, nr. cat. 24; 30-33, nr. cat. 25; 35, nr. cat. 27; 38-39, nr. cat. 30].

9. Möckesch menționează că cinci lespezi funerare aflate pe latura de nord a colateralei nordice proveneau din cor: „Aici nu se află doar pietre care sunt la locul lor original, ci și unele care au fost aduse din cor (altar) și sunt așezate într-un șir pe sol, lângă peretele nordic [Möckesch 1839, 55]. Dintre pietrele funerare identificate și al căror amplasament inițial se afla în cor se numără cele ale lui Petrus Molnar și Johann Lutsch și a celor trei copii ai săi [Möckesch 1839, 56-57, §69; 59, §71].

6. Comunitatea femeilor evanghelice din Sibiu a fondat în 1847 Asociația înfrumusețării interiorului lăcașului de cult (Verein zur innern Verschönerung des Gottheuses), al cărui rol a fost de a menține vie și a promova ideea restaurării bisericii în cadrul comunității evanghelice [Neugeboren 1855, 12].

7. Inițial, în dreptul acestei ferestre gotice s-a aflat tribuna care susținea orga mică demontată, accesul spre tribuna orgii fiind realizat printr-o deschidere dinspre sacristie [Reissenberger 1884, 47]. Neugeboren preciza că accesul la orgă se realiza dinspre tribuna studenților (aripa de nord a letnerului) [Neugeboren 1855, 11].

[Spek 1947, 34-41], Ioan Albu a reconstituit inventarul și distribuirea spațială a lespezilor funerare și a unor epitafuri din interiorul bisericii Sf. Maria din Sibiu. Astfel, în cor au fost catagrafiate 15 lespezi funerare și două epitafe, dintre care, de fapt, două se află în careul din fața corului (cele ale lui Johann Haupt și Matthias Semrigger), iar o lespede de mormânt apare inventariată de două ori: o dată notată ca neidentificată la cota C15 și a doua oară la cota C13, ca aparținând lui Lukas Enjetter și soției sale, Agnes. În final, în cor se înregistrează două epitafe și 12 lespezi funerare, la care se adaugă mormântul lui Sthephanus Thaurinus, atestat documentar în 1519, și lespede funerară a lui Johann Lutsch. Aceasta, inițial amplasată în corul bisericii, nu se mai afla în poziția sa originală încă înainte de anul 1839, fiind așezată pe pardoseală, sprijinită de perețele navei nordice.

Corul gotic al bisericii Sf. Maria din Sibiu în istoriografie și problema datării lui

Analizat din perspectivă arhitecturală, încă din secolul al XIX-lea, corul gotic al bisericii a fost identificat de cercetători ca fiind cea mai veche componentă a etapelor de construcție gotice ale bisericii, desfășurate pe parcursul secolelor al XIV-lea și al XV-lea. Pentru că anumite elemente plastice sunt contradictorii sau prea puține pentru susținerea unei datări mai rafinate în cadrul secolului al XIV-lea al sanctuarului gotic, în istoriografie au existat dezbateri cu privire la faptul dacă acesta a fost construit și/sau finalizat în prima sau în a doua jumătate a secolului al XIV-lea. Până de curând, în majoritatea lucrărilor de specialitate se considera corul gotic ca fiind edificat în a doua jumătate a secolului al XIV-lea, cu o finalizare în jurul anilor 1370-1375 [Reissenberger 1884, 5-6; Vătășianu 1959, 213; Avram, Bucur 1999, 70; Marcu Istrate 2007, 69; Albu 2019, 80], argumentele fiind bazate pe o consemnare cu o datare imprecisă din inventarul bisericii parohiale¹⁰, care menționa numele și sumele plătite de cetățeni ai orașului Sibiu pentru câteva ferestre mari ale bisericii [Seiwert 1874, 344 cu nota 6; 344 cu nota 12], presupuse a fi ferestre ale corului, deși localizarea exactă nu este indicată în document.

10. Trebuie precizat că documentul, respectiv capitolul care conține informația cu privire la plata ferestrelor, a fost datat pe baza tipului de scriere în ultima treime a secolului al XIV-lea [Seiwert 1874, 323-410].

Pornind de la amintitul document din 1351 [Urkundenbuch II, 81-83, nr. 666], cercetătorii din ultimele două decenii au căutat indicii care să susțină o datare anterioară acestui an pentru edificarea corului gotic. Investigațiile arheologice realizate în anul 2005 în câteva puncte de pe exteriorul corului nu au reușit să aducă elemente clare de cronologie, confirmând propunerile de datare a finalizării lucrărilor de construcție a corului înainte de anul 1372, cu importanta observație că fundațiile corului ar putea proveni dintr-o etapă cronologică diferită față de elevație [Marcu Istrate 2007, 59-60, 69-70]. Un alt rezultat semnificativ al acestor investigații constă în confirmarea caracterului unitar al construcției corului gotic și a transeptului la nivel de fundații [Marcu Istrate 2007, 59-60, 69-70], ceea ce susține ideea unei concepții arhitecturale coerente.

Ideea construirii corului gotic în prima jumătate a secolului al XIV-lea nu este una nouă; această ipoteză se regăsește sporadic în literatura de specialitate de limbă germană [Bielz 1935; Niedermaier 2008, 274]. Mai mult, fără a aduce argumente convingătoare, Kimakowicz a presupus că edificarea corului s-ar fi desfășurat în două etape [Kimakowicz 1913, 487], considerând că într-o primă fază, acesta ar fi avut o lungime mai redusă, interpretare regăsită și la G. Treiber [1971, 35-36], dar neconfirmată arheologic. Relativ recent, Ciprian Firea a relansat ipoteza finalizării sanctuarului înainte de anul 1350, sugerând, în mod ipotetic, anul 1343 ca posibil moment al desăvârșirii acestuia [Firea 2008, 54-55, nota 21]. Argumentul invocat este prezența arhiepiscopului de Strigoniul la Sibiu în acel an, asociată, conjectural, cu oficierea slujbei de consacrare a noii construcții. Prezumția a găsit ulterior o validare parțială în rezultatele analizelor dendrocronologice efectuate asupra unor elemente de lemn aflate în poziție secundară în structura actualului acoperiș. Elementele de lemn identificate provin din structura unei șarpante mai vechi, datată în anul 1339, care au fost ulterior reutilizate în cadrul acoperișului gotic construit deasupra corului în jurul anului 1395 [Tóth, Botár, Walgraffe 2018, 7-10].

Informații complet inedite au fost aduse la iveală în anul 2013, când, în timpul investigațiilor arheologice coordonate de Ioan Marian Țiplic, în colaborare cu Maria Crîngaci Țiplic și Cosmin Ioan Ignat, au fost evidențiate pentru prima

dată substructiilor ale bisericii romanice (fig. 1). Prin deschiderea în interiorul corului bisericii a unei secțiuni numerotată convențional S1/2013 cu dimensiunile de 8×1,50 m și a unei casete denumită C1/2013 cu dimensiunile de 2,90×1,90 m au fost evidențiate în premieră un fragment din fundația și elevația absidei bazilicii romanice, un fragment din fundația segmentului central al letnerului gotic (din dreptul arcului de triumf) și câteva cripte premoderne (Țiplic, Țiplic, Ignat 2015, 241-242, 591-592). În timpul aceleiași campanii arheologice, prin deschiderea în spațiul de legătură a colateralei de sud cu transeptul a unei suprafețe de 4×4,10 m, au mai fost relevate un fragment din absidiola colateralei de sud a bisericii romanice, un fragment din zidăria fundației scării ce permitea accesul din transeptul sudic la nivelul superior al letnerului, cripte și morminte medievale și premoderne. Într-o mică casetă realizată între doi stâlpi a fost evidențiat un fragment din fundația romanică continuă care făcea legătura între stâlpii care separau nava centrală de colaterala nordică. Amintitele cercetări din 2013¹¹ au avut drept scop realizarea unei documentații arheologice, care a constituit o etapă premergătoare a viitorului proiect de restaurare a bisericii și care avea să facă parte componentă a studiului DALI, în vederea inițierii amplului proiect de consolidare, reabilitare și restaurare a Bisericii Evanghelice din Sibiu prin fonduri europene nerambursabile, proiect câștigat și apoi derulat în perioada 2017-2022. În cadrul acestui proiect au fost întreprinse cercetări arheologice care s-au desfășurat în mai multe etape și au fost coordonate integral, începând cu anul 2018, de Daniela Marcu Istrate, prin Institutul de Arheologie „Vasile Pârvan” din București [Marcu Istrate 2020, 183, nota 21]. Cercetările arheologice

11. Înainte de amplele săpături desfășurate în 2018-2019, în interiorul bisericii Sf. Maria din Sibiu au avut loc în ultimele două decenii câteva sondaje arheologice determinate de necesitățile beneficiarului. Astfel, primul sondaj arheologic a avut loc în anul 1996, în sacristia amplasată pe latura de nord a corului, lucrare coordonată de către arheologul Petre Munteanu Beșliu [Munteanu Beșliu 1997, 56; Munteanu Beșliu 1998, 91; Munteanu Beșliu 2007, 87-89]. Următoarele sondaje arheologice s-au desfășurat în 2000 în prelungirea brațului de nord al transeptului [Țiplic, Crîngaci 2002, 75-83], în 2009 pe latura de sud a corului, în interiorul capelei Bischopsloje (nepublicat), urmate de cele din 2013 [Țiplic, Țiplic, Ignat 2015, 241-242, 591-592], toate coordonate de Ioan Marian Țiplic (pentru istoricul cercetărilor arheologice realizate de-a lungul timpului la biserica ev. din Sibiu vezi și studiile [Marcu Istrate 2020, 182-183; Crîngaci Țiplic *et al.* 2024, 28-31].

realizate în interiorul corului bisericii în perioada 4 februarie – 22 februarie 2019, 2 aprilie – 16 aprilie 2019, în cadrul amintitului proiect, au fost realizate de Maria Crîngaci Țiplic și Ioan Marian Țiplic, ca urmare a stabilirii de comun acord cu coordonatoarea săpăturilor arheologice Daniela Marcu Istrate ca investigațiile începute în 2013 în corul bisericii să fie continuate de aceeași echipă de arheologi¹², cu scopul de a se evidenția în întregime absida romanică, ce a fost identificată parțial în 2013. O parte din rezultatele cercetărilor efectuate în 2019 în cor a fost publicată într-un studiu separat, apărut în 2024, în care autorii introduc repere de datare absolută stabilite prin analize radiocarbon efectuate asupra a două morminte cu scopul de a obține indicii cronologice pentru primele faze ale dezvoltării bisericii medievale și ale cimitirului medieval din Sibiu [Crîngaci Țiplic *et al.* 2024, 27-37]. Pe baza celor două morminte medievale descoperite în interiorul corului bisericii, a datării lor radiocarbon, a relației lor stratigrafice cu bazilica romanică și cu cimitirul medieval, autorii confirmă existența unui orizont funerar anterior anului 1155 și construirii bazilicii romanice și oferă un interval cronologic pentru construirea acesteia, cândva între 1155 (*terminus post quem*) și 1268 (*terminus ante quem*). Rezultatele integrale ale cercetărilor arheologice din 2013 și 2019, realizate în interiorul corului, precum și interpretarea acestora urmează să apară într-un studiu separat.

În cadrul aceluiași proiect de consolidare, reabilitare și restaurare a Bisericii Evanghelice din Sibiu derulat în 2017-2022, au avut loc și cercetări de parament în interiorul corului, efectuate în anii 2018 și 2019 de către Radu Lupescu și publicate în 2020 [Lupescu 2020, 199]. Cu această ocazie, au fost furnizate informații suplimentare despre evoluția constructivă a corului gotic. Autorul cercetărilor susține ideea începerii construcției corului în prima treime a secolului al XIV-lea și a finalizării lui „eventual în 1343” [Lupescu 2020, 203-204], deși în concluzii susține terminarea lui imediat după jumătatea sec. XIV, iar afirmația referitoare la anumite elemente stilistice, în special în ceea ce privește cheia de boltă mediană (o posibilă reutilizare), pe care o pune în legătură cu forme caracteristice celei

12. La cercetarea arheologică realizată în 2019 în corul bisericii ev. din Sibiu a participat și Alexandru Fl. Cioltei, doctorand în cadrul Universității „Lucian Blaga” din Sibiu.

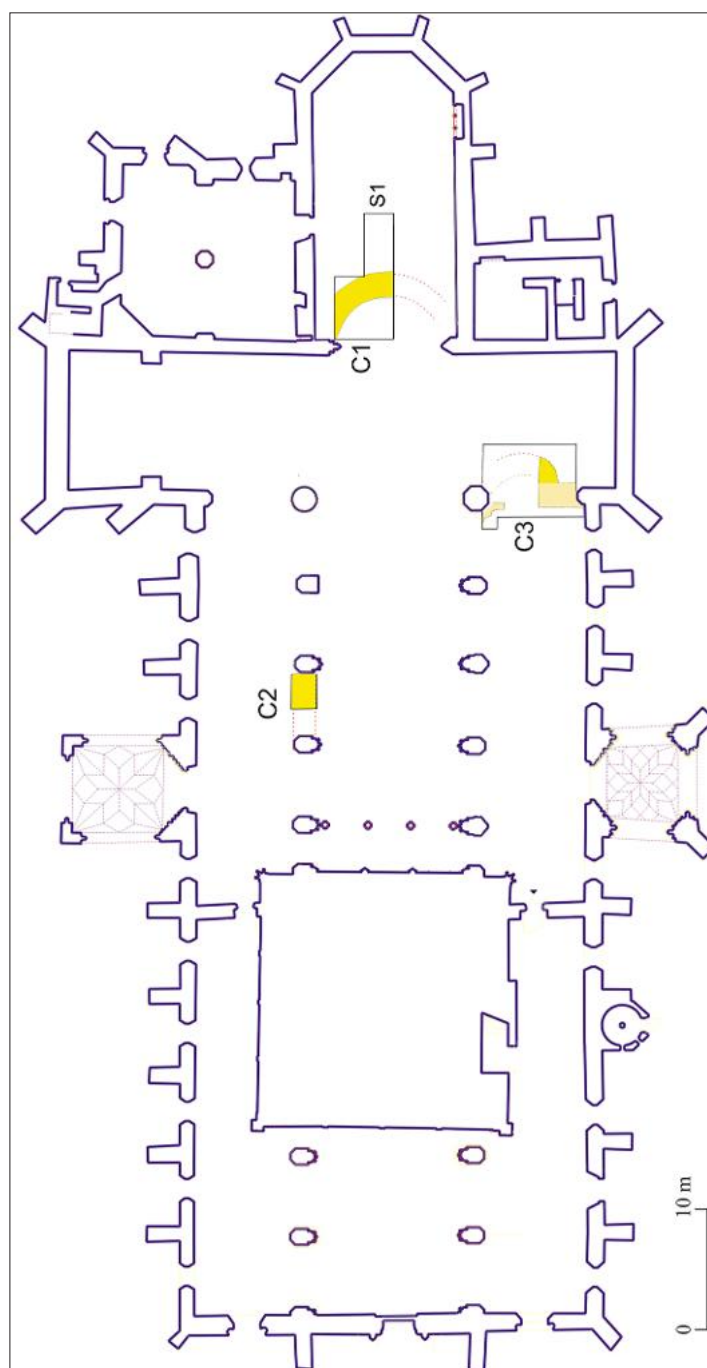


Fig. 1. Planul bisericii evanghelice din Sibiu cu suprafețele deschise în 2013 (S1, C1-C3) și fragmentele fundațiilor bazilicii romanice (marcate cu galben) identificate în cursul cercetărilor arheologice din 2013.

Fig. 1. Plan of the Lutheran Church in Sibiu showing trenches (S1, C1-C3) opened in 2013 and the fragments of the Romanesque basilica foundations (highlighted in yellow) identified during the 2013 archaeological investigations.

de-a doua jumătate a secolului al XIV-lea [Lupescu 2020, 201], rămâne parțial confuză. În final, ipoteza cronologică privind finalizarea corului se sprijină pe interpretarea documentului din 1351 și pe rezultatele amintitelor analize dendrocronologice [Lu-

pescu 2020, 203-204]. De asemenea, este de acord cu construirea unitară în elevație a acestuia [Lupescu 2020, 200], o concluzie similară fiind obținută în 2005, însă pentru fundațiile corului și ale transeptului în timpul investigațiilor arheologice realizate

în exteriorul corului [Marcu Istrate 2007, 59-60, 69-70]. Cercetarea paramentului corului a reușit să aducă în prim plan observații valoroase în ceea ce privește utilizarea liturgică și decorarea spațiului interior al sanctuarului, și anume existența unui ciboriu sau tabernacol monumental adosat zidului nordic în dreptul altarului, de altfel atestat și documentar în 1519 [Müller 1880, 53; Firea 2021, 26], prezența unui fragment de pictură murală, reprezentând o cruce de consacrare, păstrată pe peretele sudic al corului, precum și caracterul de excepție al cheilor de boltă, care se remarcă în mod distinct în contextul artei gotice din Transilvania și din cadrul regatului ungar [Lupescu 2020, 200-201].

Concluzii

Din rezultatele cercetărilor desfășurate în ultimele două decenii cu privire la cronologia corului se desprinde două concluzii principale:

1. Construită în a doua jumătate a secolului al XII-lea, absida romanică, ca parte componentă a unei biserici parohiale de plan bazilical, a fost demolată la începutul secolului al XIV-lea și înlocuită cu un cor gotic de dimensiuni considerabil

mai ample decât cele ale sanctuarului romanic, în special pe axa longitudinală.

2. Procesul de edificare a corului gotic, de la realizarea fundațiilor și până la montarea celor trei chei de boltă, este posibil să se fi desfășurat pe parcursul mai multor decenii în prima jumătate a secolului al XIV-lea. Realizarea fundațiilor, ridicarea elevației și executarea sistemului de boltire par să fi reprezentat etape constructive distincte, desfășurate succesiv în perioade diferite.

Un proces constructiv similar poate fi observat și în cazul edificării ferulei, a cărei execuție s-a întins pe durata a cel puțin două decenii [Reissenberger 1884, 7-9; Niedermaier 2008, 279-282, Abb. 128-130; Albu 2019, 84; Firea 2008, 66], după cum sugerează și cele două documente din 1448 [Urkundenbuch V, 250, nr. 2642] și 1460 [Urkundenbuch V, 87-89, nr. 3234]. O situație comparabilă se întâlnește și în cazul proiectului de transformare a corului aceleiași biserici într-un deambulatoriu [Marcu Istrate 2007, 66] spre sfârșitul secolului al XV-lea, proiect însă abandonat după realizarea fundațiilor [Albu 2019, 79-94].

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MATERIALE ȘI CERCETĂRI DE TEREN – PAPERS AND SURVEYS

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Некоторые результаты раскопок в гроте Брынзень (Среднее Попрутье) в 2024 г.

Key words: Paleolithic, Epigravettian, Moldavian Szelet, Prut, Brînzani grotto.

Cuvinte cheie: Paleolitic, Epigravettian, Szeletul moldovean, Prut, grotă Brînzani.

Serghei Covalenco, Natalia Ovcearov, Vitalii Burlacu, Alexandr Levinschii, Viorica Pascari, Jacek Ludwiczak

Some results of excavations at the Brînzani Grotto (Middle Basin of Prut River) in 2024

During the field research in 2024, a rich collection of flint finds consisting of 2,100 artifacts and more than 3,000 fragments of wild animal bones was collected on an area of just a few square meters of the entrance platform of the Brînzani Grotto in Edinet District, Republic of Moldova. Most of them belong to the third cultural layer, which was divided into Epigravettian and Moldavian Szeletian. Particular attention was paid to the variable lithological nature of the deposits in the grotto, the stratigraphic position of the cultural layers, and the technical and morphological appearance of the defining types of flint inventory.

Serghei Covalenco, Natalia Ovcearov, Vitalii Burlacu, Alexandr Levinschii, Viorica Pascari, Jacek Ludwiczak

Câteva rezultate ale săpăturilor arheologice din grotă Brînzani (Bazinul Prutului de Mijloc) din anul 2024

În timpul cercetărilor de teren din anul 2024, pe o suprafață de doar câțiva metri pătrați a platformei de intrare a Grotei Brînzani din raionul Edineț, Republica Moldova, a fost colectată o bogată colecție de piese din silex, constând din 2100 de artefacte și peste 3000 de fragmente de oase de animale sălbatice. Majoritatea acestora aparțin celui de-al treilea strat cultural, care a fost împărțit în Epigravettian și Szeletian Moldovenesc. O atenție deosebită a fost acordată naturii litologice variabile a depozitelor din grotă, poziției stratigrafice a straturilor culturale și aspectului tehnic și morfologic al tipurilor definitorii de inventar de silex.

Обычное упоминание о гроте Брынзень¹ (рис. 1) вызывает у местных археологов и любителей древностей, как чувство восторга, в связи с чем-то необычным, уникальным, типа находки амулета-подвески из бивня мамонта, так и тягостное ощущение чего-то непонятного и страшного, вызванное загадочным появлением в нашем регионе носителей традиций центрально-европейского селета и не-

определенностью во времени их пребывания в Карпато-Поднестровье. Один из первооткрывателей грота Н.А. Кетрару, раскопавший его на основной площади, отнес к так называемому «молдавскому селету» находки из третьего культурного слоя, вскользь упомянув, что его мощность составляла не менее 60 сантиметров². Последнее обстоятельство, в совокупности с пёстрым обликом каменной индустрии, необычайным контрастом между присутствующими в коллекции среднепалеолитическими и верхнепалеолитическими формами инвентаря, неоднократно провоцировало археологов на попытки разделить его на более дробные составляющие. В 1987 г. это попытался сделать И.А. Борзияк и С.И. Коваленко [Borziak 1988;

1. Грот находится в 1,3 км к юго-западу от с. Брынзень (Brînzani) Единецкого района на северо-западе Республики Молдова. Он располагается в местности Мерсына, у края плато по левому покатому склону долины р. Раковец, левобережного притока Прута, на высоте 62 м от тальвега реки. Это крупная карстовая полость в верхнем ярусе тортон-сарматских рифовых известняков. Глубина грота 9 м, ширина 18 м, а высота свода от 0,5 до 4 м. Несмотря на то, что он открыт к северу, благодаря своему широкому входу он выглядит достаточно светлым, производит впечатление сухого и комфортного убежища, пригодного для проживания.

2. В первый год исследований в гроте в шурфе 1 мощност культурного слоя составила до 80 см [Ketaru 1961, 23-43; 1973, 69-74]

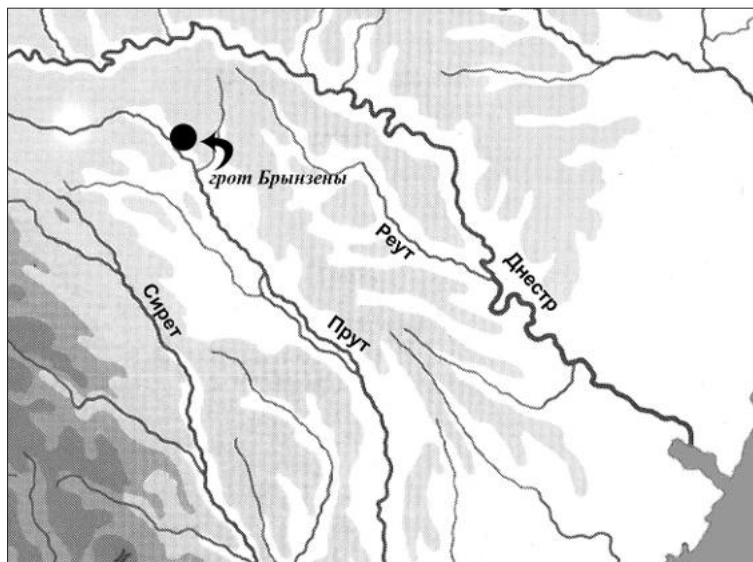


Рис. 1. Местоположение грота Брынзены на карте.

Fig. 1. Location of the Brinzeni Grotto on the map.

Chirica *et al.* 1996, 13-30], в 2015 В.А. Бурлаку и Л.Б. Вишнякий, а в 2024 г. С.И. Коваленко. Все безрезультатно.

Слой не раз демонстрировал залегание типично верхнепалеолитических находок под явно мустьерскими артефактами. А это в свою очередь еще на раннем этапе исследований послужило стимулом для выделения симбиотической брынзенской археологической культуры начальной поры верхнего палеолита [Rogachev, Anikovich 1984, 172-173]. С другой стороны, достаточно развитая ориньякская, составляющая кремневой коллекции третьего слоя, позволила И.А. Борзияку выделить на его основе «ориньяк с бифасами» [Borziac 2008, 21]. Сейчас от выделения брынзенской археологической культуры, даже в её модернизированном виде типа Рипичень-Брынзень [Chirică, Bodi 2011], отказались почти полностью. В настоящее время основной акцент делается на её технологическом, а также симбиотическом содержании.

Археологический возраст третьего слоя грота Брынзены почти единодушно оценивался археологами как наиболее ранний в рамках верхнего палеолита. Однако радиоуглеродные даты, хотя и полученные в разных лабораториях к концу прошлого века, очерчивали несколько иной интервал пребывания человека в гроте. Для нижнего слоя он составил от 27 до 16 тыс.

лет ВР. Чуть позже усилиями итальянской исследовательницы Лауры Лонго, была сделана серия новых датировок, самые ранние из которых подтвердили версию археологов о принадлежности этого памятника к начальной поре верхнего палеолита составив около 34 тыс. лет ВР.

Интерес к памятнику постоянно возрастал. И в 2024 г. достиг своего апогея, когда группа энтузиастов во главе с Адрианом Мустяцэ, при техническом содействии Яцека Лудвикзак, обеспечившего экспедицию движком-генератором, перфораторами и лебедкой, приступила к очистке от крупных камней, глыб и валунов в западной части привходовой площадки небольшого участка, ранее не затронутого раскопками. В ходе последующих раскопок была изучена следующая стратиграфия.

Стратиграфия памятника

Наиболее полный стратиграфический разрез в ходе полевых исследований 2024 г. в гроте Брынзены подготовлен по юго-западной стенке раскопа (рис. 2). Его протяженность всего три метра, он ориентирован с юго-востока на северо-запад по линии кв. Н-I-J/19. В состав его отложений входит современный наносной слой, два слоя голоценового времени и литологические напластования позднеплейстоценового возраста. Скальное дно, расположенное на глубине трех метров, к сожалению, было просле-

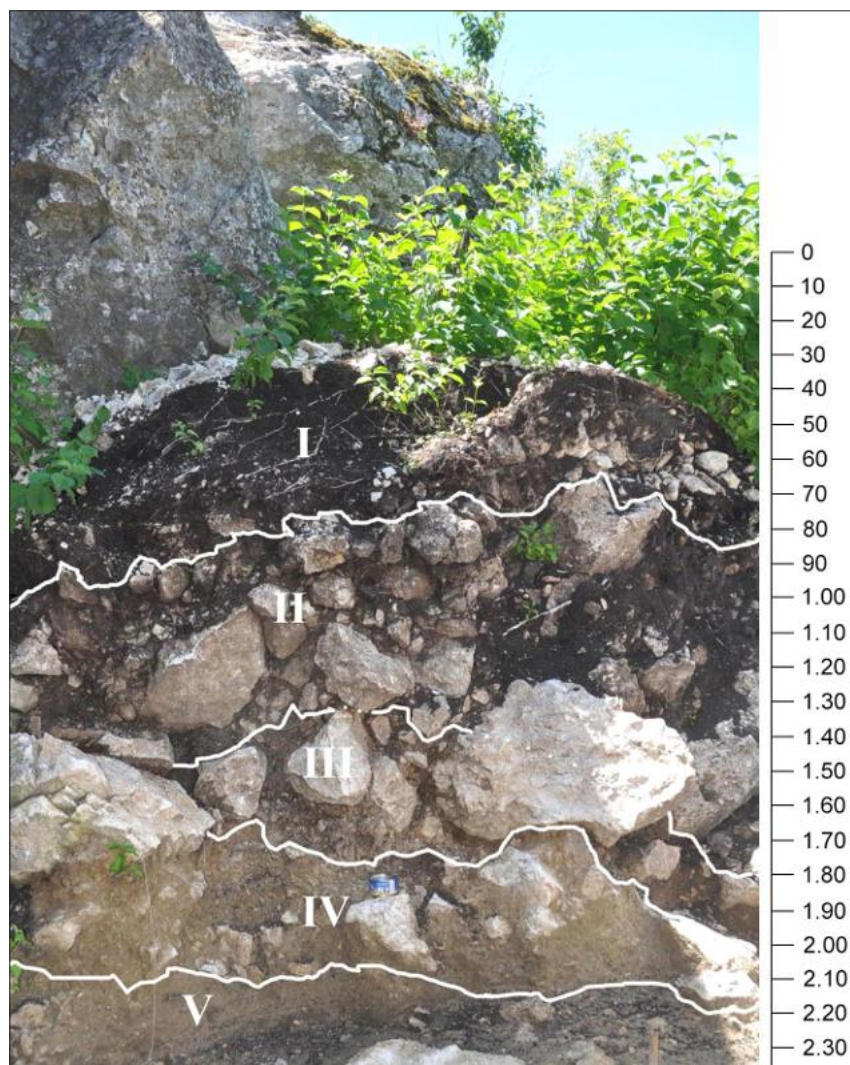


Рис. 2. Стратиграфия грота. I – остатки старых отвалов; II – отложения позднего голоцена (энеолит, бронза, средневековье); III – отложения раннего голоцена (мезолит); IV – отложения позднего вюрма (эпиграветт); V – отложения среднего вюрма (молдавский селет).

Fig. 2. Stratigraphy of the grotto. I – remains of old waste heaps; II – Late Holocene deposits (Eneolithic, Bronze Age, Middle Ages); III – Early Holocene deposits (Mesolithic); IV – Late Wurm deposits (Epigravettian); V – Middle Wurm deposits (Moldavian Selet).

жено только на кв. I-J/17. Обобщенный вариант стратиграфии выглядит следующим образом:

Слой I. Черноземный грунт и известняковый щебень, выброшенный из старых раскопов, основная часть которого образовалась на основе овечьего кизяка, меньшая его часть была смыта в грот с плато. Мощность 30-40 см.

Слой II. Черноземный грунт и масса каменных блоков и валунов, попавших на приходовую площадку грота в позднем голоцене. В переотложенном виде содержит разрозненные остатки первого культурного слоя эпохи

энеолита, поздней бронзы и средневековья. Мощность 50-100 см.

Слой III. Бурый суглинок в нижней части рыжевато-коричневого оттенка, перекрытый конгломератом из каменных глыб и валунов. У пристеночных участков отмечены кремневые артефакты *in situ* и раздробленные кости животных, сопоставимые со вторым культурным слоем, сформировавшимся в раннем голоцене. Возможно, с пребыванием человека в гроте связана и часть огромного скопления костей грызунов и птиц. Вопрос о принадлежности этого слоя к раннему

мезолиту или финальному палеолиту остается открытым. Мощность 15-30 см.

Слой IV. Желто-коричневые лёссовидные суглинки, на отдельных участках напоминающих супесь с периодическими концентрациями щебня и валунов. Именно в этом литологическом слое прослежена кровля третьего культурного слоя, которая выделена в самостоятельный археологический контекст, известный как эпиграветт, датируемый в пределах 18-20 тыс. лет ВР. Мощность 20-40 см.

Слой V. Светло-коричневые глинистые отложения, насыщенные известковой крошкой и отдельными включениями щебня и валунов. Содержит селетоидные находки из средней части третьего культурного слоя, датируемые по 14С в пределах 27-34 тыс. лет ВР. Мощность – не менее 30 см.

На месте описанного участка стратиграфического разреза раскоп доведен до глубины 2,3 м. Остались неизученными остатки самой нижней части третьего культурного слоя, первоначально выделенного как прослой с более архаичными находками. Соответственно скалистое дно грота здесь в будущем должно проявиться после удаления отложений мощностью не менее чем в 60 см.

В гротах и пещерах обычно наблюдается сложная стратиграфия, и характер напластований может измениться уже через несколько метров. Грот Брынзень не стал исключением. Так, в процессе наших раскопок, менее чем в трех метрах к востоку от основного разреза, прослежена последовательность напластований (рис. 3), которая не включает отложений раннего голоцена и предполагаемые мезолитические находки крайне редки, залегая разрозненно на более высоком уровне. Крайне малым числом артефактов представлены находки эпиграветта, которые залегают на границе черноземного и желто-коричневого слоев. Их подстилает серый, порой желтоватый

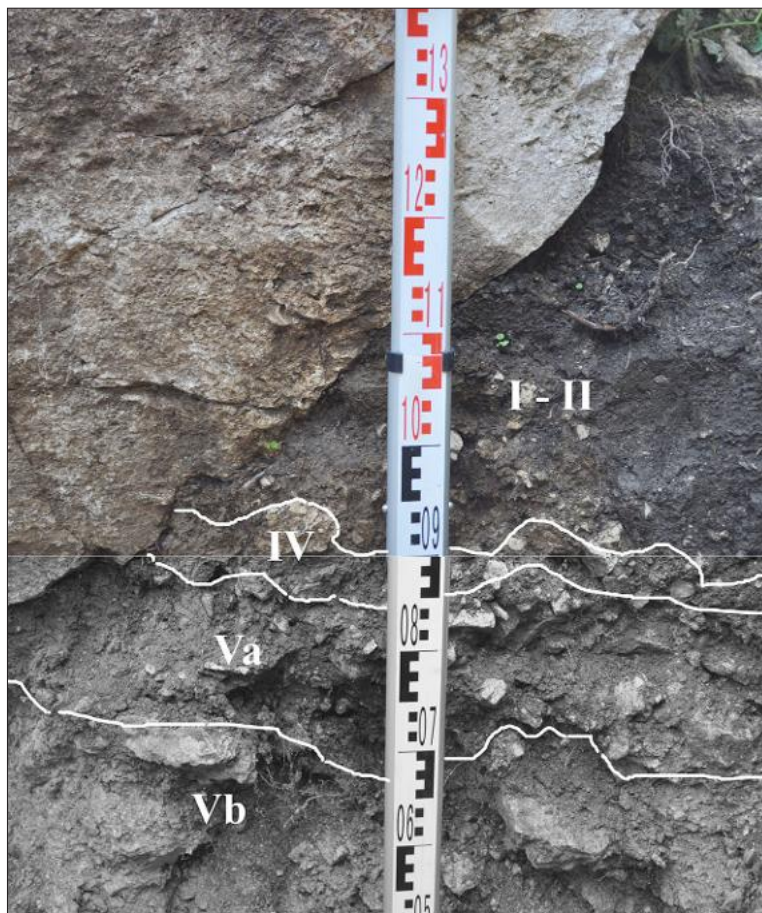


Рис. 3. Фрагмент восточной стенки раскопа без четко выраженной стратиграфии с тремя верхними горизонтами (IV и Va) и двумя нижними (Vb).

Fig. 3. Fragment of the eastern wall of the excavation without clearly defined stratigraphy with three upper horizons (IV and Va) and two lower ones (Vb).

суглинков, местами насыщенный песком или известковой крошкой. Явные признаки переотложения этого литологического прослоя очевидны. Верхняя его часть более темной тональности, перенасыщенная известняковой щебенкой, содержит остатки пребывания в гроте носителей традиций «молдавского селета». На кв. I-J/17³ наблюдается исключительно высокая концентрация кремневых изделий и

3. Именно на кв. I-J/17 из-за предельной концентрации находок в третьем культурном слое мы условно распределили всю его 60-сантиметровую толщу на пять горизонтов. С эпиграветтом связан первый из этих горизонтов, с верхним селетоидным прослоем – 2 и 3, а с нижним – 4 и 5. По глубинам, граница между 1 и 2 горизонтами составляет 215-220 см, а между 3 и 4 частями около 240 см. Самые низкие по глубине отметки расположения находок определены на уровне 260 см.

обломков костей лошади, реже северного оленя и бизона. С этим прослоем (рис. 2,Va) связано и сосредоточение большого числа костей грызунов, изъятых как в ходе расчистки самого слоя, так и отбираемых при просеивании грунта. Нижняя часть третьего культурного слоя (рис. 2,Vb) также представлена скоплением каменных и костяных находок. Вмещающий находки грунт – более светлый по окраске суглинок с большим числом известняковых и меловых камней, чаще более крупных, чем это можно было наблюдать, в перекрывающем их прослое. Здесь также присутствует значительное число артефактов, расположенных под наклоном, на ребре и вертикально.

Ниже третьего культурного слоя на кв. I-J/17 наблюдается чередование рыхлых переложных суглинков рыжеватого оттенка с мелким известняковым щебнем. Находок нет, даже мелкие обломки косточек отсутствуют. Наблюдается уплотнение щебнистого материала. Глинистые включения заменяются переработанным щебнем. По данным Н.А. Кетрару, от основания слоя 3 до дна грота стерильные отложения составляют не менее 40 см. На кв. I/17 относительно ровное плитчатое ложе зафиксировано на глубине 307 см. В частности, на этом уровне выявлены две плитки. Размеры одной из них 23×20×11 см. Под плитками залегал плотный ненарушенный слой щебня, прокопанный до глубины 345 см.

Первый этап работы: удаление завала из камней

Надо признать, что первым и самым важным результатом проведенных работ в гроте явилось удаление завала из камней, что позволило обозначить единственный пригодный для раскопок участок – с западной стороны грота, на привходовой площадке за капельной линией, под завалом из каменных блоков и глыб (рис. 4). Используя буквенно-цифровую нумерацию квадратов, принятую Н.А. Кетрару, под завалом оказался участок из квадратов 3-И-К-Л/16-19, а если перевести буквенную нумерацию на латиницу, то Н-I-J-K/16-19. С востока и севера он ограничен старыми раскопами Кетрару и Бурлаку соответственно, с западной стороны – покатым склоном в направлении к Раковцу, а с южной известняко-

вой скалой. Возможно, линия квадратов G/15-18 не была докопана Н.А. Кетрару полностью, так как она также перекрывалась глыбами из завала. Еще до начала раскопок можно было видеть непотревоженные плейстоценовые суглинки, которые выступали из-под завала на кв. G/18. Исходя из этой первоначально оптимистической версии, под завалом мог сохраниться третий культурный слой на площади до 16 кв. метров. Хотя учитывая близость крутого склона, эта площадь могла сократиться до 12 кв. метров.

Процесс удаления каменных блоков оказался очень трудоемким. Крупные блоки обрабатывались перфоратором, высверленные в ряд отверстия-углубления, при помощи вбиваемых железных клиньев, образовывали трещину, которая после серии ударов тяжелой кувалдой отрывала от блока или глыбы крупный кусок каменной породы. Наиболее тяжелые блоки подтаскивали к краю обрыва при помощи лебедки, а более мелкие перемещали при помощи лома.

В итоге образовалась площадка в неполные восемь квадратных метров, избранной для будущего раскопа, и осталось лишь два крупных каменных блока. В западной части площадки удалось убрать большую часть такого блока, но на кв. K/19 его остатки решили не трогать, так как там уже начинались склоновые отложения, расчистка которых не имела смысла. Второй блок на кв. I-J/17 был убран в полном объеме, но после него, к сожалению, осталась заметное углубление, сократившее объем плейстоценовых суглинков.

Второй этап работы: исследование культурных напластований

Расчистка площадки для раскопа потребовала удаления не только камней, но и рыхлого грунта. Это был чернозем, однородный по составу, без меловой крошки, перенасыщенный валунами и щебнем (рис. 2,II). Как в свое время писал Н.А. Кетрару [Ketraru 1965, 18], в нем встречался необычный кремний (рис. 5,17-18) и фрагменты костей животных. Условно эти находки могут соответствовать остаткам первого культурного слоя. Они не образуют каких-либо скоплений, но изредка встречаются в составе линз угловатой щебенки или пепельно-золи-

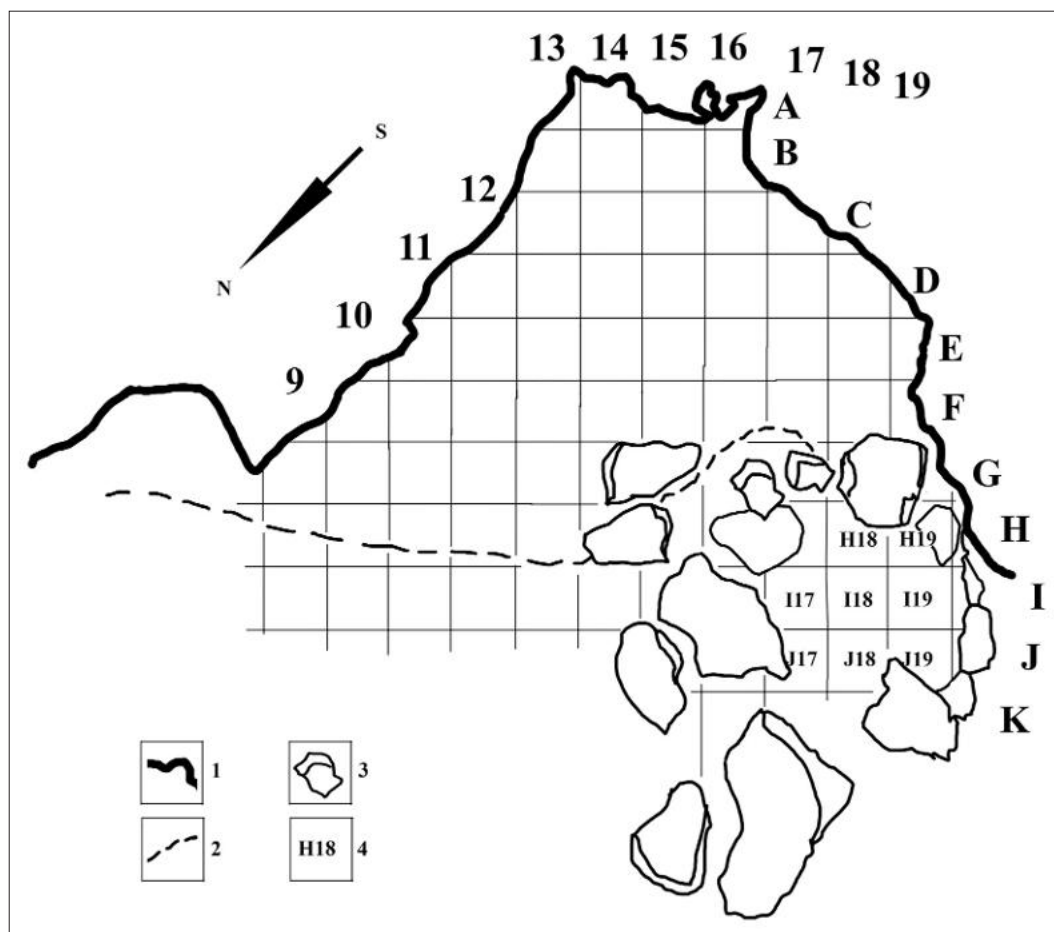


Рис. 4. Схематический план грота с площадкой нового раскопа среди расчищенного завала из камней (предлагаемые для исследования квадраты пронумерованы). 1 – граница грота; 2 – современная капельная линия; 3 – крупные каменные блоки и валуны; 4 – буквенно-цифровая нумерация квадратов.

Fig. 4. Schematic plan of the grotto with the site of the new excavation among the cleared rubble of stones (the squares proposed for study are numbered). 1 – boundary of the grotto; 2 – modern drip line; 3 – large stone blocks and boulders; 4 – alphanumeric numbering of squares.

стых прослоек. В коллекции артефактов (всего 405 экз.) из верхнего культурного слоя выделяются кремневые изделия и отходы от обработки кремня – 96 экз.; кости, обломки костей, зубы животных – 278 экз.

При расчистке квадратов H-I/19 на стыке чернозема и желто-коричневых позднеплейстоценовых суглинков прослежены остатки мезолитического слоя (рис. 2, III) в виде обломков костей и зубов мелких млекопитающих, небольших по своим размерам пластин и отщепав из серого кремня, двуплощадочного нуклеуса с негативами отжимного снятия заготовок (рис. 5, 13).

Промер глубин от нулевого репера (по Н.А. Кетрару, обозначенного на одной из стен

грота), показал, что в период раннего голоцена, тут наблюдалось существенное понижение поверхности привходовой площадки по направлению к покатому склону [Covalenco, Chetraru 1998, 57-67]. Так, расчистка на кв. J/19 выявила положение края привходовой площадки и здесь же резкое падение древней дневной поверхности. Это удалось проследить после удаления чернозема из узкого прохода между крупными камнями, который первоначально был принят за промоину. По крайней мере, на кв. J/19 граница привходовой площадки была ориентирована по линии восток-запад. О начале здесь достаточно крутого склона свидетельствует и наличие пустот под каменными глыбами в западной и юго-запад-

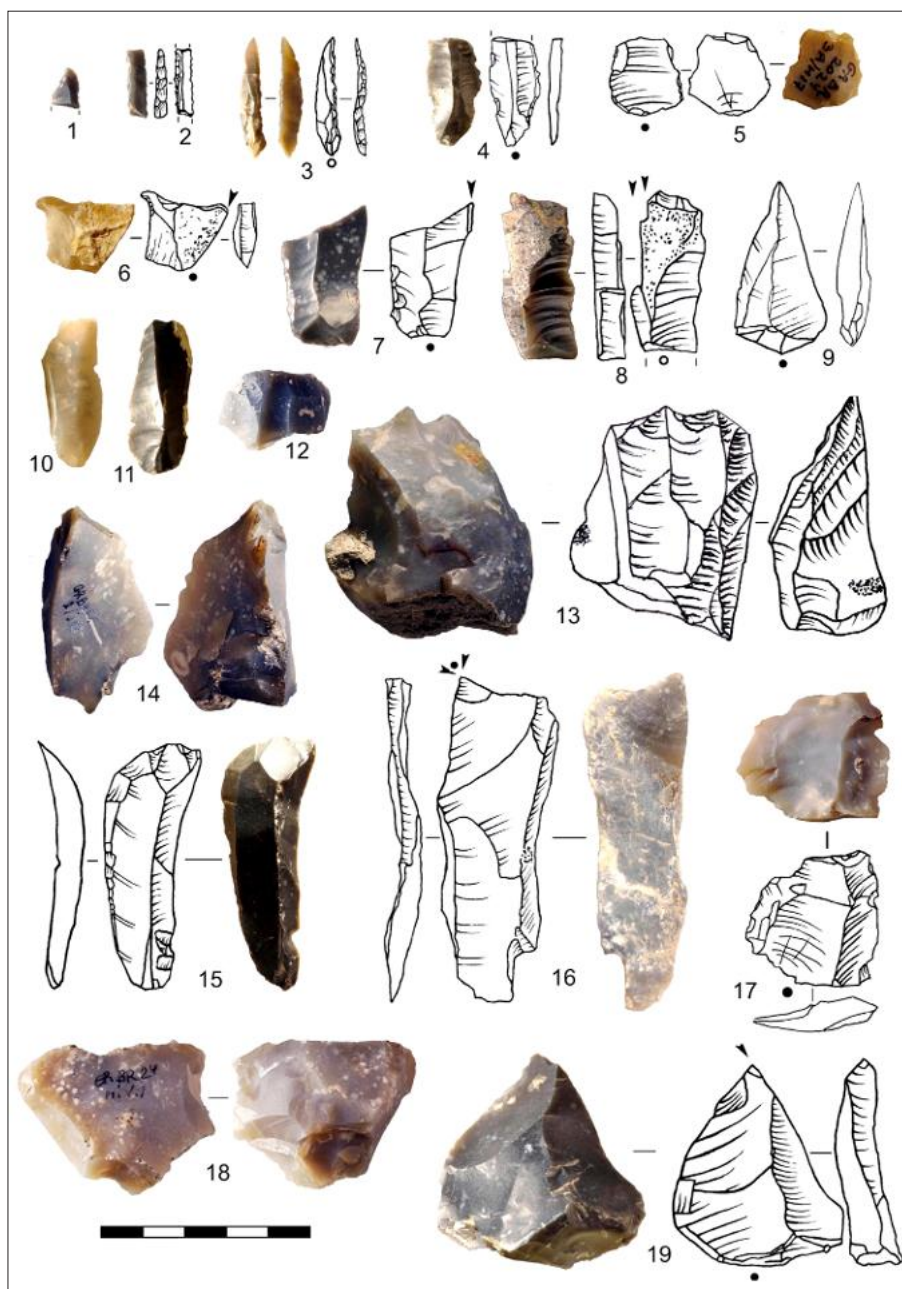


Рис. 5. Отдельные кремневые находки из верхних культурных слоев и эпиграветтского прослоя. 17-18 – из слоя 1 (энеолит, переотложенные находки палеолита); 10-11, 13-14 – из слоя 2 (мезолит); 1-9, 12, 15-16, 19 – из слоя 3 (эпиграветт).

Fig. 5. Individual flint finds from the upper cultural layers and the Epigravettian interlayer. 17-18 – from layer 1 (Eneolithic, redeposited Paleolithic finds); 10-11, 13-14 – from layer 2 (Mesolithic); 1-9, 12, 15-16, 19 – from layer 3 (Epigravettian).

ной части этого же квадрата. В составе грунта склоновых отложений достаточно часто встречались обломки костей и кремневые изделия, сопоставимые с первым культурным слоем. Что касается локализации находок второго культурного слоя на линии кв. Н-I-J/19, то они в большей степени распространены в

западной части этих квадратов. В их составе нуклеидный обломок, отщеп и фрагмент пластины, зуб копытного животного, мелкие обломки трубчатых костей. Лучшая сохранность культурного слоя наблюдается вблизи пристеночных участков гота, где процесс смещения находок был менее выражен.

Из этого же слоя происходит внушительная коллекция костей грызунов, среди которых имеются крупные особи, такие как заяц-беляк и заяц европейский, мормота бобак и бобр. Вес этих половозрелых особей мог превышать 10 кг, а значит, они могли являться объектом охоты обитателей грота. В составе костей млекопитающих, общее число которых достигает 64 экземпляров, преобладают мелкие обломки (49 экз.), встречаются крупные толстостенные фрагменты (6), диагностичные кости (6), зуб травоядного животного, остатки роговых отростков (2).

Коллекция каменных находок, сопоставимых со вторым (мезолитическим) слоем грота, крайне малочисленная. Из 62 кремневых артефактов выделяется один нуклеус, 46 отщепов, 10 пластинчатых сколов, две чешуйки и три краевых скола. Среди отщепов наиболее полноценными заготовками являлись сколы средних размеров от 3 до 5 см в поперечнике. Они имеют более правильную огранку и достаточную толщину для производства отдельных категорий орудий. Мелкие отщепы в массе своей относятся к дебитажу. Крупные отщепы несколько удлинены, не имеют правильной огранки, что объясняет причину их не востребованности. Несколько лучшая сохранность у пластин (6 экз.), пластинок (3) и одной микропластинки. При этом для них характерна повышенная фрагментация и более правильная огранка спинок (рис. 5,10-11). Три массивных краевых скола не выразительны. Из орудий имеется единственный предмет – нож с двумя лезвиями, сильный износ которых перекрывается у проксимального конца противоположной ретушью утилизации, от его использования в качестве развертки (рис. 5,14).

Третий культурный слой. Верхние культурные напластования. Эпиграветт

Начало в изучении третьего культурного слоя было положено расчисткой в центральной части кв. Н-І/19 плотного скопления из отходов кремнеобработки, пластинок и мелких отщепов (рис. 6). На кв. Н/19 его мощность превысила 15 см. Первоначально со скоплением был связан всего лишь один нуклеидный обломок. Нуклеусов и отбойников обнаружено не было, поэтому считать его участком,

где производилось специализированное расщепление кремня, у нас пока нет оснований. Почти весь кремь из этого скопления черного цвета⁴. Уже при осмотре первых кремневых находок было обращено внимание на некую миниатюризацию инвентаря. С другой стороны, в коллекции было сравнительно много мелких пластинчатых сколов, большинство которых фрагментировано, судя по одному найденному микрорезцу, возможно, преднамеренно.

Первым признаком, говорившем об особом статусе верхних культурных напластований третьего культурного слоя стало извлечение изящного по своим очертаниям микроострия на узкой пластинке с притупленным краем (рис. 5,3). Эта находка могла бы поставить в тупик многих исследователей⁵. Ведь если такое «руководящее ископаемое» появляется в слое, то это означает, что в этой коллекции присутствует эпиграветтский компонент. Пластинчатая индустрия верхней части⁶ слоя 3 является граветтоидной. Ведь вторичная обработка этого вкладыша-вставки крутой усекающей ретушью (*à bord abattu*) нельзя назвать тривиальной. Для производства такого изделия требовалось привлечение высокой для того времени технологии обработки камня.

Продолжая характеристику скопления кремневых находок на кв. Н-І/19 отметим, что оно имело вытянутую форму, длинной осью ориентированное по линии восток-запад, с увеличением плотности залегания находок

4. Ближайшее месторождение такого желвачного кремня обнаружил Яцек Лудвикзак в обнажениях первой надпойменной террасы р. Прут у с. Лопатник Единецкого района РМ.

5. Как известно, в коллекциях селетоидных памятников присутствует граветтская составляющая, в виде пластинок с притупленным краем. Их крайне мало, но они все-таки есть. В гроте Брынзень нам известно о четырех таких предметах, собранных Н.А. Кетрау в ходе раскопок 1963-1965 гг. [Ketraru 1965, 39-40]. Однако при ближайшем рассмотрении, оказалось, что одна брынзенская пластинка вовсе не микролит, а обычная пластина с мелкой регулярной ретушью по краю. Такой же ретушью, но не по всей длине края обработан второй экземпляр. Третий, однозначно относится не к граветту, а к ориньякским микролитам, являясь пластинкой типа *Дюфур*. И только последний предмет, по всей видимости, сопоставим с эпиграветтом, так как обработан по выпуклому краю ретушью близкой к усекающей.

6. Его также можно рассматривать и как линзу культурных остатков в кровле третьего культурного слоя.

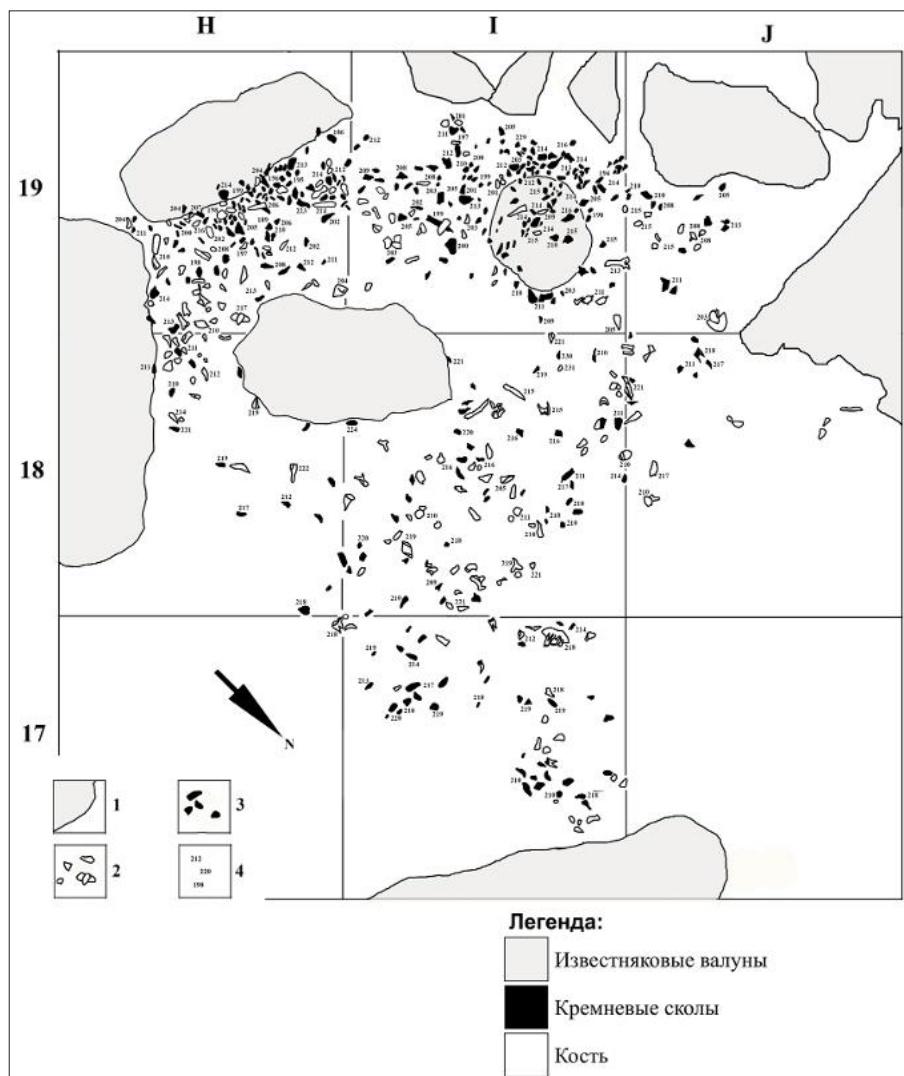


Рис. 6. Планиграфия верхней части (горизонт 1) третьего культурного слоя, сопоставимого с эпиграветтом. 1 – каменные блоки и валуны; 2 – обломки костей и зубы диких животных; 3 – кремневые изделия и дебитаж; 4 – отметки глубин.

Fig. 6. Planigraphy of the upper part (horizon 1) of the third cultural layer, comparable with the Epigravettian. 1 – stone blocks and boulders; 2 – bone fragments and teeth of wild animals; 3 – flint products and debitage; 4 – depth marks.

книзу. Основных концентраций в скоплении две, одна, как ранее отмечалось, располагалась в центральной части кв. Н/1 между тремя каменными блоками, а также в центре кв. I/19 с небольшим смещением к юго-востоку, вокруг большого каменного блока и под ним. Если в первой концентрации находки залегали в интервале от 197 до 212 см от 0, то во второй от 198 до 214 см. Вмещающий эти находки грунт представлен более глинистым составом, не столь перегружен щебнем, как окружающий суглинок, имеет волнистые белесые разводы, сви-

детельствующие о неоднократных затоплениях грота. Во второй концентрации находок этого скопления на кв. I/19 несколько нуклеидных предметов сформировали некое подобие брекчии. Именно на кв. I/19 была зафиксирована вторая не менее важная находка, подтверждающая граветтоидный характер верхней части третьего культурного слоя. Это сечение микропластинки с притупленным краем (рис. 5,2). Подчеркнем особо, что в отличие от пластинок с притупленным краем на селетских памятниках, наша находка миниатюрна, обработана

усекающей ретушью и предположительно имеет преднамеренно обломанные концы.

Несколько иной характер отложений отмечен для верхней части третьего культурного слоя на кв. I/18. Здесь в большем числе представлены обломки костей мелких животных с необычной коричневатой поверхностью. Встречаются диагностичные обломки суставов, фаланги. Кремьень здесь тоже черный прутский, но расположение его иное. Он сосредоточен по всей поверхности квадрата, не образуя скоплений. Кроме того находки из черного кремня располагаются на ребре и даже вертикально.

На кв. I/17 можно наблюдать продолжение скопления культурных остатков, хотя плотность находок значительно падает. В северо-восточном секторе этого квадрата находки эпиграветта утрачены, также как и сам вмещающий их грунт. Фактически пустыми оказались и два прилегающих квадрата – H/17 и J/17.

Крайне важную категорию находок составляют кухонные остатки и обломки костей животных, большая часть которых являлась охотничьими трофеями. Для эпиграветта грота Брынзень отбор костей на раскопе осуществлялся крайне осторожно. В случае сомнения в принадлежности того или иного артефакта к этому прослою, он не включался в его состав. Всего костно-зубо-роговой материал эпиграветта содержит 306 находок. Это выборка из целых и фрагментов костей крупных животных (264 экз.), включая 194 экземпляра, определенных до вида, а также зубов травоядных животных (39) и фрагментов роговых стержней (3).

Теперь рассмотрим кремневые находки.

Сырьевая база эпиграветта грота Брынзень представлена исключительно местным кремнем желвачного происхождения и в меньшей степени галечного, из обнажений речных террас, возможно, даже первой надпойменной террасы Прута, а также и из руслового аллювия и галечников. Доля черного прутского кремня среди эпиграветтских артефактов необычайно высока и составляет не менее 30%, а среди нуклеидных находок превышает 50%. Наиболее широкое использование черного прутского кремня отмечено для микропластинок.

Техника раскалывания кремня в брынзенском эпиграветте безусловно призматиче-

ская, направленная на получение пластинчатых сколов, которые обычно сохранялись в целом виде. В нашем распоряжении есть всего два нуклеуса и один очень выразительный обломок нуклеуса. Первый нуклеус односторонний, одноплощадочный, с негативами скалывания пластинок и коротких отщепов. Его ударная площадка – гладкая сильно скошенная, без признаков редуцирования, с необрушенными карнизами. Второй нуклеус – двуплощадочный полюсный, но с фронтами скалывания в разных плоскостях. По-прежнему техника параллельного скалывания доминирует. Негативы снятия широких пластин, в одном случае перекрываются заломом. Наиболее качественным является обломок одноплощадочного нуклеуса с идеально правильной огранкой, свидетельствующей о массовом производстве пластинок (рис. 5,12). Именно на этом обломке отмечены признаки редуциации. Судя по сохранившимся четырем сколам оживления ударных площадок нуклеусов, односторонний способ скалывания был определяющим. Четыре ребристых и два реберчатых скола демонстрируют практику воссоздания выпуклого рельефа на сработанных рабочих фронтах.

К отходам обработки кремня относятся 10 нуклеидных и 21 мелкий обломок, 70 чешуек и не менее трети от всех мелких отщепов. В целом их насчитывается 182 экз. В противоположность дебитажу, в группе сколов-заготовок присутствуют 347 находок. В их числе 205 отщепов и 142 пластинчатых скола. Отщепы разделяются на крупные – 9 экз. (в поперечнике >5 см), средние – 46 (3-5 см) и мелкие – 150 (1-3 см). Редко, но все же среди них встречаются короткие массивные экземпляры с двугранной отбивной площадкой. В свою очередь пластинчатые сколы разделяются на семь крупных экземпляров, 31 пластину средних размеров, 50 пластинок и 54 микропластинок. Несравненно более правильная огранка наблюдается у пластинок. Подчеркнем ведущие позиции микропластинок и пластинок, в составе которых преднамеренная фрагментация свойственна главным образом самым мелким сколам. Крайне редко встречаются подтреугольные пластины с конвергентной огранкой (рис. 5,9).

Таким образом, из кровли третьего культурного слоя происходит 547 кремневых артефактов. В их число входит 14 индивидуальных находок. Это три резца и два изделия с резцовым сколом, один исключительно мелкий скребок на технологическом сколе, клювовидная проколка на мелком отщепе, отщеп с ретушью (рис. 5,5), две фрагментированные пластинки с ретушью, одна тронкированная пластина и три микролита с притупленным краем.

Все три резца свидетельствуют об их полифункциональном использовании. Самый массивный резец с негативом всего лишь одного резцового скола относится к боковой разновидности. Непосредственно к его резцовому лезвию примыкает выпуклый участок ретушированного края, сформированный чешуйчатыми вентральными фасетками. Последнее обстоятельство служит основанием для определения этого изделия в качестве скребла с обушком (рис. 5,19). Заготовкой для него был выбран отщеп средних размеров с радиальной огранкой спинки и с крупной отбивной площадкой, часть которой оказалась фасетированной.

Второй резец боковой пряморетушный (рис. 5,8) подготовлен на удлинённом отщепе с остатками галечной корки на дорсальной поверхности. Лезвие резца, неоднократно обновляемое, дополняется по противоположному краю мелкой регулярной ретушью на всем его протяжении. К элементам вторичной обработки отнесено и поперечно обломанное основание, с полностью удаленным ударным бугорком.

Третий резец – угловой на изломе крупной пластины (рис. 5,7), у которой край противоположный резцовому имеет на всем его протяжении регулярную мелкозубчатую ретушь, а поперечно сработанное основание – чешуйчатый вентральный износ, формирующий лезвие, сходное с долотовидным.

Два несостоявшихся резца, первый на мелком полупервичном сколе и второй на удлинённом отщепе (рис. 5,6,16) могут быть отнесены к угловой разновидности. Скребок на сколе оживления ударной площадки нуклеуса (рис. 15,12) имеет крайне мелкие размеры, составляя в поперечнике около 2 см, а его лезвие охватывает всего лишь четвертую часть пери-

метра скола. Отнесение этой находки к скребкам оправдано присутствием ретушного износа по выпуклому рабочему краю. В коллекции также присутствует пластина, сохранившаяся целиком с тронкированным дистальным концом и со следами утилизации по одному из краев (рис. 5,15). Необычна миниатюрная проколка на обломке первичного скола (рис. 5,6). Его короткое тонкое слегка изогнутое жало сформировано на углу излома, благодаря которому была отсечена большая часть отщепа, оставивший для орудия лишь небольшой проксимальный конец.

С индивидуальными находками связаны две пластинки, одна с мелкозубчатой ретушью на ограниченном участке края, другая с микрорезцовым сколом. И, наконец, рассмотрим три самые интересные находки, свидетельствующие о распространении вкладышевой техники и производстве микропластинок как компонентных заготовок, предназначенных для изготовления вкладышей-вставок. Это микроострие (рис. 5,3) с притупленным краем. Его размеры – 29×5×2 мм. Оно прямое, практически не изогнутое в профиле. Ретушированный край прямой, на всем своем протяжении обработан регулярной усекающей ретушью. Противоположный край – без признаков использования. Острие расположено на дистальном конце микропластинки. Такой же тип ретуши использован у микропластинки, точнее у ее сечения (медиальной части) по одному из продольных краев, в то время как противоположный имеет кромочную сработанность (рис. 5,2). Размеры этого вкладыша-вставки – 15×4×3 мм. Предполагается, что оба конца обломаны преднамеренно. Третий микролит сохранился в виде фрагмента (рис. 5,1), оба края которого частично обработаны мелкой ретушью. Вероятно, излом произошел еще в древности.

Этим мы завершаем описание кремневого материала из кровли нижнего культурного слоя. В целом для него свойственна миниатюризация, микропластинчатость, применение усекающей ретуши, широкое распространение техники резцового скалывания, развитый характер вкладышевой техники. «Руководящими ископаемыми» для эпиграветтского эпизода являются пластинка-сечение с при-

тупленным краем (вкладыши-вставки) и микроострие с притупленным краем, прямые аналоги которому мы находим в развитом эпиграветтском комплексе стоянки Косэуць на Среднем Днестре.

Третий культурный слой. Нижние культурные напластования. Молдавский селет

Если самый верхний горизонт третьего культурного слоя явно относится к эпиграветту, то четыре последующих горизонта, по нашему мнению, связаны с обитанием в гроте носителей традиций молдавского селета. При этом на кв. I-J/17 залегание находок селетоидного облика из второго и третьего горизонтов находилось в пределах 215-240 см. Если же судить по глубинным отметкам с кв. H-I/19, этот интервал был там намного меньшим, всего 220-222 см. На соседних кв. H-I/18 он зафиксирован в пределах 221-228 см. Это также свидетельствует о небольшом понижении древней дневной поверхности от крайней западной части грота к его середине.

Наибольшее число селетоидных артефактов отмечено в северной части кв. I/17, где они залегают сплошной массой (рис. 7-9) практически без перерывов, образуя конгломерат из разнообразных культурных остатков, скрепленных воедино грунтом, но не из чистой плейстоценовой глины или желто-коричневого суглинка с щебнем, а ближе к рыхлому рассыпчатому суглинку какого-то необычного буроватого оттенка. В ходе раскопок возникла некая уверенность в том, что с увеличением глубины залегания находок, среди них уменьшается число как предметов со сбитой кромкой, так и зубчато-выемчатых форм. Отмечено также небольшое снижение количества находок расположенных в слое вертикально, хотя число залегающих наклонно или на ребре не уменьшается.

У северо-восточного края кв. I/17 на глубине 240 см найдено даже копыто. Раскопаны также два обломка костей, окрашенных красным охристым веществом. Внутренняя поверхность одной из них (продольно расколотая кость) имеет желоб, в котором, по всей вероятности, некоторое время содержалась краска. На этом же квадрате был обнаружен небольшой кусочек плотного охристого вещества, который даже при малом нажиме остав-

лял после себя линейный след. По форме этот сгусток вещества близок к плоскому комочку, на отдельных участках поверхности которого заметно выступание красящего вещества. Чуть позже на кв. I/18 был найден еще один кусочек плотного охристого вещества.

На кв. J/17 наблюдались находки из серого кремня высокого качества (рис. 10,2), покрытого известковистым налетом. В эту группу находок входят в основном отщепы средних размеров. На кв. I/17 на глубине 245 см обнаружен отбойник на песчаниковой гальке. Наиболее плотное скопление как крупных, так и более мелких кремневых артефактов, прослежены в западной части кв. I/17 на глубине 234-237 см (рис. 10,1). Причем ряд крупных сколов располагались здесь на ребре, один возле другого, в ряд один за другим, вплотную прилегая к известняковому валунчику.

Любопытно, что при расчистке самого нижнего горизонта основная масса находок была равномерно рассредоточена по большей части квадратов, в то время как в предшествующем горизонте (четвертом) была установлена их приуроченность к северо-восточной части этих же квадратов (рис. 11). Возможно, это связано с разницей в литологии вмещающей породы. В местах концентрации находок она более супесчанистая буроватая и рыхлая, а буквально на соседних участках к западу более плотная, суглинистая желто-коричневого цвета. Не исключено, что в первом случае мы наблюдаем концентрацию материала в местах понижения древней дневной поверхности, возможно, связанную с прекращением действия водотока по промоине.

Многие извлекаемые из слоя находки относились к разряду отборных артефактов. Отметим, что это мнение основано на определенных стандартах, широко распространившихся в период верхнего палеолита. Исследователи же среднего палеолита вынуждены в большей степени ориентироваться на технологические особенности каменных индустрий, а весь типологический набор используется крайне осторожно, перепроверяется посредством привлечения различного рода индексов.

Общее число кремневых артефактов из селетоидных горизонтов третьего культурного слоя, определяемого как «молдавский селет» (по Н.А. Кетрару) [1965] или «ориньяк с бифа-

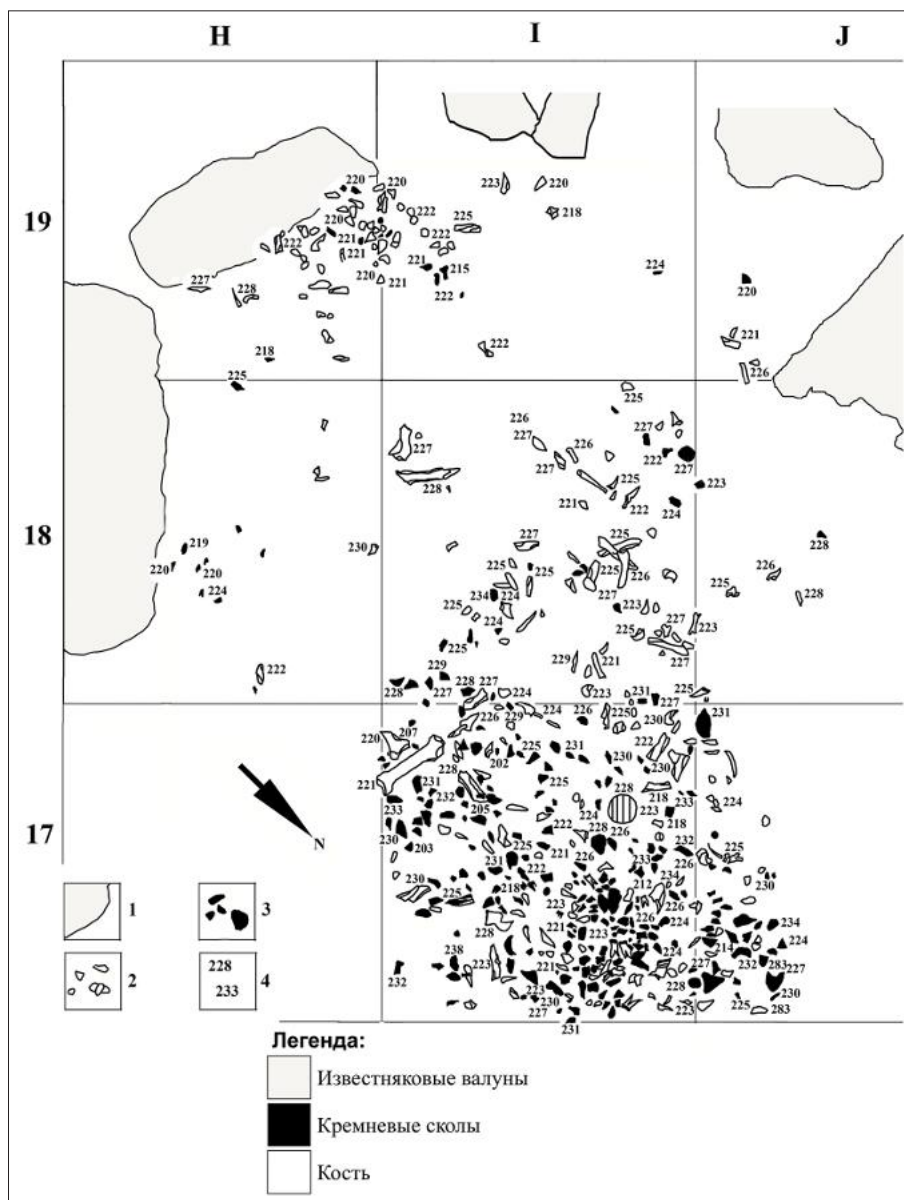


Рис. 7. Планиграфия средней части (горизонт 2) третьего культурного слоя, относимого к «молдавскому селету» (план раскопа 1).

Fig. 7. Planigraphy of the middle part (horizon 2) of the third cultural layer, attributed to the "Moldavian selet" (excavation plan 1).

сами» (по И.А. Борзияку) [Borziac 2008; Borziac et al. 2006, 52-75], собранных в ходе раскопок 2024 г., составляет 1399 экз., включая 166 орудий. Источниками сырья для их изготовления служил кремнь местного происхождения из отложений нижних террас и галечников р. Прут. Это серый (преобладает) и черный желвачный кремнь, обладающий высокими изотропными свойствами, изредка покрытый слабой белой патиной.

В коллекции кремневых изделий присутствуют одна мелкая и три расколотых гальки, 24 нуклеуса, 51 обломок желваков и галек, 52 технических скола, 44 чешуйки, 189 пластинчатых сколов и 1.035 отщепов.

Среди нуклеусов больше половины крайне нестабильны по форме, как правило, в поперечнике не превышают 5 см, не имеют четко выраженного фронта расщепления. Часто одиночные сколы, снятые со случайно обра-

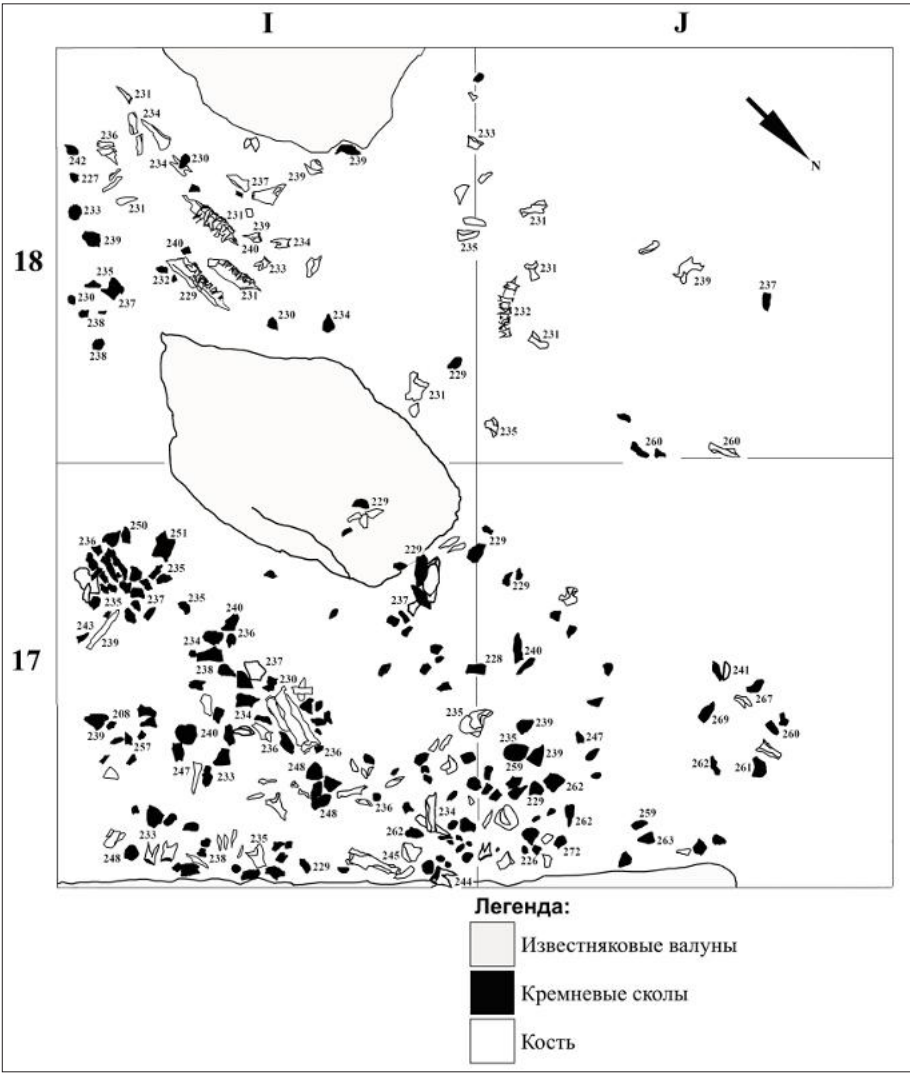


Рис. 8. Планиграфия средней части (горизонт 3) третьего культурного слоя, относимого к «молдавскому селету» (план раскопа 2).

Fig. 8. Planigraphy of the middle part (horizon 3) of the third cultural layer, attributed to the “Moldavian seleton” (excavation plan 2).

зовавшегося участка, в дальнейшем при обновлении могли быть превращены в ударные площадки, широкие гладкие без признаков редукции. По этой причине создается весьма негативное впечатление о технике раскалывания кремня. Положение спасают четыре правильно оформленные ядрища. Это крупный подпризматический нуклеус на начальной стадии раскалывания из местного серого желвачного кремня. Он одноплощадочный, короткий по своим пропорциям из-за крупной каверны в нижней его части. Обширная отбивная площадка на всем своем протяже-

нии подправлена серией сколов оживления, произведенных с одной стороны. Оба продольных края имеют негативы снятия крупных отщепов в традициях плоскостной системы скалывания, ближе к торцу переходящую в типично призматическую огранку. Тыльная сторона этого нуклеуса сохранила желвачную корку. Любопытно, что на поверхности также фиксируются известковистые натёки, которые при камеральной обработке были удалены в слабом растворе соляной кислоты. Высота этого артефакта – до 7 см, максимальная длина – 9,4 см, ширина 4,3 см.



Fig. 9. Planigraphy of the lower part (horizon 4) of the third cultural layer, associated with the “Moldavian seleton”. 1 – horizon 4 (excavation plan 3); 2 – horizon 5 (excavation plan 4).

В свою очередь, в составе нуклеусов выделяется достаточно крупный экземпляр на начальной стадии раскалывания размером $11 \times 7,4 \times 6,5$



Рис. 10. Расчистка горизонта 3 третьего культурного слоя. 1 – на кв. I-J/17; 2 – на кв. J/17.

Fig. 10. Clearing of horizon 3 of the third cultural layer. 1 – on sq. I-J/17; 2 – on sq. J/17.

см, одноплощадочный, односторонний, в настоящее время, с уплощенным фронтом скалывания после снятия серии удлиненных сколов. Тыльная сторона – с неупорядоченной подтеской и остатками белой и коричневатой корки. Ударная площадка – широкая, скошенная, с множеством негативов подтески. Образование таких сколов на всем протяжении края площадки (6,5 см), возможно, связано не с попытками оживления ударной площадки, а с последствием эксплуатации этого предмета в качестве рубяще-го инструмента.

Еще один нуклеус из черного прутского кремня является единственным трехплощадочным экземпляром (рис. 15,15). Всего лишь один крупный отщеп, необычайно широкий, сколот с его боковой грани. При всем том, что этот нуклеус полностью очищен от корки, другие площадки никак не были реализованы.

Три нуклеуса отнесены к леваллуазским. В двух случаях, широкий скол после удара по не фасетированной ударной площадке не смог сколоть на всю длину рабочего фронта предполагаемую пластинчатую заготовку. У третьего чуть более крупного нуклеуса наблюдается прохождение «скалывающей волны» по всему фронту, после чего дополнительных попыток снятия заготовок не предпринималось.

Из 1035 отщепов наиболее импозантно выглядят 89 крупных, максимальная длина которых может достигать 9 см. Большая часть этих отщепов изготовлена из светло-серого желвачного кремня и только 31 предмет – из черного прутского. В сравнении с другими коллекциями среди них сравнительно меньше первичных сколов (в наличии 6 первичных и 23 полупервичных). Практически у всех отмечена неупорядоченная огранка спинки, параллельной не наблюдается, хотя встречается конвергентная. Характерно утяжеленное основание, массивный ударный буторок и площадка. Среди выделяемых отбивных площадок, много широких гладких без фасеток (табл. 1). Излом и утрата основания отмечено у 17 экземпляров.

Отщепов средних размеров в пределах 3-5 см – 337 экз. Это наиболее востребованные сколы-заготовки для изготовления орудий. По-прежнему основной источник сырья – местный светло-серый кремень высокого качества. Из черного прутского кремня подготовлено шесть предметов, из темно-серого желвачного – 12. Излом и утрата одного из концов прослежена у 15 отщепов. Среди ударных площадок сравнительно много фасетированных и линейных.

Мелкие отщепы (609 экз.) крайне редко являются полноценными заготовками. Они не имеют единого стандарта, как по форме, так и по огранке дорсальной поверхности (рис. 16,1-

Ударные площадки	Отщепы			Всего
	крупные	средние	мелкие	
Точечные	5	8	20	33
Мелкие гладкие	3	16	30	49
Широкие гладкие	7	20	-	27
Фасетированные	3	6	6	15
Двугранные	4	2	-	6
Натуральные	4	5	4	13
Линейные	1	4	-	5
Неопределимые	7	43	103	153
Итого	34	104	163	301

Таблица 1. Распределение отщепов по величине и состоянию ударных площадок (выборка из 2 и 3 горизонтов третьего культурного слоя).

Table 1. Distribution of flakes by size and condition of the striking surfaces (sample from horizons 2 and 3 of the third cultural layer).



Рис. 11. Расчистка горизонта 4 третьего культурного слоя на кв. I-J/17.

Fig. 11. Clearing of horizon 4 of the third cultural layer on sq. I-J/17.

6). У половины из них сохраняются на спинке остатки желвачной корки. Фрагментировано 66 мелких отщепов. Наибольшее число среди отщепов этой группы составляют сколы менее 2 см в поперечнике, которые обычно попадают в категорию отходов обработки кремня. К отходам кремнеобработки также могут быть отнесены чешуйки (44 экз.), отдельные технические сколы (24 из 52) и все мелкие обломки и осколки кремня (17).

Среди технических сколов чуть меньше половины представлено сколами оживления ударных площадок нуклеусов, округлых очертаний до 4 см в поперечнике. Они получены с односторонних нуклеусов, а четыре экземпляра являются вторичными. При этом 2/3 этой группы оказались неудачными из-за образовавшихся заломов. Среди 20 краевых сколов типично реберчатых 13 экземпляров. Максимальная их длина 7 см. К техническим сколам отнесены и четыре резцовых отщепки, одна из которых вторичная. Среди сохранившихся ударных площадок распознаются четыре фасетированных ударных площадки, две двугранных и три с гладкой линейной.

В сравнении с отщепами, пластинчатые сколы однозначно производят впечатление наиболее технологически продвинутых артефактов. Они имеют лучшую огранку, крайне редко у них сохраняются участки корки, а благодаря отсутствию массивности их было легче

Наименование сколов	Пластинчатые сколы				
	Проксимальные концы	Медиальные части	Дистальные концы	Целые	Всего
Крупные пластины	2	-	2	6	10
Пластины	30	12	30	33	105
Пластинки	13	8	15	15	51
Микропластинки	1	3	3	13	20
Итого	46	23	50	67	186

Таблица 2. Степень фрагментации пластинчатых сколов.

Table 2. Fragmentation degree of lamellar chips.

превратить во вкладыши-вставки, путем удаления основания с ударным бугорком и более хрупкого верхнего конца.

Длина самой крупной пластины превышает 8 см, стандартной по величине пластины – 4-5 см, пластинки – 2,5-3 см, микропластинки – 1,2-2 см. В отличие от отщепов, у пластин значительно более высокий показатель фрагментации (табл. 2). Они сравнительно слабо изогнуты в профиле, а края параллельны или конвергенты друг другу. Как это не покажется странным, пластин с фасетированной или двугранной ударной площадкой нет. Обычны точеные площадки, реже линейные, натуральных всего три экземпляра. Среди микролитов более выражен стандарт пластинок, хотя в отличие от пластин для них характерна фрагментация, возможно преднамеренная. Что касается микропластинок, то они хоть и представлены серией, но выглядят так, как будто получились в процессе расщепления случайно при скалывании более крупного артефакта. Важно обратить внимание и на пластинчатые чешуйки подтреугольной формы. Как бы нам не хотелось обнаружить на их краях мельчайшую «абразивную» ретушь, её нет. Не выделяются здесь и пластинки типа Дюфур, по крайней мере, в коллекции 2024 г.

После многократного осмотра изделий с вторичной обработкой, число предполагаемых орудий было сокращено почти на треть. Статуса орудий лишились до половины ранее выделенных резцов. Почти такая же участь была уготована и скребкам, большая часть которых оказалась атипичной, что оказалось свойственным и для острий и тронкированных пластин. Не решен пока вопрос о допу-

стимом уровне сработанности рабочих лезвий у ножей с обушком, чтобы их считать орудиями, о степени необходимой протяженности ретушированного края у отщепов с ретушью. Сокращено число выемчатых и зубчато-выемчатых орудий, изделий с *encosche* или несколькими более мелкими выемками. В это же самое время, мы посчитали возможным ввести новую разновидность орудий, так называемых резчиков.

Среди селетоидных находок третьего культурного слоя, собранных в 2024 г. на кв. Н-1-Ж/17-19, выделяются скребла (12 экз.), комбинированные орудия (2), ножи с обушком (20), орудия для подтёски (5), ножевидные пластины (24), остроконечники (2), острия (8), выемчатые (21) и зубчато-выемчатые (21) орудия, а также резцы (14), резчики (5), скребки (11), ущемленные (6) и тронкированные (10) пластины, отщепы (11) и пластины (6) с ретушью, обломки орудий (6). Нетрудно заметить, что первая часть этих находок связана со среднепалеолитическими традициями, а вторая, с верхним палеолитом.

В ходе раскопок четырех селетоидных горизонтов третьего культурного слоя, выявленных на глубине 215-260 см, было собрано 184 орудий мустероидного, селетоидного и ориньякоидного облика. Надо признать, что наша попытка, как это уже отмечалось, отделить среднюю часть третьего культурного слоя (горизонты 2 и 3 на глубине 215-235 см), названного селетоидным прослоем [Kovalenko 2025] от самых нижних отложений третьего культурного слоя (горизонты 4 и 5 на глубине 235-260 см), условно названного мустероидным прослоем [Kovalenko 2025], оказалась

несостоятельной⁷. Оба слоя демонстрировали явные признаки сходства по всем составляющим собранных коллекций.

С типологической точки зрения самыми информативными группами кремневого инвентаря являются скребла, ножи с обушком, отдельные зубчато-выемчатые формы (характерные для финального среднего палеолита), а также скребки и резцы (верхнепалеолитический компонент). Обнаружены лишь два скребка высокой формы. Скребков-нуклеусов типа *rabot* не найдено. Из бифасов представлен только один артефакт, включенный в группу ножей с обушком (рис. 12). Его более точное название – бифасильный нож типа *клаузеннише* (*Klausennische* по Г. Бозинскому) [Bosinski 1967], который входит в состав более широкой группы *кайльмессер* (*Keilmesser*). Первоначально эта находка была воспринята как крупное скребло с утонченным основанием и обушком по одному краю, в то время как противоположный край на всем своем протяжении был проработан полукрутой чешуйчатой ретушью. Дистальный конец этого орудия мог использоваться и как долото, и в качестве скребла. Его полифункциональный характер очевиден⁸.

Практически все скребла выполнены на крупных массивных отщепках без правильной огранки спинки и с небольшими участками белой/серой желвачной корки (рис. 13,9-10,12-13). Ранее замеченная тенденция, когда

7. Мы предлагаем следующему поколению исследователей, используя новые методики раскопок, способы анализа артефактов и вмещающих их отложений, найти неординарные подходы в решении поставленных задач, хотя возможно спектр этих задач и существенно изменится. В этих целях мы сохраняем ряд нетронутых раскопками квадратов. Это, прежде всего, кв. G/18-19, H/17, H-I-J/20.

8. Любопытно, что на момент его извлечения из культурного слоя, его поверхность была интенсивно черной без патины, а уже при камеральной обработке он был покрыт «легкой серовато-голубой вуалью».



Рис. 12. Бифасильный нож типа *клаузеннише*.

Fig. 12. Biface knife of the *Klausennische* type.

предпочтение в выборе заготовки отдавалось отщепам с непомерно крупным основанием, соответственно с обширной ударной площадкой и громадным ударным бугорком, здесь проявилась в неполной мере. У остальных скребел ударная площадка небольшая и гладкая, лишь у одного она натуральная. Лезвия таких скребел продольные слабовыпуклые, а у двух экземпляров оно угловатое. Чешуйчатая регулярная полукрутая многоярусная ретушь заметна у одного орудия (рис. 13,9), а у остальных отмечена крутая чешуйчатая, крупнофасеточная чередующаяся или полифасеточная ретушь. Отмечен прием подтёски основания с целью его утончения. Средние размеры скребел 5-7 см. Совершенно очевидно, что они не



Рис. 13. Кремневые изделия из третьего культурного слоя. Молдавский селет. 1-8 – скребки; 9, 10a-b – скребло; 11 – нож с обушком; 12-13 – скребла.

Fig. 13. Flint products from the third cultural layer. Moldavian selet. 1-8 – scrapers; 9, 10a-b – scraper; 11 – knife with a back; 12-13 – scrapers.

образуют серий, их вторичная обработка оценивается как неустойчивая, а мустьерский облик не столь выражен.

По выбору исходной заготовки и характеру ретушного износа некоторые из скребел близки к ножам с обушком (рис. 13,11). Условно последние можно разделить на две составляющие: более мелкие экземпляры с натуральным обушком и забитой кромкой лезвия, иногда со следами от строгания; более крупные удлиненные экземпляры с реберчатым или угловатым обушком и сильным двусторонним износом лезвия, в одном случае используемого в качестве стамески. Иногда ножи с обушком имеют и другое предназначение, например, когда они

совмещены со скребком. Наше внимание обращено (рис. 15,6-7,9), прежде всего, на серию ножей с обушком, подготовленных на удлиненных технических сколах, у которых чаще всего реберчатая сторона в совокупности с близлежащим краем образовывали узкую грань, удобную для упора пальцев руки, а противоположный край естественно острый играл роль режущего лезвия. В настоящее время можно наблюдать признаки макроизноса лезвия в виде отдельно расположенных мелких фасеток в результате воздействия обрабатываемого материала, как с вентральной, так и дорсальной стороны. Протяженность лезвия 4-6 см. Каждое второе лезвие можно назвать мелкозубчатым.

Мы посчитали возможным выделить в коллекции два комбинированных орудия. Первое из них представляет собой резец – скребло с обушком, подготовленным на крупном первичном отщепе. Короткое поперечное лезвие углового резца сочетается с продольным рабочим краем скребла, сформированного вентральной чешуйчатой и крупной фасеточной ретушью. Лезвие этого скребла слегка выпуклое и волнистое, дополняется естественным обушком по противоположному краю. Протяженность лезвия – не менее 6 см. Второе комбинированное орудие определено как резец – скребло – резчик на крупном массивном сколе (рис. 15,11a-b). Резец угловой атипичный, резцовый скол короткий, шириной до 8 мм. Резчик на угловом участке дистального конца, с сильно затупленным лезвием, выделенный с двух сторон небольшими выемками. Лезвие скребла подготовлено регулярной вентральной ретушью поименно тому продольному краю, который должен быть снят при удачном оформлении резца, чего не произошло. Так что мы впервые столкнулись с технологическим приемом на памятниках начального этапа верхнего палеолита, благодаря которому перед снятием резцового скола производилось притупление края, что весьма облегчает миссию по определению функционального назначения орудий.

Орудия для подтёски выделяются своими крупными размерами, в поперечнике превышая 6 см. У двух из них также просматривается неказистый обушок и относительно прямое мелкозубчатое лезвие, зачастую сформированное на продольном краю отщепа. Порой рабочее лезвие предварительно не оформлялось и тот интенсивный износ, который сейчас легко просматривается, является именно следствием работы, а не каких-либо действий, формирующих лезвие. Причем этот износ больше напоминает забитость не просто кромки края, а самого края на большую глубину и на всем его протяжении. Протяженность же такого рабочего края была не меньше 5-6 см, иногда охватывая не только выпуклые участки края, но и угловые с ним сопряженные. При этом какого-либо приострения края ретушью не отмечено.

Выемчатые орудия выполнены исключительно на массивных отщепах. У 2/3 таких

орудий зафиксировано по одной выемке. Как форма, так и расположение выемок варьирует. Обращают на себя внимание более крупные ретушированные выемки на дистальном конце отщепов. Среди них встречаются и орудия с обушком. В брынзенской коллекции выемчатые орудия – одна из самых распространенных групп кремневого инвентаря (рис. 14,18), но отсутствие среди них каких-либо стандартов существенно снижает их значение.

Казалось бы, разница между выемчатыми орудиями и зубчато-выемчатыми не должна быть большой. Однако в нашем случае это не совсем так. Ряд колоритных зубчато-выемчатых форм (рис. 15,2-5) буквально испещрены мелкими ретушированными выемками, подготовленных как с дорсальной поверхности, так и с вентральной, образуя выступы и зубцы, создавая иллюзию интенсивного износа. Если присмотреться внимательней, то становится очевидным, что основной эффект зазубренности достигался при помощи кромочной выщербленности и мелкофасеточной ретуши утилизации. Больше половины артефактов этой группы имеет натуральный обушок. В их составе имеется один отщеп с фасетированной ударной площадкой, остальные представлены более крупными гладкими площадками. Для изготовления зубчатых орудий привлекались и пластины средних размеров. Большая их часть фрагментирована, а один даже обожжен. У трех пластин отмечено усечение обоих концов, а у двух необычно сильный краевой износ в виде чешуйчатой вентральной ретуши, которая могла быть достаточно глубокой. Обычно у этой разновидности орудий одной или двумя выемками оформлен небольшой выступ. Длина наиболее выразительных образцов – около 6 см, хотя не редкость и 4 см. У трех зубчатых орудий ударные площадки фасетированные, у двух она гладкая и у одного натуральная.

С верхнепалеолитическим комплексом мы связываем 84 артефакта. Это уже упомянутые ножи на цельных пластинах крупных размеров, пластины с краевой ретушью, пластины ущемленные, пластины тронкированные, резцы и скребки, сверло-развертка, и, как это не покажется странным, один из остроконечников.

Ножевидные пластины крупных размеров (рис. 14,13,15,17; 15,8,10,12-14; 16,21) с пра-

вильной огранкой спинки, с одним или двумя лезвиями и размером 95×24×13 и 83×40×13 мм, 88×34×11,5 и 67×30×10 мм, в последнем случае с обломанным дистальным концом. Заготовками для этой группы инвентаря служили широкие пластины с параллельными краями без преднамеренно нанесенной ретуши. Они производят впечатление типичных верхнепалеолитических орудий. Исключение составляют две пластины шириной в 2-3 см с поперечно обломанным дистальным концом и ретушированным основанием. Оба их края испещрены мелкими фасетками, не образующих

сплошную линию утилизации. У одного из них проксимальный конец обработан крутой крупнофасеточной вентральной ретушью по дуге, с двумя неглубокими выемками по обоим краям, образующих подобие «рыльца» – *à museau* – сильно скошенного (рис. 15,13), по своим очертаниям первоначально принятого за скребок. Другой любопытный экземпляр ножевидной пластины также имеет дополнительную обработку проксимального конца мелкой крутой ретушью по дуге, с одного края, и в виде двух неглубоких ретушированных выемок, по противоположному. У пяти ножевид-

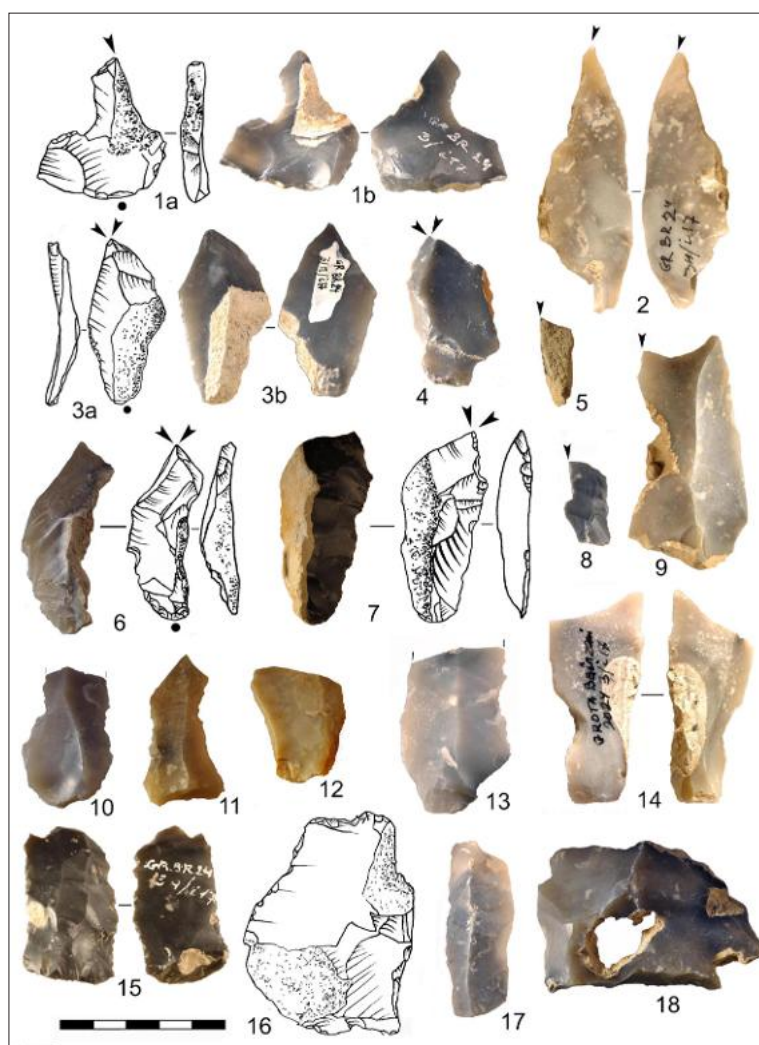


Рис. 14. Кремневые артефакты из третьего культурного слоя. Молдавский селет. 1-9 – резцы; 10-11, 14 – фрагменты пластин «с перехватом»; 12 – резчик; 13, 15, 17 – фрагменты ножевидных пластин; 16 – атипичный скребок; 18 – выемчатое орудие.

Fig. 14. Flint artifacts from the third cultural layer. Moldavian Selet. 1-9 – burins; 10-11, 14 – fragments of plates “with a grip”; 12 – carver; 13, 15, 17 – fragments of knife-shaped plates; 16 – atypical scraper; 18 – notched tool.

ных пластин отмечены фасетированные ударные площадки, у двух натуральные корочные, еще у одного она гладкая и широкая. К ним примыкают более мелкие ножевидные пластины (рис. 14,14).

Необычны пластины с «ущемлением» в средней части заготовки (рис. 14,10-11,14; 16,17) в виде широких выемок с двух сторон (3) и с одной выемкой по краю узкой длинной пластины. Обращает на себя внимание и тот факт, что один из концов этих пластин обязательно обломан. Видимо, они имеют разное функциональное назначение, на что указывает присутствие сильной чешуйчатой сработанности с вентральной поверхности.

Для тронкированных пластин (рис. 15,1; 16,16) характерно присутствие на дистальном конце мелкой ретуши или заметной визуально выщербленности. Казалось бы, в эту категорию артефактов могли бы войти десятки брызженских находок. Тем не менее, мы слишком строго подошли к процедуре отбора образцов, в результате к тронкированным изделиям было первоначально отнесено около десятка предметов, потом их число сократилось до 4, сейчас известно 10. Наиболее выразительны два дистальных фрагмента пластин с мелкозубчатой ретушью не только на конце, но и прилегающих краях. Эти предметы не всегда можно назвать орудиями, тем не менее, частично вторичная обработка на них распознается. У двух целых пластин *tronque* ударная площадка фасетированная или крупная гладкая.

Несколько резчиков на отщепках средних размеров (рис. 14,12) на одном или двух угловых участках имеют специфическую замятость, выкрошенность. Два резчика атипичны.

Все резцы (рис. 14,1-9) имеют четко выраженный верхнепалеолитический облик. За исключением двух резцов – поперечноретушного и мелкого косоретушного, а также нескольких атипичных микролитичных (рис. 14,3-4,6-7), все они двугранные, большинство *dejéte*, но с симметрично оформленным лезвием, выполненным на вытянутых полупервичных сколах длиной до 6 см. Ширина самих резцовых отщепов не превышает 6 мм. Вторичная обработка краев ретушью не свойственна, также как преднамеренное обламывание концов. При этом распространена зазубренность кра-

ев, иногда в сочетании с выщерблинами, в то время как на противоположном краю размещается обушок, часть которого покрыта меловой коркой.

Скребки. Хотя называть их скребками верхнего палеолита, по нашему мнению, не совсем верно. Из семи изделий этой группы верхнепалеолитическими выглядят только два, да и то это скребки весьма необычные. Первое орудие – высокой формы на отщепе, широкое лезвие которого выделено с двух сторон небольшими выемками (рис. 14,7). Второй скребок вообще микролитичный с лезвием на конце удлиненного скола с обломанным основанием (рис. 13,1). Остальные скребки имеют либо нестандартное расположение лезвия, либо ограниченный по протяженности участок с вторичной (ретушной) обработкой. У трех предметов оно угловое, скошенное, с использованием крупнофасеточной ретуши (рис. 13,4-6). Еще у одного, оно типично боковое, но недоработанное. Индивидуальное оформление имеют и два последних скребковидных предмета. В одном случае, это подчеркнутое широкой выемкой узкое выступающее лезвие типа *à museau* (рис. 13,21), в другом, неровное затупленное, ориентированное поперек его длинной оси, с небольшой ретушированной выемкой в середине (рис. 14,16). У всех шести последних скребков ударные площадки гладкие широкие, к которым обязательно прилегает небольшой участок меловой корки.

Еще четыре скребка требуют отдельного рассмотрения. Для их изготовления использовался наиболее распространенная серая желвачная порода местного происхождения. Это светлый полупрозрачный кремний с вкраплениями белесых пятен и пятнышек, с высокой степенью распространения каверн. Какого-либо приоритета в выборе заготовок для этих находок не наблюдается. В двух случаях это однозначно сколы оживления ударных площадок нуклеусов, у которых рабочие лезвия по дуге проработаны мелкофасеточной и мелкозубчатой ретушью (рис. 13,2,9). Более мелкий скребок имеет размеры 29×25×5 мм, а крупный 51×36×13 мм. Необходимо также отметить присутствие у них слабопрофилированного выступа. Назвать их скребками *à museau* будет преждевременно, хотя рыльце

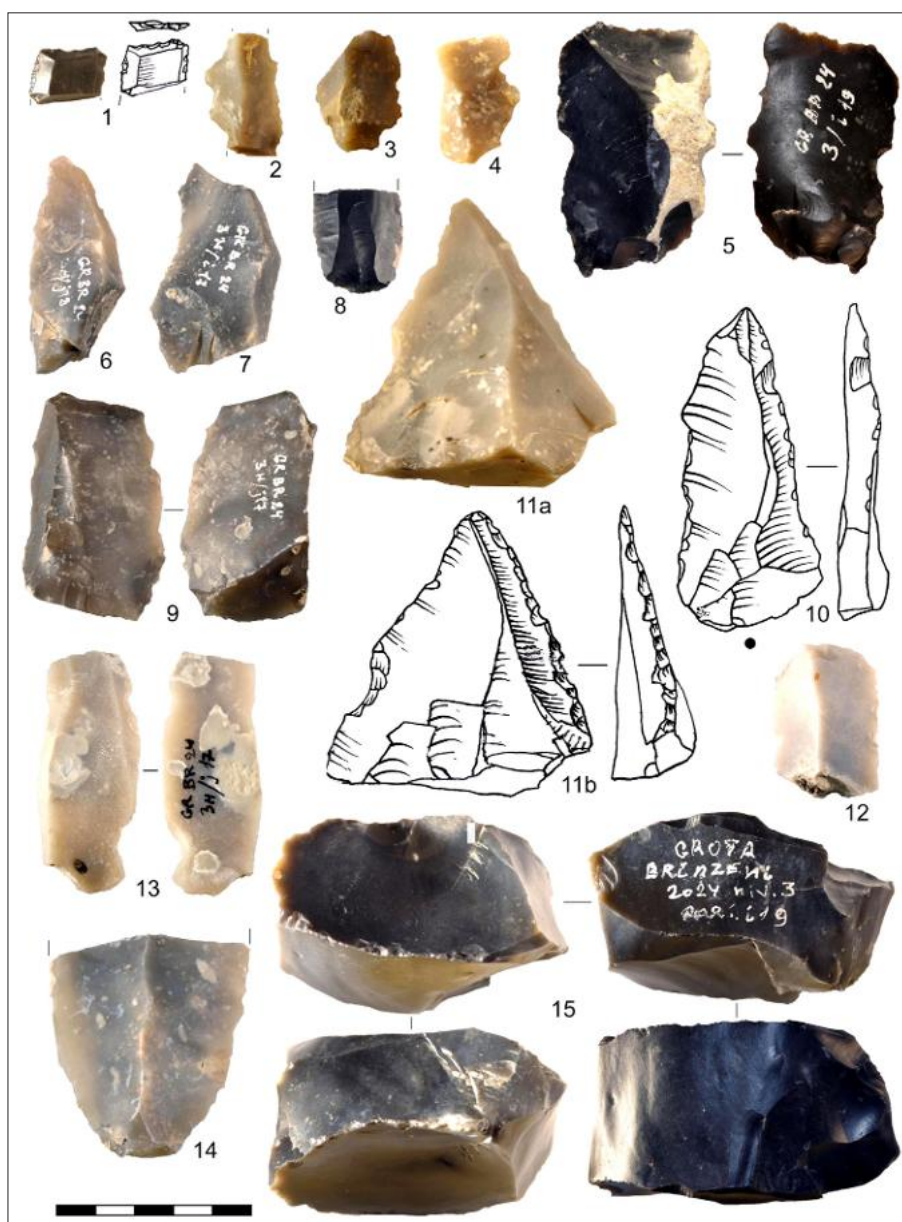


Рис. 15. Кремневые изделия из третьего культурного слоя. Молдавский селет. 1 – фрагмент тронкированной пластины; 2-5 – зубчато-выемчатые орудия; 6-7, 9 – ножи с обушком; 8, 10, 12-14 – ножевидные пластины; 11a-b – комбинированное орудие; 15 – нуклеус из черного прутского кремня.

Fig. 15. Flint products from the third cultural layer. Moldavian Selet. 1 – fragment of truncated plate; 2-5 – serrated-notched tools; 6-7, 9 – knives with a back; 8, 10, 12-14 – knife-shaped plates; 11a-b – combined tool; 15 – core made of black Prut flint.

выделено на лезвии двумя выемками, образующих чешуйчатыми фасетками. Более определенно скребком *à museau* можно назвать третий экземпляр (рис. 13,3) на мелком отщепе размером 32×25×5 мм. Выделенное с двух сторон полукруглыми чешуйчатыми фасетками «рыльце» выглядит симметричным, сам выступ несколько спрямлен и проработан крутой

ретушью. И, наконец, последний четвертый скребок подготовлен на полупервичном отщепе средних размеров. Слабо моделированное лезвие смещено с дистального конца вниз к краю, образуя угловой участок лезвия. Любопытно, что все четыре скребка обнаружены на одном квадрате – I/17. У двух скребков на отщепах ударные площадки предположитель-

но двугранные, а у образца на крупном сколе оживления она фасетированная.

В группе первоначально выделяемых острий (рис. 16,7-11,13-15,18-19) оказались два мустьерских остроконечника, одно сверло-развертка и одно атипичное острие. Два остроконечника подготовлены на достаточно крупных отщепах от 4,5 до 5,5 см, без правильной огранки спинки, со сходящимися к дистальному концу краями. Для вторичной обработки обоих остроконечников использовалась крупнофасеточная ретушь, в большинстве случаев преднамеренно нанесенная, формирующая зубчато-выемчатые очертания двух краев. Острие у обоих орудий скошенное, у более крупного остроконечника оно подготовлено по дуге с вентральной стороны, а противоположному прямому краю с дорсальной, но только вблизи самого острия (рис. 16,13а-б). Для второго остроконечника свойственно дополнительное применение крупной чередующейся ретуши и мелкой регулярной на всем протяжении краев (рис. 16,14).

Каждое из шести острий требует индивидуального рассмотрения. Первое и самое крупное из острий подготовлено на массивном сколе с неупорядоченной огранкой спинки. У его дистального естественно острого конца отмечена череда крупных фасеток, но только с одной стороны. Назвать этот предмет остроконечником мы не можем, так как заметная в настоящее время ретушь не имеет отношение к вторичной обработке, а является результатом утилизации (рис. 16,18). Более определенное представление у нас сложилось по поводу острия леваллуа, для которого использован отщеп подтреугольных очертаний, с конвергентной огранкой дорсальной поверхности, с крупной и гладкой отбивной площадкой. По обоим краям этой находки наблюдается достаточно интенсивная ретушь утилизации, иногда образующая мелкие неглубокие выемки типа *encoche*. Его размеры – 50×30×10 мм (рис. 16,19). Следующие два острия выполнены на удлинённых сколах, у которых проксимальный конец утрачен, а само острие выделено посредством мелкозубчатой ретуши с двух сторон. Еще одно острие на массивном краевом сколе имеет короткое жальце, скошенное посредством одной небольшой выемки

(рис. 16,15). И, наконец, последнее из группы острий, с клювовидным расположением лезвия подготовлено на пластине, обработанное у самого острия притупляющей ретушью, как по дистальному концу, так и прилегающему участку края.

Сверло-развертка (рис. 16,12) произведена на удлинённом массивном сколе, на сохранившемся дистальном конце которого заметна противолежащая ретушь. Предварительно мы выделяем и острие (?) на проксимальном конце мелкого отщепа.

Оставшиеся изделия со вторичной обработкой представлены в обломках, в их числе два дистальных конца, три проксимальных конца с крупнофасеточной полукрутой ретушью, одно сечение пластины с интенсивным ретушным износом с брюшка, что позволяет этот предмет относить к вкладышам-вставкам.

Третий культурный слой. Нижняя часть культурных напластований. Заключение

Кремневые артефакты из всех четырех горизонтов, залегающих под эпиграветским горизонтом третьего культурного слоя, обладают четко выраженными селетоидными признаками, включая весомую долю мустероидных элементов в оформлении сколов-заготовок, общей конфигурации и специфике износа, а также в распространении верхнепалеолитических элементов, заметных по расширенному производству пластинчатых сколов, прежде всего, пластин и пластинок, весомой доли среди изделий с вторичной обработкой резцов и предметов с резцовым сколом, присутствию редких граветтоидных пластинок.

К мустероидным элементам, проявившимся в коллекции кремневых изделий из селетоидных горизонтов третьего культурного слоя, можно отнести увеличение числа крупных сколов, напоминающих «лимонные дольки». Эта техника скалывания могла существенно менять облик индустрии не только памятников финального среднего палеолита, но и переходного типа, симбиотических памятников, где такого рода заготовки использовались для подготовки ножей с обушком.

Следующая выборка селетоидных изделий, определяющих индустриальный облик рассматриваемой коллекции, связана с при-

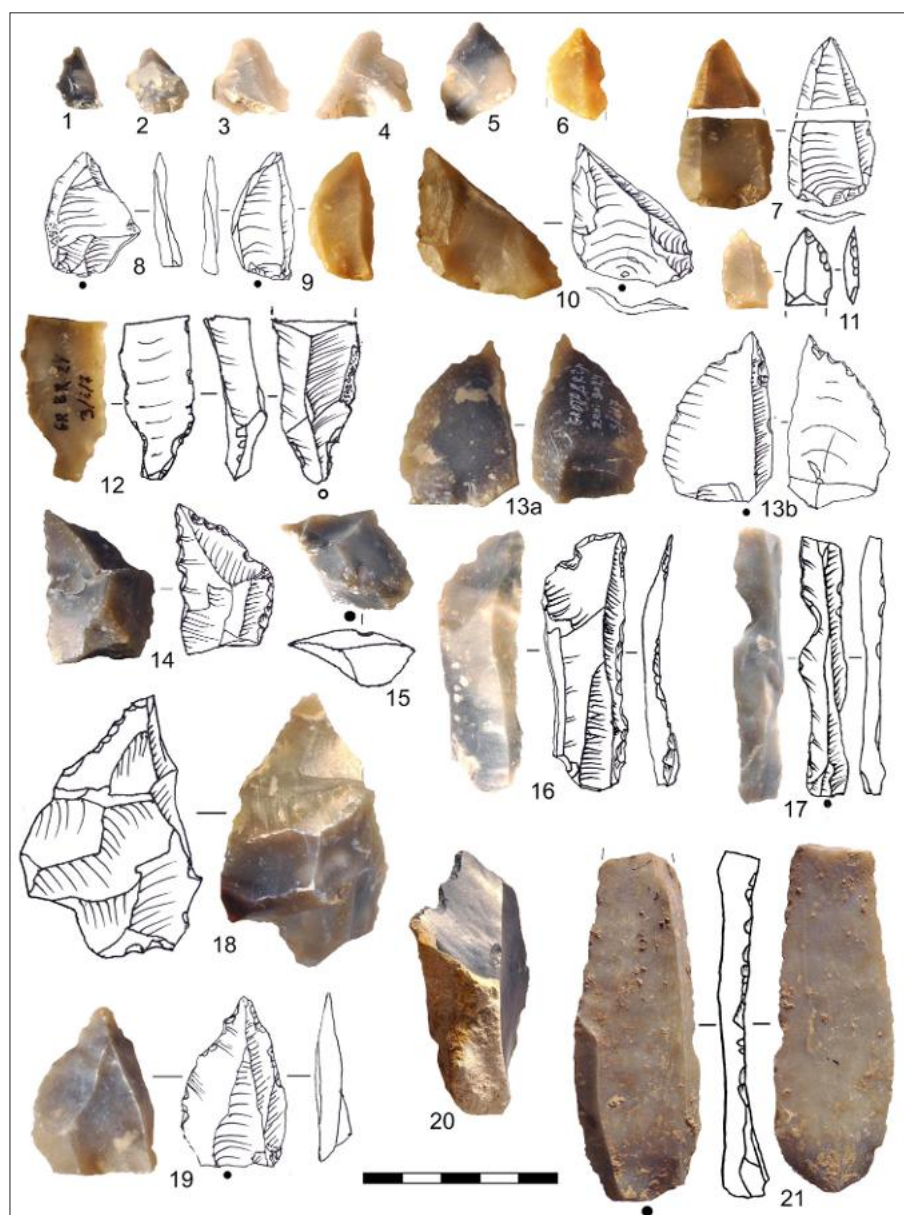


Рис. 16. Кремневые находки из третьего культурного слоя. Молдавский селет. 1-6 – мелкие подтреугольные сколы с конвергентной огранкой; 7-10, 19 – острия леваллуа и псевдолеваллуа; 11-15, 18 – острия, остроконечники, проколки, развертка; 16 – тронкированная пластина; 17 – ущемленная пластина; 20 – зубчато-выемчатое орудие; 21 – крупная ножевидная пластина.

Fig. 16. Flint finds from the third cultural layer. Moldavian Selet. 1-6 – small subtriangular spalls with convergent cutting; 7-10, 19 – Levallois and pseudo-Levallois points; 11-15, 18 – points, pointed ends, piercers, reamer; 16 – truncated blade; 17 – pinched blade; 20 – serrated-notched tool; 21 – large knife-shaped blade.

влечением в качестве заготовок для режущих орудий отщепов, напоминающих клетонские, то есть коротких, массивных, с очень крупной ударной площадкой и бугорком, часто подтреугольной формы и обязательно с неправильной огранкой спинки.

Используются отщепы и другого типа, с более правильной огранкой, образованной при конвергентном или радиальном снятии предшествующих сколов. Почти у всех разновидностей крупных отщепов наблюдается сильная выщербленность кромки, по нашему

мнению, не связанная с деятельностью человека. Её образование объясняется различного рода факторами природного характера. Вместе с тем, среди них все-таки встречаются отдельные артефакты с преднамеренно нанесенной вторичной обработкой.

В представленной коллекции кремневых артефактов изначально ожидалось появление орудий, свойственных верхнему палеолиту. Их оказалось немного, но они достаточно показательны, а типологический облик этих предметов указывает на их вероятную связь именно с начальной порой верхнего палеолита.

При осмотре находок из двух верхних селетоидного горизонтов в составе крупнообломочных напластований, показали присутствие у них сильных повреждений краевых участков. Сбитость кромки, самопроизвольное образование выемок как мелких, так и достаточно широких, формирование зубчатости, создающей впечатление о преднамеренности её нанесения. При этом зубчато-выемчатые повреждения выглядят так, как будто они были получены сравнительно недавно.

Парадоксально, но уже первая раскладка кремневого материала, сопоставимого с так называемым «мустьероидным прослоем» третьего культурного слоя создала впечатление некоего аналога уже рассмотренной коллекции кремневых находок, а именно материалов, связанных с «селетоидным прослоем». Мы были крайне удивлены, не выявив сколько-нибудь заметного отличия между ними и в изделиях с вторичной обработкой, и в характере этой обработки. Некоторые изменения прослеживаются лишь среди отщепов мустьероидного прослоя, увеличение среди них числа сколов со специфической ударной площадкой (фасетированной, натуральной или двугранной), а также возможного возрастания массы получаемых заготовок, прежде всего, за счет большего количества первичных и полупервичных сколов. Эта оценка носит, конечно же, субъективный характер, без проведения соответствующих замеров. Это же можно сказать и о конвергентной огранке, которая якобы в ходе раскопок мустьероидного прослоя фиксировалась несравненно чаще, чем это наблюдалось в селетоидном прослое. Определенное различие просматривается и по относитель-

ному числу пластинчатых сколов в обеих коллекциях, в частности присутствию меньшего числа обломанных по обоим концам пластин. Но этого, по нашему мнению, недостаточно для противопоставления двух коллекций и тем более соотнесение их с различными эпохами. Так или иначе, различие между двумя коллекциями вполне укладываются в рамки существующей между родственными индустриями и наборами инвентаря допустимой погрешности. По нашему представлению, нет оснований даже производить замеры и подсчеты индексов леваллуа, подправки, фасетирования, массивности и др. А это значит, что очередная попытка разделить селетоидную часть коллекции третьего культурного слоя как стратиграфически, так и технико-типологически, оказалась неудачной. Исходя из этого мы вынуждены рассматривать «молдавский селет» по Н.А. Кетрару, «ориньяк с бифасами» по И.А. Борзияку или «культуру Рипичень-Брынзень» по В. Кирикэ [Chirica *et all.* 1996, 175-184; Borzias *et all.* 2006, 213-232; Borzias 2008; Chirica, Bodi 2011, 124], как вполне реально существовавшие общности или технокомплексы начальной поры верхнего палеолита. Это первое заключение, которое можно сделать, основываясь на конкретном археологическом материале, полученном в ходе раскопок грота Брынзены в прошедшем году. А это позволяет рассматривать территорию Карпато-Днестровского региона в рамках единого процесса социально-хозяйственного развития, происходившего на пространстве Центральной и Юго-Восточной Европы в условиях смены антропологического состава населения на переходе от среднего к верхнему палеолиту.

Третий культурный слой. Изделия и поделки из кости и бивня мамонта

В 2024 г. помимо кремневых и песчаниковых артефактов в ходе раскопок были выявлены костяные и бивневые орудия, поделки, предметы неутилитарного назначения, а изделия из рогового сырья представлены всего лишь двумя небольшими обломками роговых стержней (рис. 17,12-13), предположительно, северного оленя. С третьим культурным слоем, прежде всего с его нижней частью, связаны

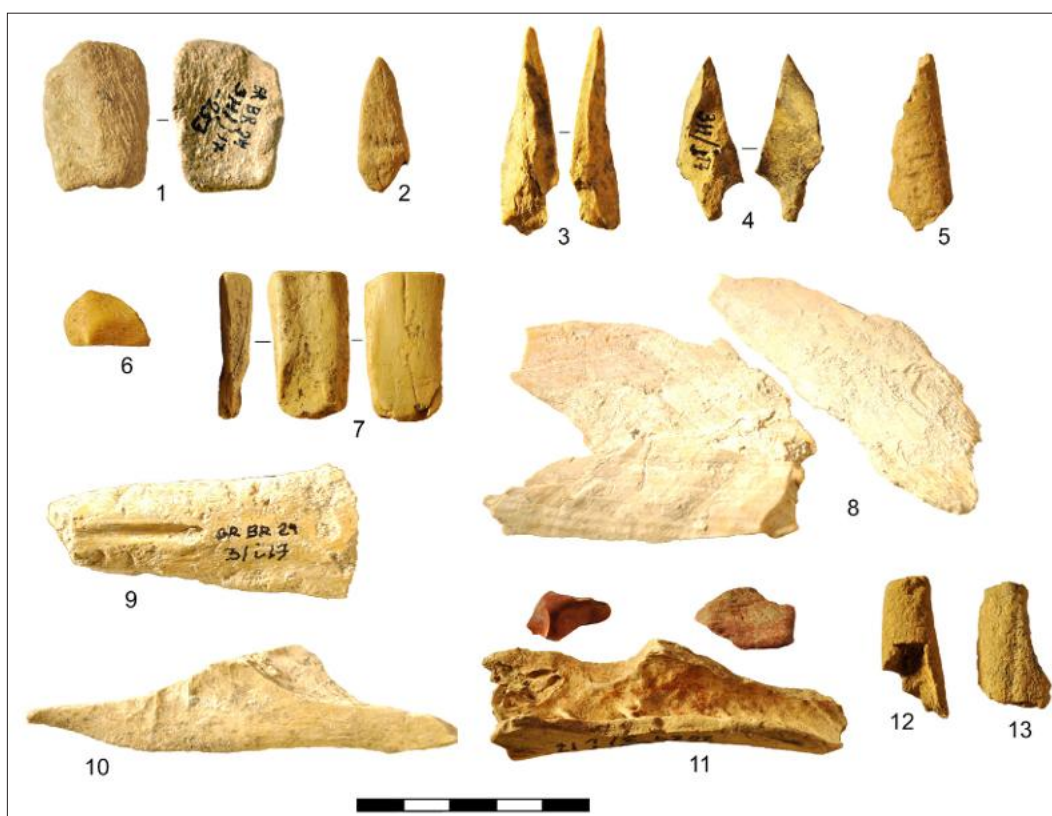


Рис. 17. Предметы из кости, рога и бивня из третьего культурного слоя. Молдавский селет: 1-13 – предметы из кости, рога и бивня.

Fig. 17. Bone, antler, and mammoth ivory artifacts from the third cultural layer. Moldavian Szeletian. 1-13 – artifacts made of bone, antler, and ivory.

восемь предметов, а в средней части выявлены девять находок. Учитывая наше заключение по кремневым артефактам, определивших отсутствие принципиально важных различий между условно выделяемыми селетоидным и мустье-роидным комплексами, мы решили не рассматривать костяные и бивневые находки отдельно. Тем не менее, излишней информации не бывает, и мы старались указывать, либо глубину залегания артефактов, либо его принадлежность к среднему или нижнему прослоям третьего культурного слоя. Всего индивидуальных находок из кости и бивня в 2024 г. было собрано 19 экземпляров, в их числе семь предметов использовались в хозяйственной деятельности. Среди них два резака из стенок трубчатых костей, обломанных таким образом, чтобы создать косой срез и подготовить рабочее лезвие. Размеры самого крупного из них $9 \times 4 \times 1,5$ см. Стёртость (сглаженность) его рабочей кромки очень высокая. Заполировка отсутствует.

Следующие два орудия крайне необычны. По нашему предположению, это шпателя по мягкому материалу (рис. 17,1). Крайне сильный износ всей поверхности этих орудий, подготовленных из небольших фрагментов трубчатых костей животных, вызывает удивление. Более того, эти предметы использовались без рукоятки. Могли ли они привлекаться для разглаживания швов, остается не ясным. Необходимы полноценные трасологические исследования. Размеры этих орудий $3 \times 1,5 \times 0,3$ и $3,5 \times 2,5 \times 0,4$ см. Как два резака, так и два шпателя обнаружены в нижней части третьего культурного слоя на кв. I-J/17. Для одного из шпателей зафиксирована глубина залегания в 253 см от 0.

Обращает на себя внимание находка продольно расколотой трубчатой кости, обнаруженной на кв. I/17, но несколько выше по уровню залегания, чем предшествующие предметы. Окрашенность красной охрой вну-

тренней части этой кости свидетельствует об её предназначении как некой ёмкости для временного размещения красящего вещества (рис. 17,11). Поблизости от этой находки выявлены два окатанных кусочка (сгустка) плотного красящего вещества в 1,5 и 2 см в поперечнике.

Более низкое расположение по уровню залегания в составе третьего культурного слоя имеет поделка из бивня мамонта или, если быть более точным, нижняя часть бивневой пластины (рис. 17,7), которая отсечена от основной части посредством прорезания пазов, определивших место излома. Вся поверхность этого предмета, его грани и края сильно сглажены, затерты, а лицевая сторона заполирована. Его размеры 3,4×1,9×0,7 см. Нижний конец этой поделки, противоположный обломанному, несколько закруглен, утончен, а на лицевой поверхности имеет короткие еле заметные насечки, расположенные хаотично, без какой-либо системы. Вторая бивневая находка не столь интересна. Это мелкий плотный отщеп до 2 см в поперечнике, без какой-либо огранки, но с четко выраженной ударной площадкой и бугорком (рис. 17,6)⁹. Из других бивневых находок, не имеющих признаков ка-

кой-либо обработки, обнаружены фрагменты четырех пластин, средняя длина которых 7-8 см (рис. 17,8).

В качестве производственного инвентаря могли использоваться и три шильца из обломков стенок трубчатых костей (рис. 17,2-4), у которых один из естественно острых концов преднамеренно заточен (пришлифован), но только с одной стороны. Эти миниатюрные орудия имеют длину от 3 до 4,7 см. Последние три индивидуальные находки представлены обломком толстостенной кости с утраченными эпифизами и со следами многочисленных поперечных погрызов (рис. 17,9), фрагментом лопатки мелкого животного, на одной из поверхностей которой «невооруженным глазом» заметны следы сработанности в виде множества мельчайших линейных бороздок, а также слабая залощенность (рис. 17,10). Для третьей находки использована мелкая трубчатая кость, вероятно, птицы, по краю которой прослежены короткие поперечные насечки (рис. 17,5), скомпонованные в один ряд, с почти равным промежутком между ними. Назвать последнюю находку «счетной палочкой», по нашему мнению, преждевременно.

9. Такой тип скола довольно распространен на верхнепалеолитических стоянках [Khlopachev 2006, 31-36, 49-133].

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Gvozdoва, not Hvozdiv. Uncovering the Moldovan origin of one frequently cited Mesolithic flint collection

Key words: Mesolithic, Kukrek culture, lithic collection, archival data, historiographical revision, Ukraine, Moldova.

Cuvinte-cheie: Mesolitic, cultura Kukrek, colecție de artefacte litice, date de arhivă, revizuire istoriografică, Ucraina, Moldova.

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Gvozdoва, not Hvozdiv. Uncovering the Moldovan origin of one frequently cited Mesolithic flint collection

This article focuses on a collection of lithic artefacts first described by V. Danylenko in his 1969 monograph as material found at the Hvozdiv site on the Southern Buh River (Vinnytsia Region, Ukraine) in 1956. Subsequently, researchers frequently cited this site as being associated with the Kukrek culture. However, recent field investigations, discrepancies between published and archival data, and inconsistent inscriptions on the artefacts cast doubt on the published origin of the collection. An alternative hypothesis was proposed and tested by identifying locations meeting specific criteria designed to resolve these contradictions. As a result, the collection's origin was linked to the Mesolithic sites investigated in 1956 near the village of Gvozdoва (Floresți District, Moldova) in the Răut River basin. Archival materials indirectly confirm that V. Danylenko brought the collection from Chișinău to Kyiv in May 1964. By extension, this study highlights the necessity of critically examining even long-standing academic assertions that may prove erroneous.

Dmytro Haskevych

Gvozdoва, nu Hvozdiv. Descoperirea originii moldovenești a unei colecții de silex din mezolitic, adesea menționată

Acest articol se concentrează asupra unei colecții de artefacte litice descrise pentru prima dată de V. Danylenko în monografia sa din 1969 ca fiind materiale descoperite în 1956 la situl Hvozdiv, situat pe malul râului Bug de Sud (regiunea Vinnytsia, Ucraina). Ulterior, cercetătorii au menționat frecvent acest sit ca fiind asociat cu cultura Kukrek. Cu toate acestea, investigațiile de teren recente, discrepanțele dintre datele publicate și cele de arhivă, precum și inscripțiile inconsistente de pe artefacte pun la îndoială originea publicată a colecției. O ipoteză alternativă a fost propusă și testată prin identificarea locațiilor care îndeplinesc criterii specifice menite să rezolve aceste contradicții. Ca rezultat, originea colecției a fost legată de siturile mezolitice investigate în 1956 în apropierea satului Gvozdoва (raionul Floresți, Moldova) din bazinul râului Răut. Materialele de arhivă confirmă indirect faptul că V. Danylenko a adus colecția de la Chișinău la Kiev în mai 1964. Prin extensie, acest studiu subliniază necesitatea examinării critice chiar și a afirmațiilor academice de lungă durată care s-ar putea dovedi eronate.

Introduction

Over half a century ago, Valentyn Danylenko proposed that the Neolithisation of large areas of Ukraine and Moldova resulted from the spread of populations associated with the Kukrek culture from the Azov region in the 7th millennium BCE [Danilenko 1969]. Subsequent studies supported and further developed this interpretation linking the emergence of the Kukrek cultural complex to broader population movements and/or cultural transmission from the Near East via the Caucasus into the Pontic region throughout the Early Holocene [Domańska 1990, 24-29; Man'ko 2013, 90-118]. Conversely, an alternative approach emphasises the local Upper Palaeolithic origin of Kukrek lithic technology in the North Pontic region and Crimea [Stanko 1982, 112-115; Telegin 1982, 118;

Ianevich 1987, 16-17; Zalizniak 1995, 8; 1998, 180]. The trend towards distinguishing stages and regional variants of the Kukrek technocomplex [Stanko 1982, 115; Telegin 1982, 98-119; Ianevich 1987] has recently been further developed [Kiosak et al. 2022]. Consequently, the "Kukrek problem" remains unresolved, necessitating continued focus on individual regions and sites.

On the Southern Buh River, flint assemblages with distinct Kukrek traits have been identified alongside pottery of the Buh-Dniester sub-Neolithic culture (BDC). Such associations are documented at Melnychna Krucha, Pechera-1, Pechera-2, Haivoron-Polizhok, Mytkiv Ostriv, Gard, and Nova Mykolaivka-1, as well as in the aceramic lower layer of Zankivtsi II [Danilenko 1969; Gaskevich 2005; Gaskevich 2006]. However,

recent fieldwork, radiocarbon dating, and stratigraphic reassessments suggest that at least some Kukrek assemblages in the region date – or may potentially date – to the Mesolithic (pre-ceramic) period, predating the 6th millennium BCE [Kotova 2003, 131-133; Gaskevich 2014; Kiosak, Salavert 2018].

For decades, the sites of Hvozdiv, Abuzova Balka, and Konetspil were considered the only genuinely aceramic (i.e., strictly Kukrek) sites on the Southern Buh River. The latter two, located at the boundary between the steppe and forest-steppe zones, have each been detailed in separate publications [Fomenko 1979; Stanko et al. 1981]. In contrast, surprisingly little is known about the site near the village of Hvozdiv (Vinnytsia District¹, Vinnytsia Region) or its finds, despite their frequent citation as the northernmost occurrence of Kukrek flint in the region. To address this gap, this study provides the first comprehensive account of the quantitative and typological composition of the cited lithic assemblage, along with unexpected conclusions regarding its provenance.

1. History of research

1.1. Field investigations in 1956

Pavlo Khavliuk discovered the Hvozdiv site in 1956. In his field report, the site is described in just three sentences: “*In the tract ‘Polih’, 500 m from the village of Hvozdiv, Nemyriv District, Vinnytsia Region, upstream along the Buh River near the rapids, flint blades, flakes, and animal bones are found on the above-floodplain terrace. On the opposite bank of the river, several flint blades and flakes are also found. Pottery is absent*”. The field inventory includes only four finds from Hvozdiv – a “flint hammerstone” and three “flakes”. According to the accompanying documentation, the finds from the site, along with the field report, were transferred on 30 December 1956 to the Institute of Archaeology of the Academy of Sciences of the Ukrainian SSR in Kyiv [Khavliuk 1956, 1, 5, 6, 10].

1.2. Mentions in publications

In archaeological publications, the site is first briefly mentioned as “Gvozdev” (Russian: Гвоздев) in an article by P. Khavliuk [1959, 171] in a list of sites he discovered in 1956-1957. Citing

1. Formerly part of Nemyriv District (prior to July 2020).

this article, it appears as a single-line entry representing a settlement of the BDC in the published list of archaeological sites in Ukraine [Telegin (ed.) 1966, 40].

The Hvozdiv site became widely known when V. Danylenko briefly described its location and the composition of the assemblage in two paragraphs of his 1969 monograph “Neolithic of Ukraine”. In particular, he noted: “*The settlement near the village of Gvozdevo (Russian: Гвоздево – D.H.), Shpykiv District², Vinnytsia Region, discovered and investigated by P.I. Khavliuk in 1956, (...) like other settlements of the Neolithic period in this area, is located not on the loess terrace of the Southern Bug, but on its above-floodplain terrace. (...) The collection from Gvozdevo (...) includes a number of distinctive forms: small prismatic cores, microblades, small rounded scrapers on flakes, angle burins on blade, some with ventral flat retouch similar to that observed on a cutter (Russian: прорезыватель – a tool defined by V. Danylenko as approximately corresponding to the Kukrek-type insert – D.H.), the cutters themselves, and finally a miniature elongated trapeze similar to some of Vasylivka ones*” [Danilenko 1969, 61].

Subsequently, the published overview of Mesolithic sites in Ukraine by Dmytro Telehin briefly repeated information from V. Danylenko’s monograph [Telegin 1985, 112]. In addition, Hvozdiv is marked on maps and/or is briefly mentioned as a site of the Kukrek culture in publications by Viktor Fomenko [Fomenko 1979, 50], Dmytro Telehin [Telegin 1982, 84, ris. 20], Volodymyr Stanko [Stanko 1982, 114], Svitlana Smolianinova [Smol’ianinova 1990, 15, 66, 71], Leonid Zalizniak [Zalizniak 1995, 6, ris. 1; 1998, 144, 179; 2004, 4, 13, ris. 1; 2005, 147; Zalizniak et al. 2013, 253-254, ris. 35; 2016, 12], and other researchers. However, none of them provided precise data on the size and typological composition of the assemblage, with published illustrations restricted to only three artefacts (core, trapeze, and burin) in S. Smolianinova’s monograph [Smol’ianinova 1990, 58, ris. 22: 41, 44, 45].

1.3. Field Investigations in 2005

The author visited the Hvozdiv site in 2005. It is located on the left bank of the Southern Buh

2. In fact, the village of Hvozdiv was not part of Shpykiv District, which was dissolved in 1962.

River, on a meadow within the high floodplain between a river rapids and the northern outskirts of the village of Hvozdiv. The meadow lies 3-4 m above the summer water level. Finds of the BI phase of the Trypillia culture were collected from molehills in the northern part of the meadow (locality “a”) and from the riverbank scarp at its southern edge (locality “b”). The distance between the outermost findspots is approximately 400 m.

Locality “a” corresponds to the site location described by P. Khavliuk. Surface finds include animal bone fragments and a subtriangular dart point with a straight base. The point is made of high-quality, semi-translucent dark grey flint with small white inclusions and features flat bifacial retouch. At locality “b”, a small fragment of a thin-walled, burnished black ceramic vessel decorated with fluting was found, alongside a massive short crested blade of light grey opaque flint and animal bone fragments.

Thus, the recent survey of Khavliuk’s site yielded no diagnostic Mesolithic material. However, the precise distance from the village and proximity to the rapids, noted in the 1956 report, preclude the possibility of a location error. This identification of locality “a” is further confirmed by Khavliuk’s mention of an unnamed findspot of flint blades and flakes on the opposite bank. The author’s fieldwork has confirmed the presence there of the BDC site, recorded as “Nova Mykolaivka-1” [Gaskevich 2006, 116-118].

1.4. Doubts regarding the provenance of the Kukrek collection

The rather unexpected results of the 2005 survey prompted a closer examination of mentions of Hvozdiv and the materials from the 1956 investigations. The analysis found no evidence linking P. Khavliuk’s Hvozdiv site to the collection published by V. Danylenko as originating from there. Given its unclear provenance, the scholarly use of this collection was previously advised against [Gaskevich 2012].

Suspensions that Danylenko’s collection was artificially assembled have so far precluded its publication. Nonetheless, efforts to determine its true provenance continued until a connection with Moldova was established. The following sections of this paper provide a detailed argumentation of this conclusion, including a description of

the finds, identified contradictions, a hypothesis linking the collection to a site other than Hvozdiv, and the methodology and results of the search.

2. Composition of the two 1956 assemblages

At present, two groups of finds associated with the 1956 investigation of the Hvozdiv site are held at the Institute of Archaeology of the National Academy of Sciences of Ukraine (IA NASU). For clarity, they are hereafter conventionally referred to as the “first assemblage” and the “second assemblage”.

2.1. The first assemblage

The first assemblage, comprising 13 flint artefacts, is housed in the scientific repository of the IA NASU. Together with other materials from P. Khavliuk’s 1955 and 1956 survey, it forms Collection No. 332.

The assemblage includes all four numbered finds recorded in the field inventory: a core-like retoucher (recorded as a “hammerstone”); a single-platform core with flake scars, secondarily used as a retoucher; an irregular core for flakes; and a flake with use-retouch (the latter three recorded as “flakes”). In addition to their inventory numbers, two of these artefacts bear the inscription “Гвозд.”, which is transcribed as “Hvozdz” from Ukrainian or as “Gvozdz” from Russian, while another is marked “Гвоздів” (the clear Ukrainian spelling of the toponym “Hvozdiv”). All four numbered artefacts also carry a second inscription, written in Russian: “Ю. Буг, Гвоздев, 1956” (Yu. Bug, Gvozdev, 1956). The same inscription appears on three unnumbered items: a flake with a retouched notch, a distal blade fragment, and a fragment of an indeterminate blank. The remaining six finds – two proximal blade fragments (one bearing flat ventral retouch), three flakes, and one unmodified small flint pebble – are unmarked.

Seven inscribed artefacts represent three groups of flint. The first comprises four specimens. Two of them were made of high-quality, translucent black flint featuring large, sinuous, grey opaque patches and sparse, small, light inclusions. Two further artefacts, made from a predominantly opaque mottled raw material ranging from very light grey to pale yellow. They likely represent the subcortical zone of the same concretions, because these exhibit sharply defined areas

of dark grey translucent flint with sparse light inclusions.

The second group consists of two finds made from opaque grey and light-grey flint lacking visible inclusions.

Finally, a single-platform core was produced from a semi-translucent, dark greyish-brown flint containing numerous light opaque inclusions.

It appears that the first assemblage broadly corresponds, in both quantitative and qualitative terms, to the 1956 field report. Its finds are weakly diagnostic and thus compatible with both Mesolithic and Trypillia flint industries (including the possibility that some artefacts originate from the BDC site of Nova Mykolaivka-1).

2.2. The second assemblage

The second assemblage, which includes the diagnostic Kukrek flint artefacts described by V. Danylenko, is housed in the Department of Stone Age Archaeology at the IA NASU. There is no field or curatorial documentation associated with it. Consequently, the completeness and state of preservation of this assemblage remain unclear.

Since the author's first examination in 2001, this assemblage has consisted of 33 flint artefacts and two small, undecorated body sherds of ceramic vessels. Twenty-six flint artefacts bear the inscription "Гвозд.-56 г." (Gvozd.-56 g.), while seven additional flint artefacts and both ceramic sherds are marked "ст. Гвозд.-56 г." (st. Gvozd.-56 g.). They are written in Russian, as indicated by the abbreviation "г." (for "god", meaning "year") but not "р." (for the Ukrainian "rik").

The assemblage contains four cores: one single-platform conical core with circular flaking (fig. 1,19), two single-platform cores with removals covering two-thirds of the platform perimeter (fig. 1,16,17), and one single-platform unidirectional end core (fig. 1,18). All are miniature in size. The end core, bearing negatives of short bladelets, was exploited using direct percussion, whereas the others are pressure cores with negatives of microblades. The assemblage also includes one rejuvenation flake from a bullet-shaped core with circular flaking (fig. 1,15).

Unmodified blanks are represented by one microblade with a broken end, one proximal and two medial fragments of microblades, one complete bladelet, three medial and one distal frag-

ment of bladelets, two blades with broken ends, and two proximal fragments of blades.

The tool assemblage (15 items) comprises:

- one symmetrical elongated trapeze on a bladelet (fig. 1,1);
- two Kukrek-type inserts made on proximal fragments of a bladelet and a blade (fig. 1,2-3);
- eight scrapers: two end scrapers on proximal blade fragments; three end-side and one side scraper on flakes; and two end-side scrapers on fragments of indeterminate blanks (fig. 1,4-11);
- three multiple burins: one burin on three angles of a broken blade (fig. 1,12); one mixed burin on a flake, incorporating a dihedral angle burin and a transversal angle burin (fig. 1,14); and one flat-faceted mixed burin on a flake, incorporating a transversal concave-retouched burin, a transversal dihedral angle burin, and a burin on a break, as well as the wedge inherent in the chisel (fig. 1,13);
- one medial blade fragment with irregular, marginal lateral retouch.

The complete absence of unmodified flakes, fragments, and chips indicates that the assemblage was artificially sorted and lacks knapping debris.

Based on raw material, the lithic finds in the collection can be visually divided into three main groups. The largest comprises 28 artefacts made from flint that is semi-translucent on small fractures and ranges in colour from nearly black and dark grey to grey-yellow, very light grey, and pale greyish-yellow. It typically contains sparse, lighter opaque inclusions measuring from one to several millimetres. In some areas, these become finer and denser, forming a continuous mottled structure with reduced translucency. Several larger artefacts retain a semi-rolled chalky cortex, beneath which lies a thin brown layer, a grey-yellow to light-grey transition zone, and a dark, nearly black concretion core.

Two additional artefacts are made from opaque grey flint with a glossy, wax-like surface and no visible inclusions. Another end scraper was produced from semi-translucent, more granular, very dark grey flint with a rougher fracture surface and densely distributed minute light inclusions.

Two finds could not be assigned to a specific group. The first is an end scraper of rather Upper Palaeolithic appearance, partially covered by a thin bluish patina. It was produced on a massive semi-

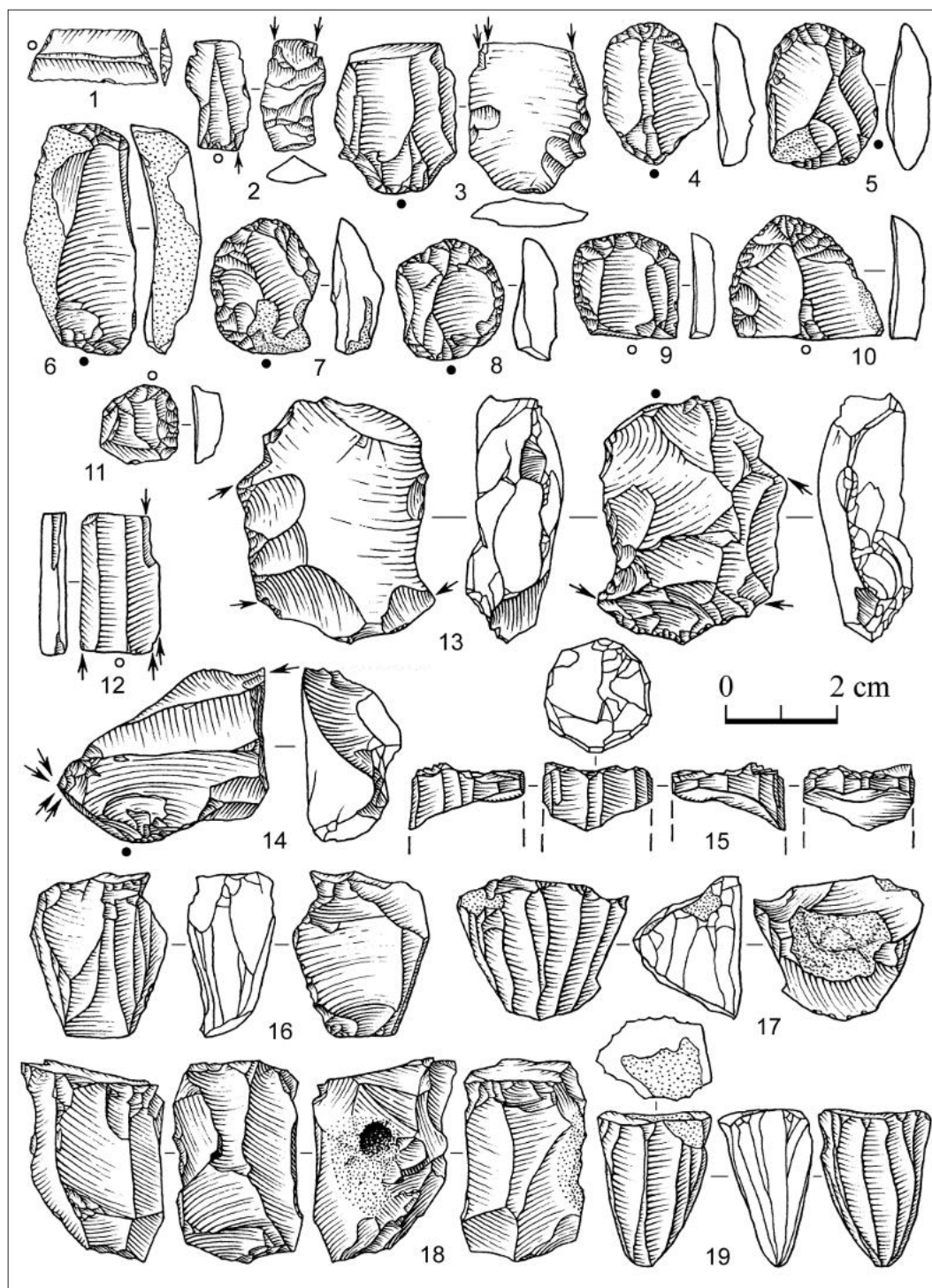


Fig. 1. Flint artefacts with the inscriptions “Gvozd. 56” and “st. Gvozd. 56” from the collection described in V. Danylenko’s 1969 monograph.

cortical blade with a rolled greyish-brown cortex (fig. 1,6). The second is a heat-altered core showing thermal cracking and loss of its original colour.

Two ceramic fragments are small, undecorated body sherds. The first, 3-5 mm thick, is made

of clay tempered with coarse sand and grit. Both surfaces are well smoothed; the exterior is brown, and the interior is dark greyish-brown. The second, 7-8 mm thick, is manufactured from clay tempered with sand and coarse grit (up to 5 mm).

The exterior surface is well smoothed and dark pink, while the interior is rough and dark greyish-brown. With due caution, this pottery may be attributed to the Late Bronze Age or Early Iron Age.

2.3. Absence of a connection between the two assemblages

Aside from unmodified blades, none of the artefacts from the second assemblage correlates with the Hvozdiv finds recorded in P. Khavliuk's field report. Nevertheless, is it possible to assume that the materials published in Danylenko's monograph were collected by P. Khavliuk at the same site in 1956?

The history of the scientific repository as a distinct department within the IA NASU began only in the early 1970s. Before this, the institution's collections of finds lacked formal inventories and systematic oversight [Burdo, Son 2007, 6]. Consequently, had the Hvozdiv assemblage been divided into two parts in the 1950s-1960s, each of them could have followed an independent trajectory. This possibility is supported by the fact that both assemblages include flint artefacts made from similar raw materials. However, as the described flint varieties are predominant across all prehistoric sites in the region, this argument cannot be regarded as conclusive.

On the other hand, had the two assemblages once formed a single collection, it is improbable that such attractive and easily identifiable artefacts as scrapers, a conical core, and a trapeze would have escaped P. Khavliuk's attention and been omitted from his field report. Furthermore, the report makes no mention of the two ceramic fragments present in the second assemblage. Finally, both the content and handwriting of the inscriptions on the artefacts differ between the two assemblages. The language of the inscriptions is also distinct: while the first assemblage contains both Ukrainian and Russian, the second features Russian exclusively.

The problematic provenance of the second assemblage is also indicated by discrepancies in the site names within V. Danylenko's monograph. Specifically, in addition to the previously cited passage, when outlining the distribution of the "Azov-Kukrek impulse", he mentions two Kukrek sites in the Southern Buh area: Syniukhyn Brid and Vorob'evka [Danilenko 1969, 28]. "Vorob'evka" is evidently the Russian form of "Vorobiivka", the

name of a village situated on the left bank of the river, immediately upstream from Hvozdiv. The distance from the southern outskirts of Vorobiivka to locality "a" of the Hvozdiv site is 2.7 km.

According to the 1956 field report, P. Khavliuk collected "several flint flakes and a large broken fragment of developed Neolithic pottery without decoration" on an eroded floodplain 300 m from the northern outskirts of the Vorobiivka village [Khavliuk 1956, 5]. Currently, the corresponding pottery fragment and eight flint artefacts are held in Collection No. 332. None of these finds is diagnostic of the Kukrek culture. Consequently, V. Danylenko used the name "Vorob'evka" as an alternative toponym for the provenance of the second assemblage, which in his monograph is described exactly after the finds from the Syniukhyn Brid site [Danilenko 1969, 61].

Further doubts arise from the two distinct variants of inventory inscriptions found on the materials of the second assemblage, specifically the marking "st. Gvozdz.". The abbreviation "st." may derive from the Ukrainian or Russian words "staryi" (old) or "stantsiia" (station). The latter interpretation appears more plausible, as it is consistent with the inscription "st. Samchyntsi" on finds from the Stantsiia Samchyntsi site, also identified during the 1956 survey [Khavliuk 1956, 5-6, 11, 16] and later published as Samchyntsi II [Danilenko 1969, 118].

According to the official website of the *Verkhovna Rada* (parliament) of Ukraine (<https://www.rada.gov.ua/zakon/new/ADM/>)³, no settlement named "Staryi Hvozdiv" currently exists or has previously existed in the Vinnytsia region. Similarly, data from the *Ukrzaliznytsia* (Ukrainian Railways) website (https://uz.gov.ua/passengers/suburban_train_schedule) indicate no railway station or halt named "Hvozdiv" within the region or elsewhere in Ukraine. Furthermore, while the Samchyntsi II site is located just a few hundred metres from a railway line, the Hvozdiv site lies over 13 km from Shpykiv, the nearest station.

These discrepancies call into question the association of the second assemblage with P. Khavliuk's 1956 investigations at Hvozdiv and Vorobiivka. Consequently, establishing the true provenance

3. Following the full-scale invasion of Ukraine by the Russian Federation in 2022, access to these web pages has been temporarily suspended.

of these materials remains a pressing issue.

3. Ascertaining the provenance of the collection published by V. Danylenko

To address the problem of the provenance of the Kukrek flint collection described by V. Danylenko, a hypothesis was proposed regarding the existence of a site meeting a set of conditions that resolve the identified contradictions.

3.1. Search criteria

The hypothetical site in question must meet the following five criteria.

1. Its name contains a word beginning with the five-letter Cyrillic sequence “Гвозд” or “Гвізд” (possible transliteration: Hvoz, Gvoz, Hvizd, Gvizd). The latter spelling, although different from the form on the inscriptions, represents the root of many Ukrainian words corresponding to the Russian root “Gvoz”. This is important, since, as a result of widespread Russification in Ukraine, almost all official documentation was written in Russian in the 1950s.

2. The site was investigated in 1956.

3. It is located near a railway station or a halt, the latter is also often referred to as a “station” in common usage.

4. It lies within the distribution area of the Kukrek flint industry.

5. It lies within the distribution range of artefacts made from varieties of flint raw material characteristic of Mesolithic and sub-Neolithic sites located in the forest-steppe Buh region.

3.2. Search methodology

To identify place names (oikonyms) containing the roots “Гвозд” and “Гвізд”, the previously mentioned official website of the *Verkhovna Rada* of Ukraine, atlases of the former and current administrative-territorial structure of Ukraine, as well as *Google Earth* search tools were used. To identify a broader range of toponyms, including hydronyms, printed dictionaries, as well as online search tools were consulted.

To identify archaeological sites with corresponding names investigated in 1956, all available publications were analysed, including printed catalogues of archaeological sites in Ukraine and its individual regions [e.g., Telegin (ed.) 1966; Gudkova *et al.* 1991], as well as documentation from the Sci-

entific Archive of the IA NASU (Kyiv), the largest repository of field reports from expeditions operating in Ukraine since 1945. In particular, it holds reports on the work of 41 expeditions in 1956 and 39 expeditions in 1957. The latter were also examined, as it was common practice to combine the results of several years of research in a single report.

Railway stations and halts were searched using the aforementioned *Ukrzaliznytsia* website.

The distribution area of the Kukrek culture was defined on the basis of the occurrence of sites with Kukrek inserts – artefacts regarded by most archaeologists as the principal diagnostic feature of the Kukrek flint industry. In Ukraine, such finds are absent only in the north-east (Sumy, Kharkiv, and Chernihiv Regions), as well as in the west and north-west (Zakarpattia, Ivano-Frankivsk, Ternopil, Lviv, Volyn, Rivne, and Khmelnytskyi Regions). Accordingly, these territories were excluded from the search range.

Unfortunately, the sources of the flint raw materials characteristic of Mesolithic and sub-Neolithic sites in the forest-steppe Buh region have not yet been precisely identified [Stanko *et al.* 1981, 6-7; Kiosak 2019, 55-57]. Under these circumstances, a more effective approach to defining the distribution area of these flint varieties is to exclude from the already curtailed search range those territories where clearly attributed specific types of flint were used. Accordingly, the search excluded the Donets River Basin, the Azov region, the southern Left-Bank Middle Dnipro area, the Lower Dnipro, and Crimea (Luhansk, Donetsk, Zaporizhzhia, Kherson, Dnipropetrovsk, and Poltava Regions, and the Autonomous Republic of Crimea), where high-quality semi-translucent Donets flint, as well as flint from the second ridge of the Crimean Mountains and small Dnipro alluvium flint pebbles predominate.

3.3. Search results

In addition to the mentioned Hvozdiv in the Vinnytsia Region, the specified linguistic criteria are also met by seven other villages within the previously defined geographical boundaries in Ukraine (fig. 2).

Hvozdiv (Russian: Gvozdev) in the Obukhiv District, Kyiv Region, 5.7 km from Pidhirtsi station.

Hvizdiarnia (until 1965 – Hvozdiarnia; Russian: Gvozdiarnia) in the Zhytomyr District, Zhy-



Fig. 2. Locations of the Hvozdiv and Gvozdoва sites, as well as nowadays settlements: 1 – Hvozdiv; 2 – Hvizdiarnia; 3 – Hvizdava; 4 – Hvizdivtsi; 5 – Hvozdavka Persha; 6 – Hvozdavka Druha; 7 – Hvozdivka. Regions matching the specified criteria are highlighted in full colour.

tomyr Region, 14.5 km from Razine station.

Hvizdava (Russian: Gvozdoва) in the Berdychiv District, Zhytomyr Region, 4.5 km from Reia station.

Hvizdivtsi (Russian: Gvozdoवtsy) in the Dnistrovskiy District, Chernivtsi Region, 4 km from Sokyriany station.

Hvozdavka Persha and Hvozdavka Druha (Russian: Gvozdoва Pervaia and Gvozdoва Vtoraia) in the Podilsk District, Odesa Region, 5 and 4 km from Zaplavy station, respectively.

Hvozdivka (Russian: Gvozdoва) in the Berезivka District, Odesa Region, 33 km from Tokarivka station.

The 161 field reports on the work of 80 expeditions⁴ operating in Ukraine in 1956 and 1957 are held in the Scientific Archive of the IA NASU (Fond 64). Only 45 of these expeditions operated in

the regions that satisfy the established geographical criteria. After excluding excavations at hillforts, barrows, cemeteries, and ancient cities, the number of relevant expeditions was reduced to 27. An examination of the 36 reports produced by these expeditions revealed no references to sites whose names could have been abbreviated to “Gvozd.” Nor do these reports mention work in the vicinity of the seven previously identified villages.

A targeted search for published mentions of archaeological sites in the vicinity of the seven listed settlements yielded only one result: a multi-component site discovered in the village of Hvozdiv, south of Kyiv, in the 1980s [Petrashenko, Kozuba 1993, 27].

The search for railway station and halt names yielded only one result – Hvizdets station on the Zalishchyky-Kolomyia line, located in the eponymous village in Ivano-Frankivsk Region beyond the distribution range of the Kukrek flint industry.

4. A single expedition often resulted in multiple reports, submitted by separate detachments or individual researchers.

The absence of relevant results for archaeological sites meeting the established criteria within Ukraine prompted a shift in focus to the Republic of Moldova, where sites of the Kukrek technocomplex are also known. A targeted search there identified only one oikonym containing the root “Gvozd”: the village of Gvozdova (Russian: Gvozdovo), situated on the Camenca River (a left tributary of the Răut) in the commune of Gura Camencii, Florești District. This locality fully meets all other criteria. In particular, the Gura Camencii railway halt is located 1.5 km from the historical centre of the village and only 500 m from its current southern outskirts (fig. 3). At least one site attributed to the Mesolithic period is known in the vicinity of the village. Most importantly, Vsevolod Markevich and Oleksandr Chernysh surveyed Stone Age sites in this area in 1956 [Chernysh 1959, 210; 1973, 98-99; Ketraru 1969, 25, 84-85; 1973, 118].

4. Verification of the Moldovan provenance of the collection

The striking convergence of toponymic, geographical, and chronological criteria identifies the area around the village of Gvozdova in Moldova as the most likely place of origin of the collection of finds inscribed “Гвозд.-56 г.”. However, a firmer conclusion requires further verification and, if

possible, the identification of a link between the collection and a specific archaeological site.

4.1. The Kukrek culture sites in the Răut River Basin

The investigation of the cluster of Mesolithic sites in the area of Florești was initiated by V. Markevich in 1954, when he was employed as a senior forester at the Florești forestry district. He continued the systematic collection of Stone Age materials in this microregion in 1955-1960, concurrently with his studies in history at Chernivtsi University. During this period, he closely collaborated with the Moldavian Expedition led by Tatiana Passek, which investigated Neolithic and Trypillian sites in the Dniester region [Manzura, Tserna 2003-2004]. The expedition team also included Nicolae Chetraru from Chișinău and Oleksandr Chernysh from Lviv.

In 1956, V. Markevich and O. Chernysh conducted surface collections of archaeological materials at numerous locations near the villages of Vărvăreuca, Gvozdova, Gura Camencii, and Bobulești. The following year, N. Chetraru and O. Chernysh revisited these locations while conducting excavations at the Mesolithic Kukrek culture site of Frumușica I [Reilianu 2003-2004, 10]. Subsequently, N. Chetraru and V. Markevich conduct-

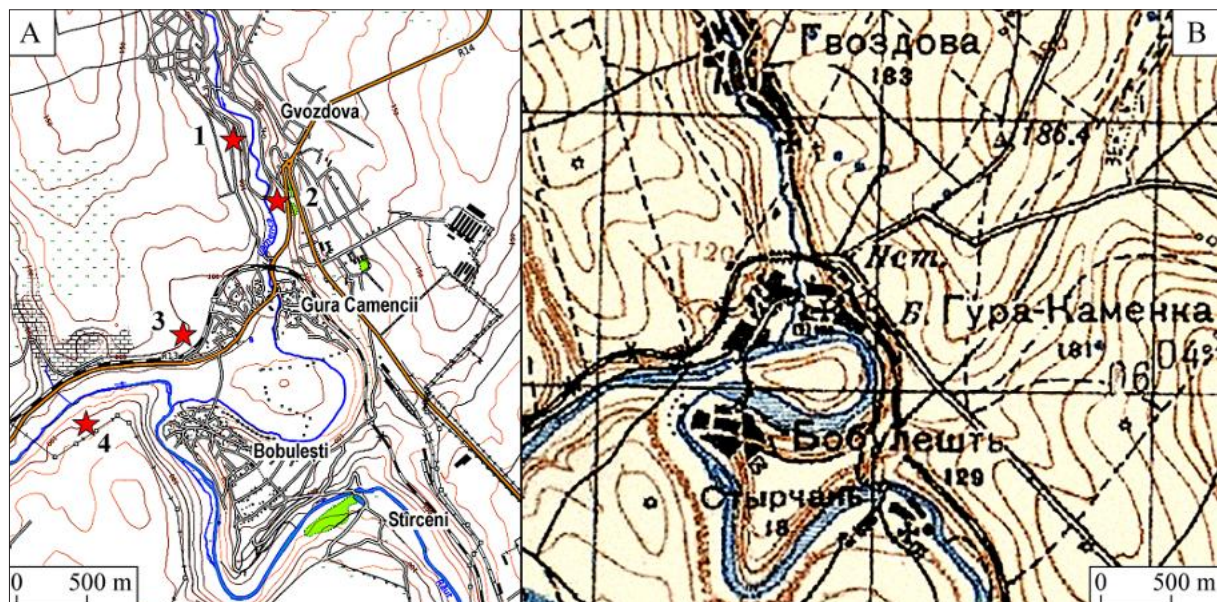


Fig. 3. The area around the mouth of the Camenca River on topographic maps: A – modern (<https://www.opentopomap.org/>); B – 1940. Stars indicate the sites mentioned in the text: 1 – Gvozdova right-bank Palaeolithic site; 2 – Gvozdova left-bank Palaeolithic site; 3 – Gura Camencii VI; 4 – Vărvăreuca IX. Location of the sites after N. Chetraru [Ketraru 1969; 1973].

ed both independent and joint research in this area.

Three Stone Age sites bearing names associated with the village of Gvozdova are mentioned in the records. According to O. Chernysh, later repeated by N. Chetraru in 1973, these are the Upper Palaeolithic site Gvozdova I to the south of the village, the Upper Palaeolithic site Gvozdova II to the west of the church, and the Mesolithic site Gvozdova III on the northern outskirts of the village. The first and third are located on the left bank of the Camenca River, while the second lies on the right bank [Chernysh 1973, 98-99; Ketraru 1973, 118, 149]. However, an earlier publication by N. Chetraru refers to the Mesolithic site as “Gvozdova I”, and the two Palaeolithic sites as “Gvozdova II” and “Gvozdova III” [Ketraru 1969, 84]. The 1956 field report by T. Passek designates the site on the right bank as “Gvozdova I” [Passek 1956, 11].

Thus, there are at least three numbering schemes for the sites in the vicinity of the village. The confusion in the numbering, localisation, and dating of prehistoric sites in Florești District has been repeatedly noted by N. Chetraru [Ketraru 1969, 28; 1983, 3-4]. Therefore, in what follows, the sites near Gvozdova will be referred to as the “Mesolithic site”, the “right-bank Palaeolithic site”, and the “left-bank Palaeolithic site”.

The Mesolithic site of Gvozdova was discovered by V. Markevich in 1955. Its materials comprise 35 flint artefacts: two small, roughly bullet-shaped cores, an atypical trapeze, small blades and blade fragments (including specimens with retouch and traces of use), as well as flakes and debitage [Ketraru 1969, 84-85; 1973, 149].

Notably, according to N. Chetraru's publications, only part of the materials from the sites investigated by V. Markevich in the 1950s were handed over to him in 1960 [Ketraru 1983, 3]. As of 1973, these were held in the archaeology sector of the Institute of History of the Academy of Sciences of the Moldavian SSR, including the finds from the Mesolithic site of Gvozdova. In contrast, N. Chetraru did not specify the whereabouts of materials from sites investigated jointly by V. Markevich and O. Chernysh, nor did he provide descriptions of those specific finds [Ketraru 1973]. It seems that these collections remained inaccessible to Moldovan archaeologists. Unfortunately, information on the location of these materials is also absent from the works by O. Chernysh.

However, in May 2026, eight unsigned patina-covered flint artefacts bearing four-digit numbers were found in the scientific repository of the I. Krypiakevych Institute of Ukrainian Studies of the National Academy of Sciences of Ukraine in Lviv, accompanied by a paper label reading “Гвоздово I, 9/VIII, 56” (Gvozdovo I, 9/VIII, 56)⁵.

Currently, the National Museum of History of Moldova (NMHM) holds at least two collections of flint artefacts from the village of Gvozdova, documented photographically by Sergiu Bodian⁶. The finds in one collection are inscribed “Гв I” (Gv. I) and “Гвоздово I” (Gvozdovo I), without indicating the year. The inscriptions on the finds of the other collection are “Гвозд. II, 60” (Gvozdovo II, 60) and “Гвоздово II, 60” (Gvozdovo II, 60). Given the confusion in site numbering, these collections may relate to the Mesolithic site, the right-bank Palaeolithic site, or both. This is supported by a thick white patina, previously noted in descriptions of these two sites [Passek 1956, 11; Ketraru 1969, 85; Chernysh 1973, 99]. This characteristic excludes these sites as potential sources of the Kyiv collection, whose artefacts, with one exception, lack patina.

It is also noteworthy that a comparison of modern and historical maps is essential to determine precise distances. For instance, the 1941 Soviet military map (1:100,000 scale, Sheet L-35) places the halt closest to Gvozdova not on the north-western outskirts of Gura Camencii (as it is today), but on the opposite, left bank of the Camenca River (fig. 3B). Specifically, it was situated on the village's north-eastern edge, 150 m west of the Codrul Nou – Soroca road. From this historical halt, the distances to the Mesolithic and right-bank Palaeolithic sites are approximately 2 km and 1.2 km, respectively. The left-bank Palaeolithic site is the nearest, at roughly 0.6 km. Distances from the modern Gura Camencii halt to these sites are nearly identical: approximately 2.1 km, 1.2 km, and 0.8 km (fig. 3A).

Thus, the left-bank Palaeolithic site would have been considered the most plausible source

5. The author sincerely thanks the institute's research fellow, Ruslan Koropetskyi, for his assistance in searching for these materials.

6. The author sincerely thanks the museum's Director General, Eugen Sava, for his kind permission to take photographs, as well as Sergiu Bodian for valuable advice and for conducting the necessary on-site work.

for the Kyiv collection, being closest to the railway halt and having yielded finds described without mention of patina. However, publications indicate that only “*flakes, fragments, and scrapers*” were recovered there in 1956 [Chernysh 1973, 119], which contradicts the typological composition of the Kyiv assemblage.

Given the distinctly Kukrek character of the Kyiv collection, the materials most typologically similar to it near the village of Gvozdova derive from the Vărvăreuca IX and Gura Camencii VI sites in the Răut River valley, near the mouth of the Camenca River (fig. 3A). Both sites were investigated in 1956. The absence of patina on their artefacts [Ketraru 1969] further aligns them with the Kyiv collection. Notably, the distance from Gura Camencii VI to the present-day Gura Camencii railway halt does not exceed 0.5 km.

With respect to the raw material criteria, N. Chetraru notes occurrences of Cretaceous deposits with fine-grained flint nodules in “*various shades of gray*” in the Răut valley near the villages of Vărvăreuca, Gura Camencii, and Bobulești [Ketraru 1969, 87]. According to a personal communication from Bohdan Ridush, the flint from the Răut Valley is indistinguishable from the Cenomanian flint of the Dniester Valley, where the primary raw material types present in the Kyiv collection are well known⁷.

A comparison of the flint from the largest group of the Kyiv collection with published photographs of lithic artefacts from the Early Trypillia settlement of Isaiia – Balta Popii (Răducăneni commune, Iași county, Romania), located near the confluence of the Jijia and Prut Rivers, confirms a visual similarity to the Group A1 raw material described by Diana-Mariuca Vornicu [2017, 193, Pl. I/1-6]. She describes this variety of flint as part of the sedimentary cover of the Moldavian Platform, specifically from “*the right side of the Prut between the nowadays localities of Miorcani and Mitoc and on the left side of the same river between the localities Lipcani and Bădrăgi*” [Vornicu 2017, 193]. Following Viktor Petrun, Dmytro Kiosak refers to this material as the Upper Cenomanian Middle Dniester flint and mentions its outcrops on the Dniester near the town of Mohyliv-Podilskyi [Kiosak 2019, 49].

7. The author sincerely thanks B. Ridush for his valuable advice.

Thus, the nature of the flint raw material does not contradict the hypothesis of a Moldovan origin for the Kyiv collection. The presence of analogous raw material at numerous sites in the Southern Buh River region may be explained either by the import of such flint from the west or by the existence of local sources formed in the same deposits as those on the Prut and the Middle Dniester. For instance, D. Kiosak notes that the most abundant flint at the Kukrek culture site of Melnychna Krucha on the Southern Buh is likely Upper Cenomanian [Kiosak 2019, 55-56]. However, until extensive comparative petrographic, chemical, micropalaeontological, and spectral analyses are conducted, the question of the provenance of raw materials at specific sites can hardly be definitively resolved.

Thus, while the evidence supports the proposed hypothesis, it does not allow for identifying a specific site as the source of the Kyiv collection. This is primarily due to the previously noted confusion in naming the sites investigated by V. Markevich, N. Chetraru, and O. Chernysh near Florești. Another difficulty is the lack of data regarding the current whereabouts of certain finds from the Camenca River mouth area. Consequently, it can only be concluded that the Kyiv collection was either assembled at an undocumented site near the village of Gvozdova or derives from a known local Kukrek site later published under a different name.

Another important observation supports this conclusion. Despite the lack of typological and visual similarity between the artefacts from Kyiv and those from the NMHM, the photographs taken at the latter reveal a striking match in the style of inventory markings (fig. 4). In our view, based on a visual assessment, the probability that they were applied by the same hand is remarkably high.

4.2. Circumstances of the collection's arrival in Kyiv

Given that the evidence for the Moldovan origin of the Kyiv collection is largely indirect, data regarding the timing and circumstances of its transfer from Chișinău to Kyiv may provide additional support for the hypothesis.

Notably, a detailed description of the Kyiv collection appears in the 1966 typescript of V.

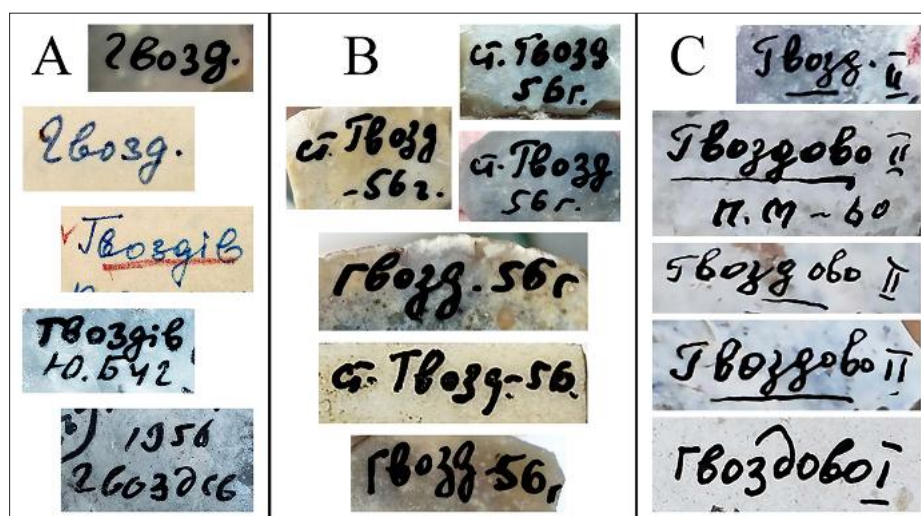


Fig. 4. Handwriting style of the site names: A – in P. Khavliuk’s field documentation and on finds from Hvozdiv; B – on artefacts from V. Danylenko’s collection; C – on finds from the settlements near Gvozdeva village. A, B – photos by D. Haskevych; C – photo by S. Bodian.

Danylenko’s monograph [Danilenko 1966] but is absent from the earlier 1962 version. In the latter, a passage about the Syniukhin Brid site is followed only by a handwritten note: “Probably, the settlement near the village of Gvozdev, discovered by P.I. Khavliuk in 1956, belongs to the same type of sites” [Danilenko 1962, 64]. The *terminus post quem* for this note is established by references, written in the same ink, to an article by T. Passek published in the autumn of 1963 [Danilenko 1962, 25, 164].

The time of the first appearance of the “Vorob’evka” site in the monograph can be determined more precisely. V. Danylenko mentioned it in a revised manuscript of the first chapter, completed on 20 July 1964 [Danilenko 1964, 78]. Notably, “Vorob’evka” appears there in the same paragraph as the Moldovan Kukrek sites – Vărvăreuca IX, Bădragii Vechi, Costești II, and Gura Camencii – which were absent from the 1962 typescript.

Thus, the “Vorob’evka-Gvozdevo” collection likely attracted V. Danylenko’s attention between autumn 1963 and July 1964. This is somewhat unexpected, as the finds from P. Khavliuk’s survey in Hvozdiv had already been held in Kyiv for six or seven years. Furthermore, between 1957 and 1961, the two researchers maintained close contact, conducting annual joint fieldwork on the Southern Buh. What, then, occurred during this brief interval of less than a year?

The answer to this question can be found in a note accompanying the above-mentioned list

of Kukrek sites in Moldova: “The materials were examined in the repository of the Archaeological Museum of the Institute of History of the Academy of Sciences of the Mold. SSR. We express our sincere gratitude to the author of the finds, I.A. (in fact, N.A. – D.H.) Ketraru” [Danilenko 1964, 151; 1969, 28, 243]. Indeed, during this period V. Danylenko visited Moldova to participate in the First Symposium on the Archaeology and Ethnography of the Southwest of the USSR, held in Chișinău on 15–24 May 1964.

At the symposium, V. Danylenko’s report, titled “Common Tasks in the Study of the Neolithic of Moldova and Ukraine” provoked discussion, particularly, “concerning the author’s attribution of a number of Mesolithic sites in Moldova to the Pre-Pottery Neolithic” [Beilekchi 1965, 133]. This statement clearly referred to the Kukrek sites, as V. Danylenko’s held the view that the Neolithisation of the territories of Ukraine and Moldova was driven by an “eastern Azov-Kukrek impulse”.

Thus, V. Danylenko first mentioned the “Vorob’evka” site in a manuscript completed just two months after the symposium. It appears that at the same time, or shortly thereafter, notes concerning the “Gvozdevo” site were added to other chapters. Moreover, this site was used in the monograph to support his attribution – extensively debated in Chișinău – of the Northwest Pontic Kukrek sites to the Pre-Pottery Neolithic.

In particular, Danylenko emphasised that all

other Mesolithic sites he considered (Hrebenyky, Zavallia, Volodymyrivka, Syniukhin Brid, Frumușica, Sărăteni, Costești II, Vărvăreuca IX, Bădragii Vechi, and Gura Camencii) are located on high loess terraces. In contrast, Hvozdiv was the only pre-pottery site situated on the high floodplain directly by the river. In his view, such a location was a clear indicator of a Neolithic economy, as floodplains offered opportunities for livestock grazing and for cultivating loose alluvial sediments after seasonal floods [Danilenko 1969, 51, 57-62, 157].

Taken together, the evidence presented leaves no alternative but to conclude that the collection of the Kukrek artefacts from the vicinity of the Gvozdova village in Moldova was brought to Kyiv by V. Danylenko in late May 1964. This explains why these artefacts were not included in the published corpus of Mesolithic sites in the Răut River basin [Ketraru 1969] and remained unknown to subsequent generations of Moldovan archaeologists.

The circumstances under which the Gvozdova materials were transferred from the museum to V. Danylenko remain unclear. However, the fact that the collection began to be incorporated into scholarly circulation during the next two months suggests that he equated it with P. Khavliuk's finds deliberately, rather than through forgetfulness or oversight. The initial reference to the collection under the name "Vorob'evka" may be explained by certain doubts and an attempt to conceal its true provenance. Subsequently, however, the conviction that he had brought back to Kyiv the finds from Hvozdiv on the Southern Buh appears to have prevailed. The identical inscriptions ("Гвозд."), the same date ("1956"), and the similar character of the flint raw material may have contributed to this.

Conclusions

V. Danylenko's 1969 monograph provided the first description of a small but diagnostic assemblage of Mesolithic Kukrek flint artefacts, stating they were discovered by P. Khavliuk in 1956 at the Hvozdiv site on the Southern Buh in the Vinnytsia Region, Ukraine. Subsequently, researchers reproduced this information and published illustrations of several of these artefacts currently held at the IA NASU in Kyiv. However, the published provenance of these materials has been called into question by recent field surveys, inconsistencies

in the site's designation within the monograph, the lack of mention of the assemblage in archival records, and differences in the inscriptions on the artefacts. Furthermore, the marks refer to a railway station that does not exist in the vicinity of the site.

To explain these gaps, inconsistencies, and contradictions, a hypothesis was proposed linking the collection to a Kukrek site investigated in 1956, located within a predefined geographical range near a settlement with a name beginning with "Gvozd-" or "Hvizd-", and situated in proximity to a railway station.

A targeted search within Ukraine failed to identify any sites meeting the specified criteria. In contrast, several such localities are known in the Florești District of the Republic of Moldova. Situated along the Camenca and Răut rivers, these sites lie near the village of Gvozdova and the Gura Camencii railway halt; they were investigated between 1956 and 1960 by V. Markevich, O. Chernysh, and N. Ketraru.

While a Moldovan origin for the Kyiv collection is likely, a definitive association with a specific site remains elusive due to the duplication of site names, frequent renaming, and inconsistent boundaries established by various researchers. Another obstacle is the lack of information on the present location of some of the finds from these sites. However, the raw material of the Kyiv flint artefacts shows clear visual parallels with that from the territory of Moldova. Furthermore, the inscriptions on the Kyiv artefacts closely match those on two collections from the Gvozdova village vicinity, currently housed at the NMHM in Chișinău.

Scrutiny of several drafts of V. Danylenko's monograph has established the first mention of the collection in question in July 1964. Only two months earlier, the scholar had visited Chișinău, where he participated in the Symposium on the Archaeology and Ethnography of the South-West of the USSR and examined collections from Kukrek sites in the Prut and Răut river valleys, including Vărvăreuca IX and Gura Camencii.

Taken together, this indirect yet mutually consistent evidence strongly suggests that the Kyiv collection of flint artefacts, labelled "Gvozd.-56 g.", was assembled in 1956 in Moldova near the village of Gvozdova, located 114 km south of Hvozdiv. This likely occurred either at a Mesolithic site undocumented in field reports

and publications, or at one of the well-known local Kukrek culture sites subsequently published under a different name. In late May 1964, V. Danylenko brought these materials from Chişinău to Kyiv, though the exact circumstances of the collection's transfer from the museum to his possession remain obscure.

In 1969, the publication of the Moldovan finds as materials from the Hvozdiv site on the Southern Buh was of considerable significance. They served as the principal evidence supporting V. Danylenko's claim regarding the existence of pre-ceramic (in essence, Late Mesolithic) sites on river floodplain terraces, and, by extension, the Neolithisation of the region influenced by Kukrek industry bearers. Since then, the exploration and radiocarbon dating of both new and previously

known localities have confirmed the presence of Kukrek sites in analogous topographic contexts. Therefore, establishing the Moldovan origin of the Kyiv collection does not substantially alter the current discourse on the Mesolithic-Neolithic transition in the Southern Buh basin.

Nevertheless, this conclusion is of scholarly importance, as it restores the factual record and underscores the need to critically reassess even long-published, deeply entrenched, and frequently repeated assertions. Careful collection and comparison of evidence, combined with the formulation and testing of alternative hypotheses, can transform a routine historiographical review into a near-detective investigation, leading to unexpected results.

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Андироны из Ханбулага (Азербайджанская Республика)

Key words: Azerbaijan, The Early Bronze Age, Antiquity period, Medieval, The Kura-Araxes cultural-historical community, ceramic wares, andirons.

Cuvinte cheie: Azerbaidjan, Epoca bronzului timpuriu, antichitatea, Evul Mediu, comunitatea cultural-istorică Kuro-Arax, obiecte ceramice, andironi.

Dmitry Kirichenko, Anar Aghalarzade

Andirons from Khanbulag (Republic of Azerbaijan)

The article deals with the samples of the ceramic wares – movable hearths. These artifacts were accidentally discovered during agricultural works in the yard of a local resident of the Khanbulag village (Yardımlı district, Azerbaijan Republic). After examining the site, the authors of this article concluded that there was a multilayered settlement. Unfortunately, the cultural layer was almost completely destroyed and the materials were in a mixed form. This process is not surprising, taken into account the long-term and continuous agricultural work in the area. The discovered artifacts belong to three historical periods: the Early Bronze Age, Antiquity and the Middle Ages. The six fragments of clay hearths were presented to us for scientific analysis. According to the accepted classification, the objects were used locally as hearth stands in the shape of a “horseshoe”. The artifacts are well decorated (with incisions, “signs”, circular marks and applied motifs), have zoomorphic ends in the form of a ram’s head and a ram. The objects were handmade and well fired. The color shades of the andirons vary, but are mainly brown. Movable hearth stands of this type have similarities with other objects from the South Caucasus, Eastern Anatolia, north-western Iran and the Southern Levant. All clay andiron fragments examined in this article symbolized the image of a ram’s head/ram to one degree or another. Such clay hearth stands, which were horseshoe-shaped and could be transported, were mainly found in the western territory of the Kura-Araxes cultural-historical community. The artifacts from Khanbulag expand the range of such items among the Kura-Araxes tribes to the east and are currently considered the only finds discovered in the southeastern region of the Republic of Azerbaijan.

Dmitry Kirichenko, Anar Aghalarzade

Andironi din Khanbulag (Republica Azerbaidjan)

Articolul tratează exemplarele de ceramică – vetre mobile. Aceste artefacte au fost descoperite întâmplător în timpul lucrărilor agricole în curtea unui locuitor din satul Khanbulag (raionul Yardımlı, Republica Azerbaidjan). După examinarea sitului, autorii acestui articol au ajuns la concluzia că a existat o așezare cu mai multe niveluri. Din păcate, stratul cultural era aproape complet distrus, iar materialele se aflau într-o stare amestecată. Acest proces nu este surprinzător, având în vedere lucrările agricole de lungă durată și continue din zonă. Artefactele descoperite aparțin la trei perioade istorice: Epoca Bronzului Timpuriu, Antichitatea și Evul Mediu. Cele șase fragmente de vatră din lut ne-au fost prezentate pentru analiză științifică. Conform clasificării acceptate, obiectele erau folosite local ca suporturi de vatră în formă de „potcoavă”. Artefactele sunt bine decorate (cu incizii, „semne”, urme circulare și motive aplicate), au capete zoomorfe sub forma unui cap de berbec și a unui berbec. Obiectele au fost realizate manual și bine arse. Nuanțele de culoare ale suporturilor de vatră variază. Suporturile mobile pentru vatră de acest tip prezintă similitudini cu alte obiecte din Caucazul de Sud, Anatolia de Est, nord-vestul Iranului și Levantul de Sud. Toate fragmentele de suporturi din lut examinate în acest articol simbolizau, într-o măsură mai mare sau mai mică, imaginea unui cap de berbec sau a unui berbec. Astfel de suporturi din lut pentru vatră, care aveau formă de potcoavă și puteau fi transportate, au fost găsite în principal în zona vestică a comunității cultural-istorice Kura-Arax. Artefactele de la Khanbulag extind aria de răspândire a acestor obiecte printre triburile Kura-Arax spre est și sunt considerate în prezent singurele descoperiri din regiunea sud-estică a Republicii Azerbaidjan.

Введение

В статье рассмотрены образцы керамических изделий – фрагменты андиринов¹, обнаруженных случайно в ходе сельскохозяй-

ственных работ на территории с. Ханбулаг (Ярдымлинский р-н, Азербайджанская Республика), которое расположено в 19 км к северо-западу от г. Ярдымлы.

В августе 2025 г., авторы публикации проводили археологические раскопки на курган-

1. В данной публикации под андироном понимается – керамическая очажная подставка.

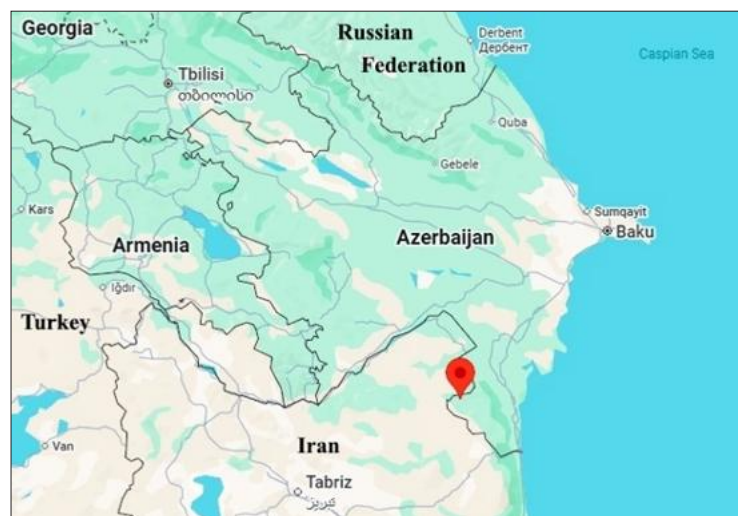


Рис. 1. Месторасположение.

Fig. 1. Localization.

ном поле около с. Оюк (Ярдымлинский р-н), когда со стороны местного жителя Х. М-Х. Самедова была предоставлена информация, о том, что на земельном участке учителя И.И. Исаева выявлены различные археологические артефакты, которые были бережно собраны, сохранены и предоставлены нам для дальнейшего изучения.

Авторы статьи после получения информации сразу же отправились на место обнаружения (рис. 1) археологических находок (координаты: 38.56.05.6 N; 48.10.14.6 E; высота: 1489 м над уровнем моря).

После тщательного осмотра местности (рис. 2) мы пришли к заключению, что веро-



Рис. 2. Общий вид участка.

Fig. 2. A common view of the area.

ятно, здесь располагалось поселение. Подъемный материал (фрагменты керамических андионов, глиняные пряслица, фрагменты глазированной керамики) имеет широкую датировку. Обнаруженные артефакты относились к трем историческим периодам: эпоха ранней бронзы, античности и средневековья.

К сожалению, культурный слой по большей части был разрушен, материалы представлены в смешанном виде, что неудивительно, в виду постоянной сельскохозяйственной деятельности на протяжении длительного времени. Общая площадь участка, на которой выявлены артефакты составляет, приблизительно, 1 га.

На территории с. Ханбулаг в ходе визуального осмотра нами были зафиксированы и другие интересные объекты: чашечные углубления в скалах, остатки, предположительно, циклопического сооружения, а также средневековые мусульманские надгробия. По словам местных жителей, высоко в горах, встречаются и наскальные рисунки, но мы не смогли проверить данную информацию.

Анализ исследуемых материалов

В ходе работы с материалом применен метод типологического датирования предметов по их аналогиям. Всего нами было исследовано шесть фрагментов керамических андионов. Все изделия изготовлены вручную и хорошо обожжены.



Рис. 3. Ханбулаг. Фрагмент №1.

Fig. 3. Khanbulag. Fragment №1.

Фрагмент №1 (рис. 3-4) – треугольной формы, представлял собой, вероятно, боковую часть андилона. Артефакт орнаментирован на внешней поверхности насечками (рис. 3,1), а также своеобразным узором, предположительно, символизирующим колосья (рис. 3,2-3; 4). По боковым сторонам изделия присутствуют округлые вдавления, а также налпы – своего рода «рога». С правой стороны отчетливо можно идентифицировать – голову барана (рис. 3,3).

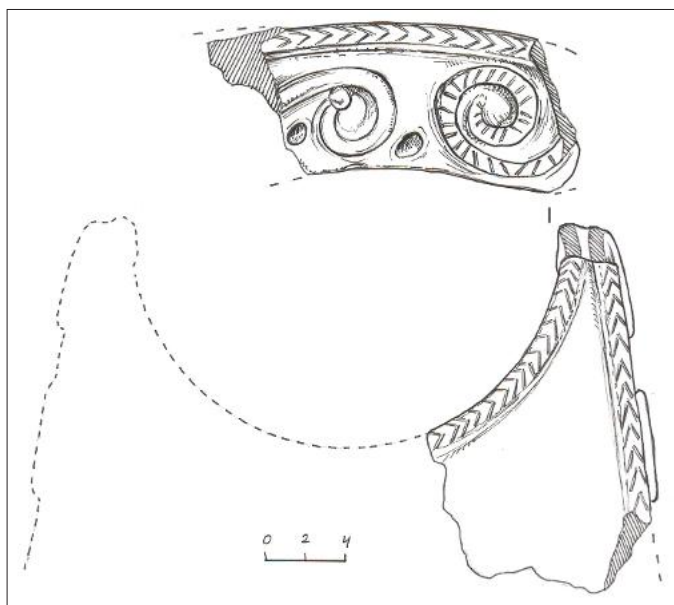


Рис. 4. Графический рисунок фрагмента №1. Реконструкция общего вида андилона (по С.Ф. Фарманы).

Fig. 4. Graphic picture of fragment №1. Reconstruction of common view of andirion (by S.F. Farmanly).

Орнамент и детали декора – округлые вдавления, насечки, а также налпы в виде рогов и головы барана были нанесены до обжига. Изделие красновато-бурого цвета, в составе глины – песок и мелкие камушки. Размеры: высота – 19,4 см; ширина – 13,8 см. Диаметр округлых вдавлений на корпусе: 1,3-1,6 см.

Фрагмент №2 (рис. 5) – представляет собой голову барана, с закругленными рогами, изготовлен из глины, с добавлением песка, светло-бурого цвета. Вероятнее всего данный фрагмент находился на вершине андилона. На изделии с правой стороны имеется отпечаток пальца (рис. 14,1) древнего ремесленника. Размеры: высота – 5,7 см; длина головы – 5,9 см; ширина головы – 4,2 см.

Фрагмент №3 (рис. 6) – продолговатой формы, представляет собой стилизованную голову барана, отчетливо видны «рога», а также на корпусе присутствуют и округлые вдавления.

Изделие красновато-бурого цвета, в составе глины – песок. Размеры: длина – 8 см; ширина – 4 см. Диаметр округлых вдавлений на корпусе: 1,2-1,7 см.

Фрагмент №3 напоминает собой верхнюю часть фрагмента №1, но более грубо изготовлен. Оба фрагмента (№1 и №3), подобны, практически, как по цвету, так и по структуре.

Фрагмент №4 (рис. 7-8) – продолговатой формы, представляет собой, по всей видимости боковую часть андилона (рис. 7,1). Нижняя



Рис. 5. Ханбулаг. Фрагмент №2.

Fig. 5. Khanbulag. Fragment №2.

часть изделия, плоская, в виде прямоугольника, и являлось, предположительно основой – днищем. Верхняя часть изделия продолговатая, напоминает голову животного, по бокам имеются своего рода выступы-налепы (рис. 7,2). Присутствует орнаментация в виде насечек (рис. 7,3). Цвет изделия розовато-бурый, в составе глины песок и мелкие камушки. Верхняя поверхность слегка залощена. Размеры: высота – 15,8 см; ширина – 7,2 см. Днище: длина – 7,4 см; ширина 4,4 см. Выступ: высота – 1 см; диаметр – 1,4 см.

Фрагмент №5 (рис. 9-10) – треугольной формы, представлял собой, вероятно, боковую часть андилона (рис. 9,1-2). Если мы посмотрим в профиль предмета, то здесь можно наблюдать, предположительно, голову животного с глазами (рис. 9,2-3), с двух сторон (вдавленное отверстие с правой стороны отчетливо видно, а с левой лишь слегка).

На правой стороне имеется легко уловимый орнамент в виде насечек и «галочки» (рис. 9,3), а в районе «головы» отмечены отпечатки пальцев (рис. 14,2) древнего мастера. Цвет изделия розовато-бурый, в составе глины песок и мелкие камушки. Верхняя поверхность слегка залощена. Размеры: высота – 10,7 см; ширина – 7,9 см. «Голова»: длина – 5,6 см; ширина – 2,7 см.

Фрагмент №6 (рис. 11-12) – представляет собой боковую часть андилона. Внизу имеется прямоугольная платформа, своего рода основа. Сбоку изделие орнаментировано округлыми вдавлениями (5 штук), нанесенными, предположительно до обжига. «Венчает» фрагмент хорошо изготовленная голова животного с рогами (рис. 13) – барана.

Под «шеей» животного имеется орнамент – в виде «галочки» (рис. 13,1-3). Изделие желтовато-бурого цвета, в составе глины песок, ракушка и мелкие камушки. Размеры: высота – 16 см; ширина – 8 см. Диаметр округлых вдавлений на корпусе: 1,2-1,3 см. Основа: длина – 7,2-7,3 см; ширина – 4,8 см. Голова: длина – 5,7 см; ширина 5,8 см.



Рис. 6. Ханбулаг. Фрагмент №3.

Fig. 6. Khanbulag. Fragment №3.



Рис. 7. Ханбулаг. Фрагмент №4.

Fig. 7. Khanbulag. Fragment №4.

В научной литературе под андиронами широко понимают – «подставки под горшки», переносные очаги, очажные подставки,

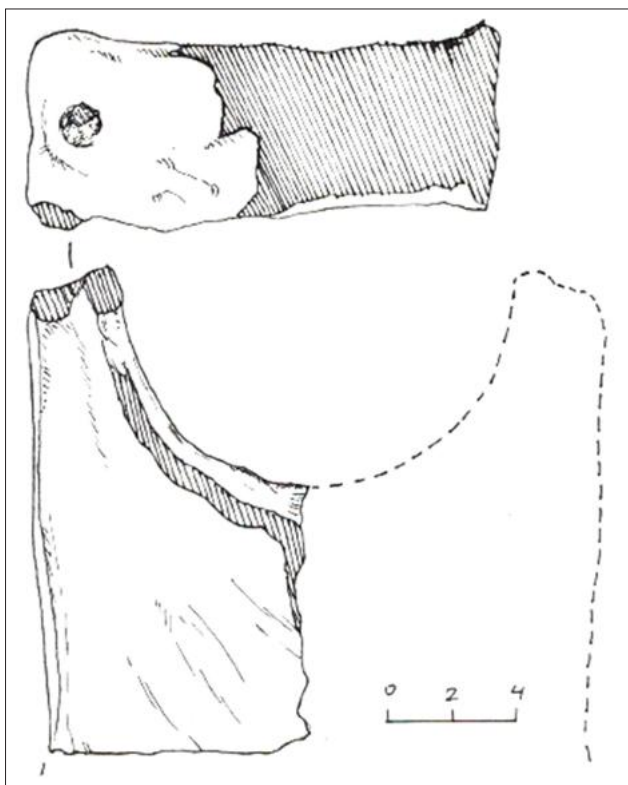


Рис. 8. Графический рисунок фрагмента №4. Реконструкция общего вида андирона (по С.Ф. Фарманы).

Fig. 8. Graphic picture of fragment №4. Reconstruction of common view of andirion (by S.F. Farmanly).

«решетки» (мангалы) [Smogorzewska 2004, 151]. Помимо своей «ежедневной» функции, используемой при приготовлении еды, андироны несли также и своеобразную роль в некоторых ритуалах [Munchaev 1994, 44; Smogorzewska 2004, 152].

Относительно классификации подобных изделий у населения куро-араксской культурно-исторической общности (КИО), то высказывались следующие типологии:

А. Смогоржевска отмечает два типа андионов: «роговидные» и «подковообразные» [Smogorzewska 2004, 152], получившие такие названия из-за своего вида.

Р.М. Мунчаев выделял, в основном три типа керамических очажных подставок у куро-араксинских племен: прямоугольной формы с роговидными выступами, цилиндрические и подковообразные [Munchaev 1994, 44].

В своей работе мы коснемся лишь «подковообразных» андионов, так как все исследованные нами фрагменты керамических изделий, согласно, общепринятых классификаций [Munchaev 1994; Smogorzewska 2004] следует отнести именно к таковым.

Подковообразные переносные керамические очаги выявлены, в основном, в западном ареале распространения куро-араксской КИО [Munchaev 1994, 44].

Подковообразные андироны были обнаружены на многих куро-араксских архе-



Рис. 9. Ханбулаг. Фрагмент №5.

Fig. 9. Khanbulag. Fragment №5.

ологических памятниках Южного Кавказа [Ismailtade 2008; Badalyan 1985; Munchaev 1994, Smogorzewska 2004; Kakhiani *et all.* 2013], восточной Анатолии [Koşay 1976; Işıklı 2005; Yiğitpaşa 2016], северо-западного Ирана [Smogorzewska 2004, 156; Maziar, Erfurth 2025], в регионе Амуга [Smogorzewska 2004, 156; Söylemez, Özgül 2025] в северном Леванте,

а так-же на памятниках хирбет-керакской археологической культуры с территории южного Леванта [Ishoev, Greenberg 2019], которую, в последнее время все чаще связывают с распространением куро-араксской КИО в юго-западном направлении [Greenberg *et all.* 2014; Knudsen, Greenberg 2020; Yalçın 2020].

Керамические подковообразные очажные подставки на территории Азербайджана зафиксированы на следующих археологических памятниках: Кюльтепе I (рис. 15,1), Кюльтепе II, Шортете [Ismailtade 2008, 98], Баба-Дервиш [Muradova, İsmayilov 1971, рис. 15,2; Ismailtade 2008, 98], Пловдаг [Ibrahimli *et all.* 2013], Махта I [Aşurov *et all.* 2020] и др.

Косвенным подтверждением преобладания подковообразной формы андиринов на территории нашей республики выступают и этнографические материалы, когда в Нахчыванской и Ленкоранской зонах и поныне изготавливаются, и широко используются в быту идентичные по форме очажные подставки [Ismailtade 2008, 98].

Некоторые из андиринов имеют антропоморфные детали или оканчиваются изображениями голов животных, и представляют собой, как бы алтари-идолы [Munchaev 1994, 44].

Керамические андироны с изображениями голов животных выявлены в Шенгавите, Ариче, Амасии [Smogorzewska 2004, 153;

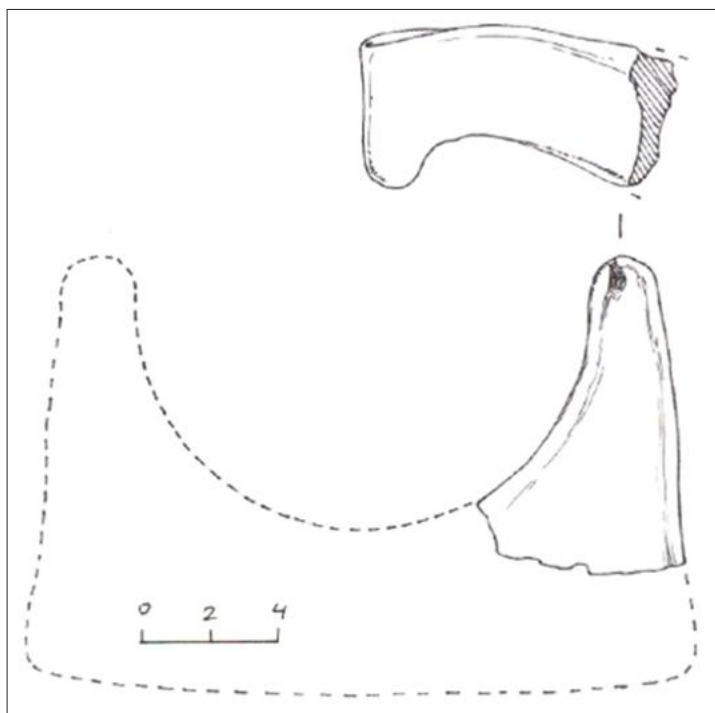


Рис. 10. Графический рисунок фрагмента №5. Реконструкция общего вида андириона (по С.Ф. Фарманы).

Fig. 10. Graphic picture of fragment №5. Reconstruction of common view of andirion (by S.F. Farmanly).



Рис. 11. Ханбулаг. Фрагмент №6.

Fig. 11. Khanbulag. Fragment №6.

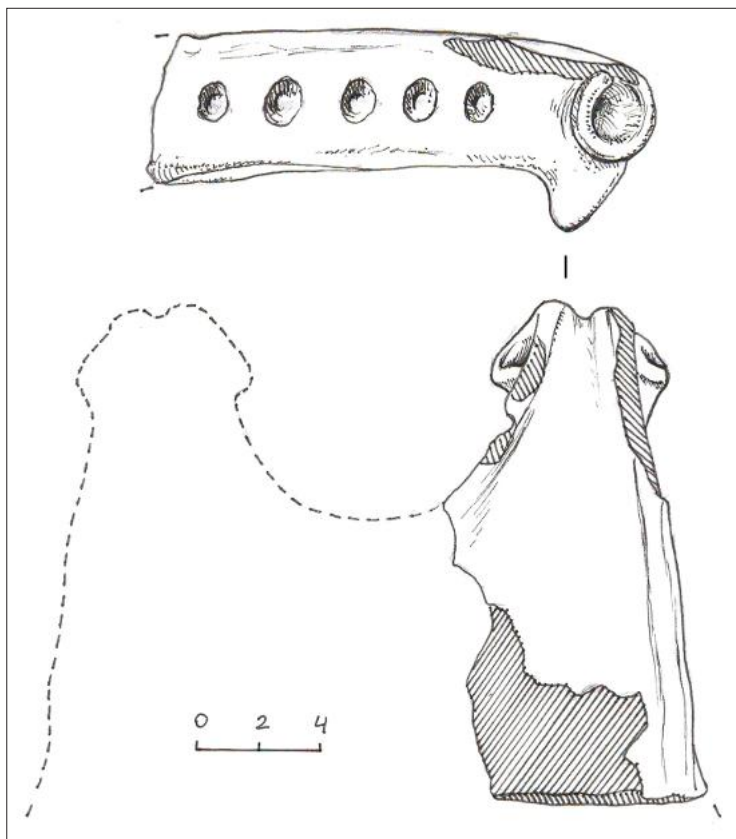


Рис. 12. Графический рисунок фрагмента №6. Реконструкция общего вида андилона (по С.Ф. Фарманы).

Fig. 12. Graphic picture of fragment №6. Reconstruction of common view of andirion (by S.F. Farmanly).

Khachatryan 1975], Карнута [Badalian 1985] (рис. 15,3), Агараке [Tumanyan 2012] с территории Армении, а также в Пулуре, Каразе, Гюзельове [Işıklı 2005] с территории восточной Турции (рис. 15,4-6).

Естественно, манера исполнения переносных очажных подставок зависела от мастера, который их изготовил. Однако, основной мотив оставался неизменным и олицетворял собой голову барана.

Артефакты из Ханбулага, в настоящее время, представляют собой самую восточную точку ареала бытования подобных изделий у куро-аракских племен.

Не смотря на удаленность наших артефактов от основной территории распространения таких предметов помимо общей тенденции изобразить наверху в виде головы барана имеются и другие особенности.

В частности, на фрагменте №4 отмечен похожий выступ, что и

на изделиях на поселении хирбет-керакской археологической культуры Телль Бет Йерах [Ishoev, Greenberg 2019, Fig. 8.2,8.5,8.6] с территории Израиля (рис. 15,8), практически,



Рис. 13. Ханбулаг. Фрагмент №6. Детали головы животного.

Fig. 13. Khanbulag. Fragment №6. Details of animal head.

аналогичный орнамент, в виде «галочки» на шее, зафиксирован и на фрагменте андилона (рис. 15,7) из того же археологического памятника [Ishoev, Greenberg 2019, Fig. 8.1b], только навершие левантийского образца было антропоморфным, а артефакта (фрагмент №6) из Ханбулага – зооморфным. Фрагменты №1 и №3 из Ханбулага по цвету также соответству-

ют цвету изделий из Телль Бет Йераха [Ishoev, Greenberg 2019, Fig. 6].

Цвет ханбулагских изделий (фрагменты №2, №4, №5) подобен цвету керамических изделий куро-араксской КИО с территории Южного Кавказа, что же касается цвета фрагмента №6, то он сходен с цветом фрагмента керамического андилона (рис. 15,9) из куро-араксинского поселения Кохне Тепеси [Maziar, Erfurth 2025, Fig. 2F] с территории северо-западного Ирана и андилонов из региона Амуга [Söylemez, Özgül 2025, Fig. 3].

Фрагмент №5 из Ханбулага помимо местных южнокавказских аналогий [Smogorzewska 2004] имеет также и сходство с керамическими андилонами с

территории восточной Анатолии [Işıklı 2005; Yiğitpaşa 2016]. Цвет фрагмента №4 и №5 практически идентичен цвету андилона из региона Амуга [Söylemez, Özgül 2025, Fig. 3].



Рис. 14. Ханбулаг. Отпечатки пальцев на изделии. 1 – Фрагмент №2; 2 – Фрагмент №5.

Fig. 14. Khanbulag. Fingerprints at ware. 1 – Fragment №2; 2 – Fragment №5.



Рис. 15. Андироны куро-араксской КИО. 1 – Кюльтепе I. Нахичеванский государственный музей истории (фото Д.А. Кириченко); 2 – Баба-Дервиш. Национальный музей истории Азербайджана (фото Д.А. Кириченко); 3 – Карнут [Sagona 2017: Fig.5.7:6]; 4 – Пулур [Işıklı 2005, L. 141]; 5 – Караз [Işıklı 2005, L. 57]; 6 – Гюзельова [Işıklı 2005, L. 254]; 7 – Телль Бет Йерах [Ishoev, Greenberg 2019, Fig. 8.1b]; 8 – Телль Бет Йерах [Ishoev, Greenberg 2019, Fig. 8.6]; 9 – Кохне Тепеси [Maziar, Erfurth 2025, Fig. 2F].

Рис. 15. Andirons of the Kura-Araxes historical-cultural community. 1 – Kultepe I. The Nakhchivan State Museum of History (photo by D.A. Kirichenko); 2 – Baba-Dervish. The National Museum of History of Azerbaijan (photo by D.A. Kirichenko); 3 – Karnut [Sagona 2017: Fig.5.7:6]; 4 – Pulur [Işıklı 2005, L. 141]; 5 – Karaz [Işıklı 2005, L. 57]; 6 – Guzelova [Işıklı 2005, L. 254]; 7 – Tel Bet Yerah [Ishoev, Greenberg 2019, Fig. 8.1b]; 8 – Tel Bet Yerah [Ishoev, Greenberg 2019, Fig. 8.6]; 9 – Kohne Tepesi [Maziar, Erfurth 2025, Fig. 2F].

Приведенные выше общие черты свидетельствуют о схожести методов создания и применения керамических андионов в куро-аракском обществе. Стоит также отметить, и то, что ханбулагские артефакты, представляет собой, категорию керамических изделий «с пачкающей поверхностью», которая не типична для археологических памятников остального ареала кура-араксской КИО на территории нашей страны. Керамика с «пачкающей поверхностью», до настоящего времени, была обнаружена только лишь в курганах Тельманкенда (Астаринский р-н) [Müseyibli 2022, 89; Museibli *et al.* 2023], которые относились к кругу куро-аракских памятников эпохи ранней бронзы.

Таким образом, находки из Ханбулага и материалы из Тельманкенда представляют собой, вероятно, региональный вариант распространения подобной керамики в Азербайджане.

Выводы

Все рассмотренные в публикации фрагменты керамических андионов, в той или иной мере символизировали собой изображение барана/гоча, либо же частей его тела – головы, рогов.

Основными занятиями населения куро-араксской КИО были земледелие и скотоводство, а также различные ремесла.

Зооморфный мотив, отмеченный на андионах, в виде гоца символизировал собой в

первую очередь главное богатство куро-аракских племен, как скотоводов, их основное животное – барана.

Издревле баран/гоч, считался одним из символов солнца, богатства, власти, мужской силы и энергии.

Символика, связанная с гочем, отмечена в орнаментации керамических сосудов [Ismailzade 2008], а также, встречаются и зооморфные фигурки в виде барана на археологических памятниках куро-араксской КИО, как с территории Кавказа [Munchaev 1994; Ismailzade 2008], так и Леванта, восточной Анатолии, северо-западного Ирана [Knani *et al.* 2024].

Одним из археологических памятников, где были выявлены глиняные статуэтки в виде гоча, который в территориальном плане ближе всего к нашим артефактам, является многослойное поселение Худутепе (Джалилабадский р-н), где присутствует целый культурный пласт куро-араксской КИО [Ağalarzade 2024].

На корпусе одной из этих фигурок (справа) имеются нанесенные до обжига круги/овалы [Ağalarzade 2024, Fig. 6] (рис. 16), которые несколько напоминают овальные вдавления отмеченные и на андироне (фрагмент №6) из Ханбулага.

Возможно, данная особенность, указывает на общие черты в оформлении орнамента изделий у куро-аракских племен юго-восточной части нашей республики.

Орнаментацию на фрагменте №1 в виде «колосьев» следует связать, вероятно, с земледелием, а округлые вдавления, отмеченные на фрагментах №1, №3, №6 могли выступать в качестве, своего рода, солярной символики, связанной с ритуалами и верованиями древнего населения.

Находки керамических переносных подставок «подковообразного» типа из Ханбулага расширяют на восток ареал бытования подобных изделий у куро-аракских племен, до этого момента зафиксированных лишь на западе КИО и являются пока единственными обнаруженными в юго-восточном регионе Азербайджанской Республики.

Возможно, фрагменты №4 и №5 представляли собой раннюю форму керамических



Рис. 16. Поселение Худутепе. Керамическая фигурка животного [раскопки А.М. Агаларзаде].

Fig. 16. Khudutepe settlement. Clay figurine of the animal [excavations of A.M. Aghalarzade].

андионов с зооморфной символикой, а фрагменты №1, №2, №3, №6 являлись более поздней модификацией такого рода изделий.

Не смотря на удаленность наших артефактов от западного ареала распространения куро-араксской КИО можно зафиксировать общие моменты, как в форме, цвете, символике, орнаментации некоторых деталей самих изделий. Образцы из Ханбулага по высоте, вполне вписываются в «южнокавказские стандарты».

Появление керамических андионов в юго-восточном регионе Азербайджана можно связать также и с мобильностью населения куро-араксской КИО, ведь человеку того времени, при переселении не составило бы большого труда, чтобы взять с собой переносной очаг на новое место, тем более, если он применялся не только в бытовых целях, но и в качестве предмета культа и верований.

Возможно, новые находки керамических андионов прольют свет на некоторые вопросы, связанные с распространением таких изделий у населения Южного Кавказа, Анатолии и Леванта в эпоху ранней бронзы.

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Scythian dagger from the Museum of Orheiul Vechi Reserve*

Key words: Scythian culture, akinakes, dagger, Mircești type, Central Moldova.

Cuvinte cheie: cultura scitică, akinakes, pumnal, tipul Mircești, Moldova centrală.

Denis Topal, Vitalie Burlacu

Scythian dagger from the Museum of Orheiul Vechi Reserve

The paper analyses a Scythian iron dagger of the Mircești type preserved in the Orheiul Vechi Cultural-Natural Reserve Museum. Donated anonymously in 2021 and most likely originating from the right bank of the Dniester River, the artefact represents a rare example of Scythian weaponry from a region where such finds are uncommon and usually lack archaeological context. The dagger is well preserved and displays a diamond-section blade, a semicircular “*pelte*-shaped” hilt, and an ornithomorphic antenna-like pommel, allowing its secure attribution to the Mircești type, closely related to the Găiceana one. Comparative analysis demonstrates that while such daggers are frequently found in burial contexts within the Black Sea steppe and the North Caucasus, their presence west of the Dniester and Danube is largely limited to stray finds. Chronologically, Mircești-type daggers date from the late 6th to the first half of the 5th century BC, with a concentration in the early 5th century BC. The Orheiul Vechi specimen fits well within this horizon and highlights the Carpathian-Dniester region as a key contact zone between the Scythian steppe and Central Europe.

Denis Topal, Vitalie Burlacu

Pumnalul scitic din Muzeul Rezervației Orheiul Vechi

Articolul analizează un pumnal scitic din fier, de tip Mircești, păstrat în Muzeul Rezervației Cultural-Naturale Orheiul Vechi. Donat anonim în anul 2021 și provenind, cel mai probabil, de pe malul drept al râului Nistru, artefactul reprezintă un exemplu rar de armament scitic într-o regiune unde asemenea descoperiri sunt puține și, de regulă, lipsite de context arheologic sigur. Pumnalul este bine conservat și prezintă o lamă cu secțiune romboidală, o gardă semicirculară de tip „*peltă*” și un buton terminal cu antene ornitoforme, trăsături care permit atribuirea sa sigură tipului Mircești, strâns înrudit cu grupul Găiceana. Analiza comparativă arată că, în timp ce astfel de pumnale apar frecvent în contexte funerare din stepa nord-pontică și din Caucazul de Nord, la vest de Nistru și Dunăre ele sunt cunoscute în principal ca descoperiri întâmplătoare. Din punct de vedere cronologic, pumnalele de tip Mircești sunt datate între sfârșitul secolului al VI-lea și prima jumătate a secolului al V-lea î.Chr., cu o concentrare în prima parte a secolului al V-lea î.Chr. Exemplarul de la Orheiul Vechi se încadrează pe deplin în acest orizont și evidențiază regiunea carpato-nistreană ca o importantă zonă de contact între stepa scitică și Europa Centrală.

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Introduction

Despite increased interest in the distribution and typology of Scythian weaponry in the Black Sea and Carpathian-Danube regions, key questions remain about the presence and chronological spread of Mircești-type daggers in central Moldova, particularly on the right bank of the Dniester River. This paper addresses a notable gap in current scholarship concerning the provenance and diffusion of Scythian objects in this area, a region where such finds are rare and their archaeological context often uncertain. In 2021, the

Museum of Archaeology and Anthropology at the Orheiul Vechi Cultural-Natural Reserve received an anonymously donated Scythian-type iron dagger from a resident of the Butuceni village. The artefact was incorporated into the museum's collection following the renovation of the Early Iron Age display cases. Due to its passage through several owners, the circumstances of its discovery are unclear. It was most likely found in central Moldova, on the right bank of the Dniester River.

The dagger is well preserved, allowing for a precise assessment of its morphology, particu-

larly after restoration and conservation by Valeriu Bubulici at the National Museum of History of Moldova. It measures 40.4 cm in total length, with a diamond-shaped blade of 29.1 cm, a maximum width of 3.2 cm, and a thickness of 0.6 cm. The handle comprises a welded two-part pommel and hilt, with the handle approximately 5 cm thick. The hilt is

straight at the top with small notches near the handle, and semicircular at the bottom where it meets the blade, measuring 4.1 cm wide, 1.4 cm high, and 0.9 cm thick. The pommel is straight, slightly curved at the edges, and features small notches at the bottom near the handle, measuring 4.8 cm wide, 1.5 cm high, and 0.8 cm thick (fig. 1; 2).

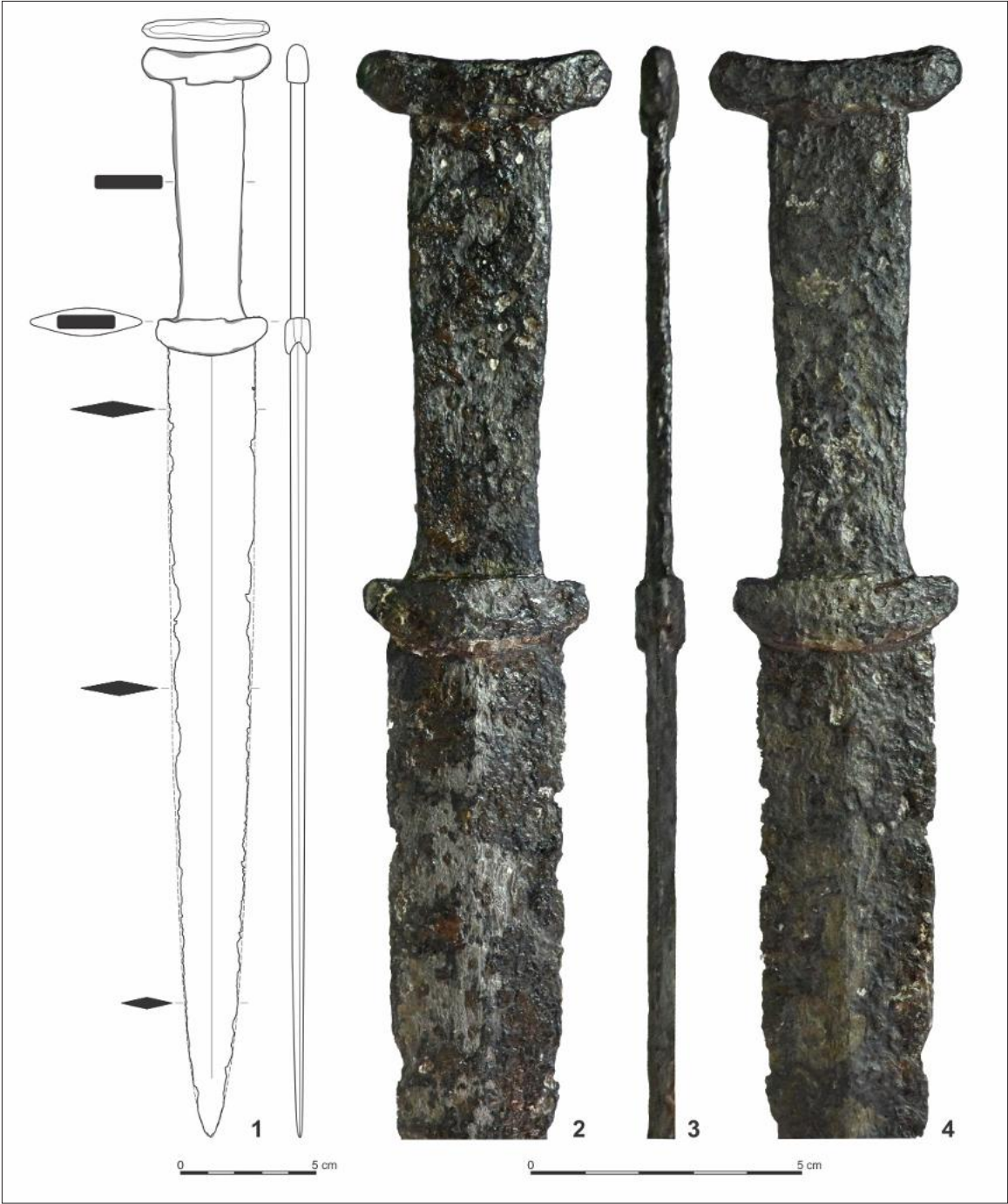


Fig. 1. *Akinakes* from Butuceni: technical drawing (1) and details of the handle (2-4).



Fig. 2. *Akinakes* from Butuceni after restoration, details of the pommel (a, c) and hilt (b, d).

The design and morphology of the dagger align with the Mircești type [Topal 2022, 54], which is related to the Găiceana type as defined by A. Vulpe [1990, 57-58]; both types feature a pommel shaped as ornithomorphic antennae. With few exceptions, the Găiceana and Mircești types are characterised by a distinctive semicircular hilt resembling a “Thracian shield” or “πέλτη”. The limited number of *akinakai* with semicircular

hilts in the 1950s prevented A.I. Meliukova [1964, 55] from establishing a definitive chronology. Later research dated this hilt type to the 6th-5th centuries BC [Fodor 1969, 253] or specifically to the 5th century BC [Evdokimov, Murzin 1984, 78]. A comprehensive study of 55 swords and daggers with segmented crossguards by Ukrainian scholars placed these artifacts in the “second half of the 6th – first half of the 5th century BC”

[Babenko, Shelekhan' 2015, 83, 88]. Burial finds of Mircești-type *akinakai* with *pelte*-hilts are typical of the Black Sea steppe and Crimea [Babenko, Shelekhan' 2015, 79-83], while stray finds are mainly from the forest-steppe of the Donets-Bug interfluvium and the Eastern Carpathians (fig. 3) [Babenko, Shelekhan' 2015, 84-86].

Distribution of the Mircești type

In addition, *akinakai* of the Mircești type are also well known in the west of the "Scythian world" (fig. 3; 4): in Dobruja, among the materials of the Celic-dere burial ground [Simion 2000, fig. 9, 1; Simion 2005, fig. 7; Sirbu *et al.* 2013, fig. 10a; Sirbu 2015, ryc. 6, 1] and a stray find near the village of Murighiol [Bujor 1955, pl. 2: 14; Vulpe 1990, Taf. 17: 80]. In the Carpathian-Dniester region they are mainly represented by chance finds: from Mircești, Dănești and Petricani in Romania [Vulpe 1990, Taf. 2, 9, 10; 15, 76], as well as the Telenești District and Lărguța in Moldova [Topal 2019, fig. 8, 23, 24]. Moreover, two *akinakai* of the Mircești type were found in burials from the second half of the 6th – first half of the 5th century BC near the village of Cozia [Vulpe 1990, Taf. 11, 56; Iconomu 2010, fig. 1c, 2c] in eastern Romania. The burial between the villages of Tudora and Palanca on the Lower Dniester is also dated within the first half of the 5th century BC [Bruiaș 2005, 163-164; Topal 2021, 401]. Finds from Serbia, Hungary, Transylvania, and the Czech Republic are purely stray – from Horákovský hrad [Topal, Golec 2017, fig. 1, 1], Ardanovo [Hampel 1876, 23, fig. 7], Vršac [Milleker 1898, Abb. 1], Tiszabercel [Nagy 1915, Abb. 1, 1], Veszprém [Kemenczei 1984, Abb. 2: 2] and Násal [Roska 1937, Abb. 5].

This pattern reveals that, within the western regions, Mircești-type daggers typically occur as isolated or chance finds rather than in organised burial contexts, except a few instances in eastern Romania and the lower Dniester. Their sporadic and scattered presence in Central and Southeastern Europe, often beyond the borders of the core Scythian steppe, points toward the movement of objects and individuals across cultural boundaries and highlights the role of the Carpathian-Danube zone as a transitional area between the steppes and neighbouring regions.

Most of these items are confidently associated with the Black Sea region (fig. 3; 5), primarily

with its forest-steppe region. The interpretive value of stray finds – those discovered outside of clear archaeological contexts – lies in their potential to illuminate patterns of mobility, exchange, and cultural interaction. Unlike objects from well-excavated burial complexes, stray finds may reflect trade routes, the movement of individuals or groups, or even the deposition of martial objects as part of rituals in liminal or contested spaces. Highlighting these discoveries thus broadens our understanding of how Scythian material culture spread beyond core settlement areas and may indicate the permeability of cultural boundaries during the early Iron Age. The *akinakes* in the Lviv Museum collection may have originated from the Podolia or Bug region [Kosikov, Pavlik 1992, Fig. 1, 1]. An abundance of stray finds were discovered in the territory of the Right-bank Dnieper forest-steppe, among numerous locations: Pastyske [Drevnosti Pridneprov'ia 1899, pl. 2, 53; 3, 52; Didenko, Shelekhan' 2016, fig. 1, 4, 8; 2, 1], Kamyanka-Tarapun [Liashko 2019, fig. 3], Vitove [Poltavets' 2003, fig. 3, 5], Velykyi Bukryn, Tahancha, Hryshchyntsi [Didenko, Shelekhan' 2016, fig. 1, 7; 2, 4, 6], Kaniv District [Drevnosti Pridneprov'ia 1900, pl. 3, 51] and Kozarovichy [Petrovskaia 1971, fig. 1, 1]. Stray finds of Mircești type daggers are also found on the Left Bank of the Dnieper River, up to the Seim and the Donets: near the village of Viry [Bilins'kii 2011, Fig. 1, 1], presumably from Kharkiv [Babenko, Shelekhan' 2015, Fig. 1, 2], Kuzemin [Berest *et al.* 2018, Fig. 1, 2], Malinovka [Sarapulskina 2005, Fig. 1, 1] and the Kuzina Gora hillfort [Voronina 1962, Fig. 1, 4]. The easternmost finds of Mircești-type *akinakai* are also associated with the forest-steppe zone, in particular, with the interfluvium of the Middle Don and Khopyor rivers, including stray finds near Peskovatka [Voroshilov 2007, Fig. 110] and Novokhopors'k [Merkulov 2014, Fig. 1]. The only specimen associated with a burial was discovered in a barrow near the village of Vovkivtsi, excavated by S.A. Mazaraki [Drevnosti Pridneprov'ia 1899, pl. 2, 56]; however, nothing is known about its composition.

In the steppe Black Sea region, there are far fewer such finds. Still, they are better represented by burial complexes (fig. 5). Among them: burial 1 of mound 52 near the village of Vyshchetasivka [Murzin 1984, Fig. 13, 2], a ground burial of the cemetery on Dubovy Island [Ostapenko 2007,



Fig. 3. Distribution of the Middle Scythian *akinaikai* (A – Găiceana type, B – Marychevka type, C – Mircești type, and D – Issyk type; ceremonial items are marked with a star), according to Topal 2024 with additions: 1 – Horákovský hrad; 2 – Veszprém; 3 – Vršac; 4 – Tiszabercel; 5 – Ardanovo; 6 – Näsäl; 7 – Lviv Museum; 8 – Petricani; 9 – Dănești; 10 – Mircești; 11 – Cozia; 12 – Telenești District; 13 – Butuceni; 14 – Lărguța; 15 – Celic-dere (Telița); 16 – Murighiol; 17 – Tudora-Palanca; 18 – Ivanivka; 19 – Pastyske; 20 – Kamyanka (Tarapun); 21 – Vitove; 22 – Velykyi Bukryn; 23 – Hryshchyntsi; 24 – Kaniv; 25 – Tahancha; 26 – Kozarovychi; 27 – Vovkivtsi; 28 – Kuzemin; 29 – Viry; 30 – Kuzina Gora; 31 – Malinovka; 32 – Peskovatka; 33 – Novokhoporsky; 34 – Krasnoe; 35 – Nenasytets; 36 – Vovnigy; 37 – Dubovy Island; 38 – Vyshchetasivka; 39 – Krylovka; 40 – Kubalach; 41 – Nymphaeum; 42 – Rassvet; 43 – Gai-Kodzor; 44 – Starokorsunskaya; 45 – Pashkovskoye-6.

Fig. 9, 2]. Stray finds are represented by specimens from Krasnoe [Dubovskaia, Podobed 1993, Fig. 56, 2], Nenasytets [Babenko, Shelekan' 2015, Fig. 1, 3], Ivanivka [Boltrik 2014, Fig. 6, 2] and the

settlement of Vovnigi [Mogilov 2018, Fig. 12]. A burial from a mound burial near Vyshchetasivka was dated to the middle of the 5th century BC, according to the quiver set consisting of ar-

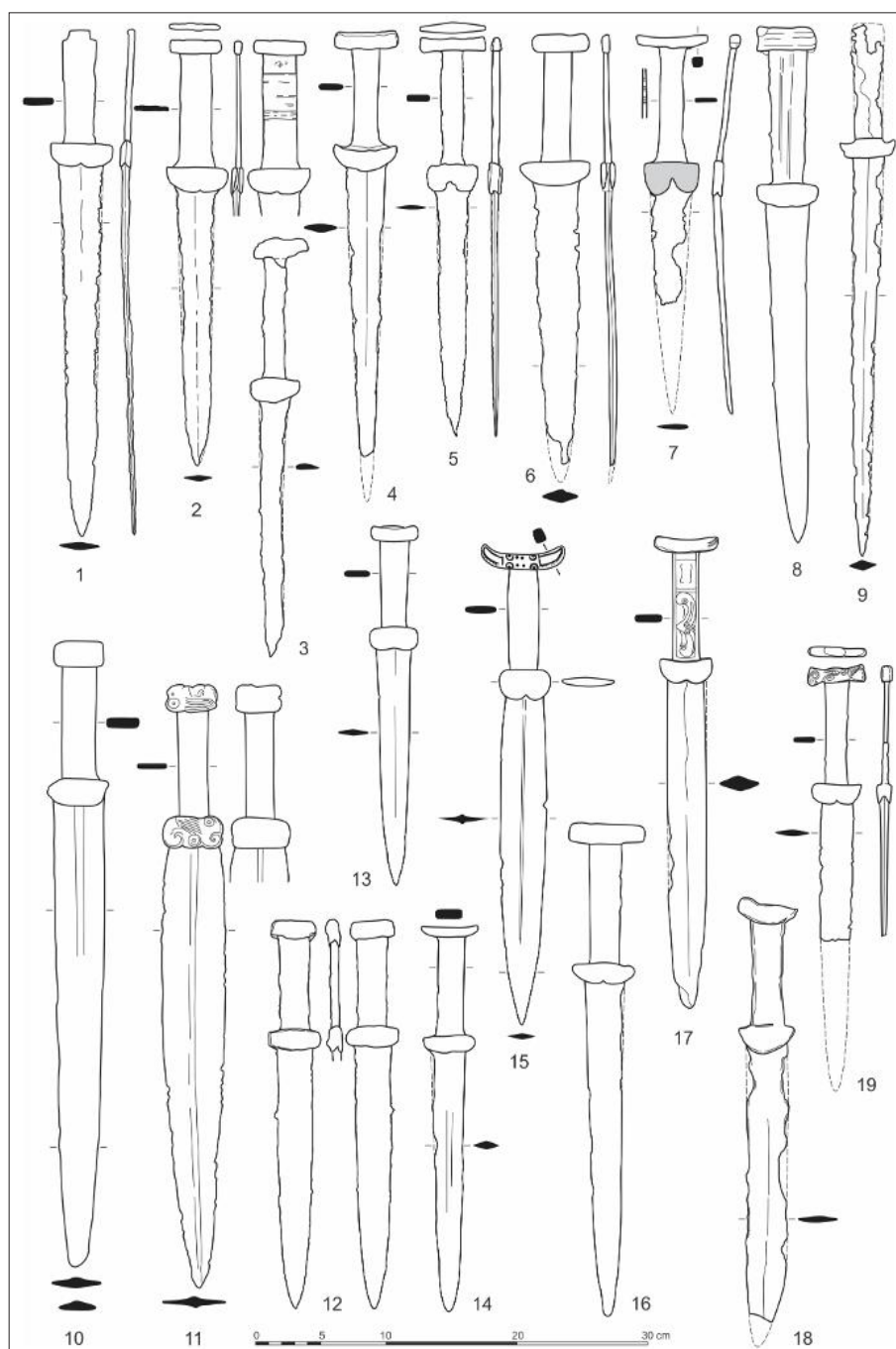


Fig. 4. *Akinakai* of the Mircești type in the Danube region: 1 – Mircești, stray find; 2 – Dănești, stray find; 3, 18 – Cozia (3 – stray find; 18 – Voloaca Mică, stray find); 4 – Ardanovo, stray find; 5 – Vrșac, stray find; 6 – Lviv Museum; 7 – Tiszabercel, stray find; 8 – Lărguța, stray find; 9 – Năsal, stray find; 10, 14, 16, 17 – Celic-dere (10 – mound 44, burial 1; 14, 16, 17 – burial); 11 – Veszprém, stray find; 12 – Telenești District, stray find; 13 – Horákovský hrad, stray find; 15 – Tudora-Palanca, burial; 19 – Petricani, stray find (1-6, 8-19 – iron; 7 – bronze, iron).

rowheads with the internal sleeve [Murzin 1984, 25]. The burial site on Dubovyi Island, also judging by the arrowheads, is dated to no later than the early 5th century BC [Ostapenko 2007, 148]. Two burials are known in Crimea: ground burial G8 of

the Nymphaeum necropolis [Grach 1999, fig. 44; table 143, 5] and burial 3 of burial mound 20 near the village of Krylovka [Kolotukhin 2000, fig. 19, 21]. They are supplemented by a find from Mountainous Crimea, on Mount Kubalach [Skoryi,

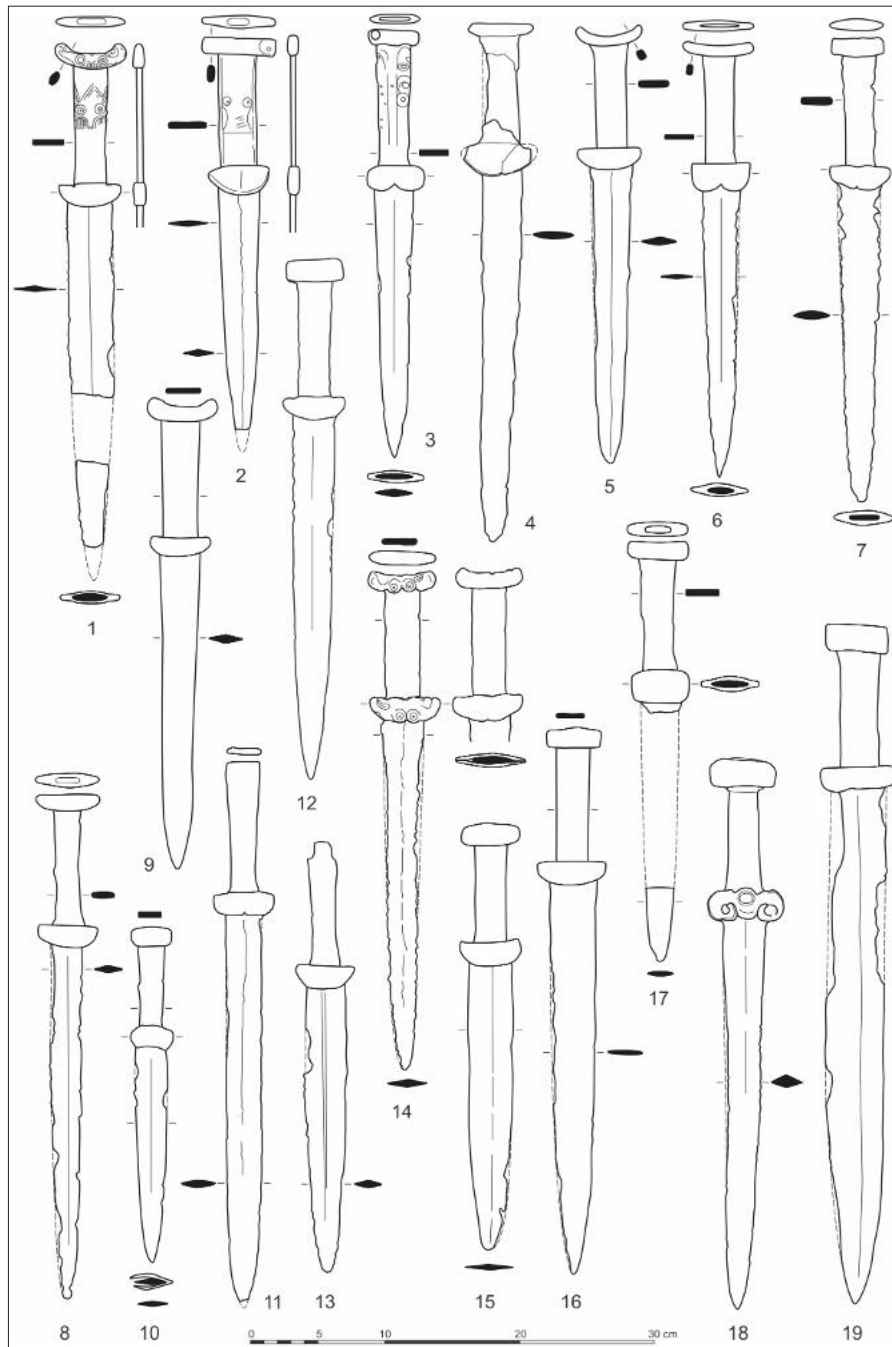


Fig. 5. *Akinakai* of the Mircești type in the Black Sea region (1-10, 12, 15, 17-19), Volga-Don region (13, 14) and Caucasus (11, 16): 1 – Vovkivtsi, barrow; 2 – Tahancha, stray find; 3, 10 – Pastyrskoe, stray find; 4 – Vitove, stray find; 5 – Nenasytets, stray find; 6 – Hryshchyntsi, stray find; 7 – Viry, stray find; 8 – Kharkiv Museum; 11 – Pashkovskoe-6 hilfort; 12 – Kamyanka-Tarapun, stray find; 13 – Kuzina Gora hilfort; 14 – Peskovatka, stray find; 15 – Kyiv Museum; 16 – Gai-Kodzor, stray find; 17 – Halushchenko, stray find; 18 – Kaniv District, stray find; 19 – Krylovka, barrow 20, burial 3 (1-19 – iron).

Zimovets 2014, cat. 26]. The main burial mound from Krylovka was dated to the first half of the 5th century based on fragments of a flat-bottomed amphora of the first half of the 5th century BC [Kolotukhin 2000, 60] or even by the first third

or quarter of the century [Koltukhov 2012, 33]. Burial G8 of the Nymphaeum necropolis, judging by the miniature black-figure Attic *lekythos*, was constructed no later than the early 5th century BC [Grach 1999, 100].

Turning southeast to the Caucasus, in the northwest Caucasus, in the Kuban and the Eastern Bosphorus (fig. 5), *akinakai* of the Mircești type are also known both as chance finds, such as those from Gai-Kodzor [Novichikhin 1997, Fig. 2, 2] and the Pashkovskoye-6 settlement [P'ankov, Khachaturova 2003, Fig. 2, 2], and as part of burial complexes. Such daggers, in particular, were found in burial 234-B of the Starokorsunskaya necropolis [Limberis, Marchenko 2001, fig. 36, 4] and in burial 100 of the Rassvet farmstead [Novichikhin 2006, fig. 54, 5; Malyshev 2010, fig. 225, 100]. The latter complex is distinguished by a rich inventory, abundantly represented by Greek imports: a black-glazed Ionian *kylix*, a flat-bottomed amphora with paintings, an amphora "with a glass-shaped bottom", which made it possible to date the burial to the late 6th – early 5th century BC [Malyshev 2010, 137, 219]. Burial 234-B of the Starokorsunskaya necropolis was also attributed to this time period based on a set of bronze arrowheads [Limberis, Marchenko 2013, 123].

Conclusion

The general chronology of reliably dated Mircești-type dagger assemblages spans the late 6th to mid-5th centuries BC, corresponding with the Găiceana type, which is dated to the second half to late 5th century BC. The distribution of these two related types, Găiceana and Mircești, largely overlaps, covering the Carpathian-Danube region, the Dnieper forest-steppe, and the North Caucasus. A significant distinction appears at the western periphery, beyond the lower Dan-

ube, where a territorial division is observed: the Găiceana type extends along the Danube into the Balkans, while Mircești-type *akinakai* are associated with Transylvania and the Tisa region. Although the Găiceana type continues until the end of the 5th century BC, most complexes of both types are concentrated around the early 5th century BC. From the 5th century BC onward, the ornithomorphic pommel was simplified, moving away from realistic forms, and by the end of the century, the design became schematic and ornamental. The typological evolution of antenna pommels, which originally depicted birds of prey, demonstrates a progression from large, realistic representations to minimised, schematic forms, possibly indicating a loss of the earliest symbolic meaning. The earliest Mircești-type *akinakai* with secure chronological markers are found in the Bosphorus and Kuban regions and date to the 6th century BC. The remaining complexes are dated to the first half of the 5th century BC and are mainly associated with the Black Sea steppe region. The dagger from the Orheiul Vechi Reserve Museum is attributed to this period.

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Un mormânt din secolul al II-lea d.Chr. descoperit la Mereni (r-nul Anenii Noi)*

Key words: Mereni, ceramic vessels, Roman amphora, Sarmatian grave, 2nd century AD.

Cuvinte-cheie: Mereni, vase ceramice, amforă romană, mormânt sarmatic, secolul al II-lea d.Chr.

Vlad Vornic, Larisa Ciobanu

A 2nd-Century AD Grave discovered at Mereni (Anenii Noi District)

In the summer of 2023, during the excavation of a sewer pit in the village of Mereni, a Roman amphora was fortuitously discovered and subsequently handed over to the local Museum of History and Ethnography. The find was made in the southern part of the village, in the area known as "Pe Holm", at a spot where the works partially disturbed a sunken archaeological feature. In addition to the amphora, several other ceramic vessels – both wheel-made and hand-made – as well as fragments of human bones were recovered from the pit. The amphora, preserved almost intact, belongs to type C (Neapolis) according to the classification of D. Shelov and is dated to the 2nd century AD, particularly to its second half, thus providing a reliable chronological marker for the entire complex. The ceramic analogies, corroborated by the presence of human bone remains, indicate that the assemblage represents a Sarmatian inhumation grave disturbed by modern intervention.

Vlad Vornic, Larisa Ciobanu

Un mormânt din secolul al II-lea d.Chr. descoperit la Mereni (r-nul Anenii Noi)

În vara anului 2023, cu ocazia săpării unei gropi de canalizare în satul Mereni, a fost descoperită fortuit o amforă romană, predată ulterior Muzeului de Istorie și Etnografie din localitate. Descoperirea a fost realizată în partea sudică a satului, în zona „Pe Holm”, într-un punct unde lucrările au afectat parțial un complex arheologic adâncit. Din groapă au fost recuperate, pe lângă amforă, alte vase ceramice, lucrate atât la roată, cât și cu mâna, precum și fragmente de oase umane. Amfora, păstrată aproape integral, aparține tipului C (Neapolis) din clasificarea lui D. Shelov, datat în secolul al II-lea d.Chr., mai ales în a doua jumătate a acestuia, oferind astfel un reper cronologic sigur pentru întregul complex. Analogiile ceramice, coroborate cu prezența oaselor umane, indică faptul că ansamblul descoperit reprezintă un mormânt de înhumatie sarmatic, afectat de intervenția modernă.

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Satul Mereni din raionul Anenii Noi se evidențiază dintre multe alte localități din Republica Moldova printr-un patrimoniu arheologic imobil bogat și variat, cuprinzând un mare număr de movile funerare preistorice sau antice, așezări deschise datând din eneolitic până în evul târziu și un cimitir plan cu morminte de înhumatie, care aparține vechiului sat medieval răzășesc, de unde își trage obârșia localitatea actuală [Postică, Sava 2023, 10-13, 15-32]. Unele dintre aceste situri arheologice, care prezintă o importanță deosebită pentru reconstituirea realităților istorice ale regiunii mai ales din preistorie și epoca antică, dar și din evul mediu timpuriu și dezvoltat, pentru care izvoarele scrise lipsesc sau sunt extrem de puține, au început a fi semnalate și consemnate în unele documente scrise încă din sec. XVII-XVIII – Măr-

turiile hotarnice din 1605 și 1796 [Boga 1938, 11-12; Postică 2004, 9].

Din punct de vedere arheologic, moșia satului Mereni a fost prospectată prin periegeze metodice în anii 1974-1975 (pe când era încă student) de profesorul universitar Gh. Postică, care este și originar din această pitorească localitate din centrul Moldovei. Drept rezultat al cercetărilor arheologice de suprafață, efectuate în anii 1980 și ulterior de același Gh. Postică împreună cu alți specialiști, în diferite puncte topografice din raza satului Mereni au fost descoperite și înregistrate un număr total de 23 de situri, care aparțin diferitor epoci și culturi arheologice. Unul dintre aceste situri arheologice, și anume așezarea de la Mereni-Chirca, care prezintă resturi de locuire din bronzul târziu și epoca antică târzie, a fost cercetat în anii

1986 și 1987 prin săpături sistematice. Rezultatele acestor ample investigații de teren au fost publicate mai întâi parțial (vestigiile din epoca bronzului) de dr. hab. E. Sava în prestigioasa revistă de specialitate ieșeană *Arheologia Moldovei* [Sava 2002, 69-92], iar de curând într-o solidă lucrare arheologică, datorată ambilor reputați arheologi mereneni – dr. hab. Gheorghe Postică și dr. hab. Eugen Sava [Postică, Sava 2023].

În anul 1987, paralel cu cercetările din așezarea de la Mereni-*Chirca*, au fost investigați prin săpături arheologice și patru tumuli, situați, trei (nr. 1-3), la hotar cu satul Merenii Noi, în punctul topografic numit de localnici *Dealul Bicului* sau *La Mavile*, iar unul, marcat cu nr. 5, amplasat pe culmea unui platou dinspre s. Botnărești, în locul denumit *Roșia* sau *Fundul Roșiei* [Postică,

Sava 2023, 20-23]. Grație acestor cercetări, coordonate de dr. hab. Valentin Dergachev, s-a stabilit că două mabile au fost ridicate încă în a doua jumătate a mil. IV î.Chr. de comunități nomade atribuite culturii Usatovo și alte două conțineau morminte din mil. III î.Chr., atribuite purtătorilor culturii Iamnaia. Pe lângă complexele primare nominalizate, în perimetrul acestor tumuli de la Mereni au fost descoperite și alte 34 de morminte de înhumare sau cenotafe datând din bronzul mijlociu, a doua epocă a fierului, perioada romană sau evul mediu timpuriu. Informațiile științifice și materialele arheologice privind aceste patru situri funerare cercetate inițial au fost prezentate de autorii săpăturilor într-un raport preliminar [Dergachev *et al.* 1988], iar ulterior publicate în diferite studii [Dergachev, Sava 2003; Postică 2004, 10-11].

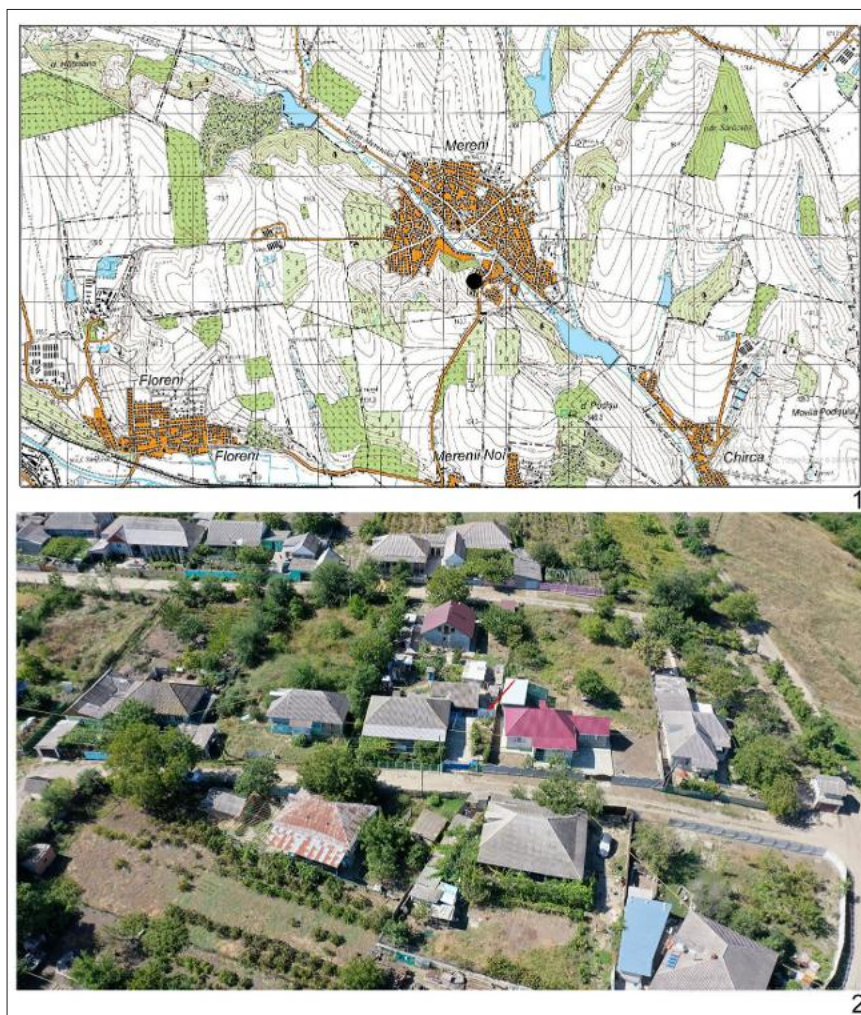


Fig. 1. Mereni 2023. Localizarea descoperirii: 1 – hartă; 2 – fotografie aeriană.

Fig. 1. Mereni 2023. Location of the discovery: 1 – map; 2 – aerial photography.

Un loc aparte printre vestigiile arheologice de la Mereni îl ocupă descoperirile întâmplătoare, dintre care se evidențiază două importante tezaure monetare. Aceste descoperiri oferă informații valoroase despre circulația monetară și relațiile economice din zonă în secolul al XVI-II-lea. Primul tezaur a fost descoperit în anul 1913 de către țăranul A.S. Gherasim, în punctul Valea Mare, și datează din ultimul sfert al secolului al XVIII-lea. Tezaurul era alcătuit din 101 monede de aur și argint, majoritatea fiind transmise Comisiei Arheologice din Sankt-Petersburg. Din punct de vedere tipologic, acesta includea monede otomane emise în timpul sultanilor Mustafa II, Ahmed III, Mahmud I, Osman III și Mustafa III, precum și piese monetare ale Sfântului Imperiu Roman [Postică 2004, 11], fapt ce reflectă diversitatea influențelor economice și politice din regiune.

Cel de-al doilea tezaur a fost descoperit în anul 1975 de tractoristul Nicolae Ciolan, în partea de nord a moșiei satului, în apropierea vechiului drum ce ducea spre Tighina, un important traseu comercial al epocii. Tezaurul cuprindea aproximativ 200 de monede, păstrate într-o oală de lut acoperită cu un strat de ceară, și avea o valoare totală estimată la circa 235 de lei. Predat Muzeului de Arheologie al AȘM, acesta conținea monede otomane din secolul al XVIII-lea, alături de o monedă austriacă emisă în timpul împărătesei Maria Tereza [Postică 2004, 12]. Valoarea considerabilă a tezaurului, precum și locul descoperirii sale, sugerează că proprietarul monedelor ar fi fost, cel mai probabil, un negustor care tranzita zona.

În satul Mereni, o descoperire arheologică fortuită deosebit de importantă a fost realizată în vara anului 2023 [Ciobanu, Vornic 2024, 62-64], asupra căreia ne vom opri mai detaliat în paginile ce urmează. Cu ocazia săpării unei gropi pentru canalizare a fost identificată o amforă romană, care a fost transmisă imediat Muzeului de Istorie și Etnografie din Mereni. Descoperirea a avut loc în gospodăria dlui Fiodor Proca, situată în partea de sud a localității (fig. 1,1-2), pe o suprafață relativ plană a unui teren înalt cunos-



Fig. 2. Mereni 2023. Imagine cu vase ceramice aflate *in situ*.

Fig. 2. Mereni 2023. Ceramic vessels found *in situ*.

cut sub denumirea *Pe Holm*, în vecinătatea *Ma-halalei Țiganilor*.

Deplasarea la fața locului a unuia dintre autorii acestui articol, Larisa Ciobanu, a permis constatarea faptului că la nivelul actual de călcare nu sunt vizibile materiale arheologice. Cu toate acestea, groapa de canalizare, având dimensiunile de 1,10×1,25 m și o adâncime cuprinsă între 1,35 și 1,55 m față de nivelul actual al solului, a interceptat și a afectat parțial un complex arheologic adâncit. Solul lutos de la baza gropii era puternic îmbibat cu ape reziduale, fapt care a îngreunat considerabil intervenția arheologică și a făcut imposibilă cercetarea integrală a complexului.

De pe fundul gropii (fig. 2), spre sud-vest de locul descoperirii amforei, au mai fost recuperate trei vase ceramice și un capac. Acestea constau într-o oală lucrată manual din pastă grosieră, a cărei margine s-a degradat aproape în totalitate din cauza umidității, un ulcior cu gât larg, lucrat la roată din pastă fină de culoare cenușie, un castron roman de culoare cărămizie, cu buza îngroșată și trasă spre interior, prezentând pe suprafața interioară urme de firnis roșiatic, precum și un capac tronconic modelat manual, prevăzut cu un buton circular alveolat.

Menționăm, de asemenea, că din umplutura gropii au fost recuperate două fragmente osoase care, potrivit determinărilor efectuate de dr. Angela Simalscic¹, antropolog, sunt de origine uma-

1. Mulțumim, și pe această cale, doamnei doctor Angela Simalscic pentru sprijinul și informațiile oferite.

nă: un calcaneu incomplet și un astragal, ambele aparținând aceluiași individ, respectiv unui copil de vârstă juvenilă. Această constatare permite interpretarea complexului ca fiind un mormânt de înhumatie, al cărui schelet a rămas în cea mai mare parte *in situ*, în afara zonei afectate de intervenția modernă.

În rândurile următoare vom prezenta o descriere detaliată a tuturor recipientelor recuperate din acest complex funerar, incluzând parametrii metrici, după care vom identifica analogiile cele mai apropiate și vom încerca să încadrăm această interesantă descoperire arheologică din punct de vedere cultural și cronologic.

1. *Amforă romană* lucrată la roată din pastă zgrunțuroasă, de culoare cărămiziu-gălbui, cu pigmenți negri în compoziție, având corpul piriform, gâtul cilindric, înalt și îngust, cu buza îngroșată, astăzi dispărută, și fundul tubular. Torțile, prinse aproape perpendicular de gât și oblic de umeri, prezintă pe partea exterioară caneluri longitudinale largi sau nervuri cu șanțuri adânci, dispuse în același sens. Partea inferioară a corpului este decorată cu „coaste” orizontale, mai mult sau mai puțin evidențiate. Înălțimea păstrată a vasului este de 53,3 cm, diametrul gâtului 5 cm, diametrul maxim de 23,8 cm, iar diametrul bazei de 3,8 cm (fig. 3).

2. *Castron de factură romană* lucrat la roată din pastă semifină, de culoare cărămizie, cu urme de vopsea roșatică la interior și exterior, de formă tronconică, cu pereții ușor arcuiți, fundul prevăzut cu suport inelar și marginea îngroșată, îndoită spre interior. Înălțimea vasului este de 8,5 cm, diametrul maxim de 20,3 cm, iar diametrul bazei de 7,8 cm (fig. 4).

3. *Cană* lucrată la roată din pastă fină cenușie, de dimensiuni medii, cu corpul sferoidal aplatizat, gâtul cilindric scund, marginea evazată, ușor îngroșată la exterior, prevăzută la interior cu șanțuire pentru capac, și fundul inelar. Toarta, modelată din bandă cu canelură mediană, pornește de sub buză și coboară pe umăr. Ornamentarea cunii este realizată în tehnica lustrului, constând în linii verticale aplicate pe partea superioară a corpului, delimitate de un prag. Înălțimea cunii este de 20,6 cm, diametrul maxim de 10,1 cm, iar diametrul bazei de 7,1 cm (fig. 5,3).

4. *Oală fragmentară*, lucrată cu mâna, realizată din pastă grosieră cu incluziuni de șamotă și



Fig. 3. Mereni 2023. Amforă romană.

Fig. 3. Mereni 2023. Roman amphora.

alți degresanți, de culoare brun-cenușie. Prezintă buză evazată, gât scurt, corp relativ zvelt, umeri bine conturați, diametrul maxim situat ușor deasupra mijlocului corpului și fund plat. Înălțimea

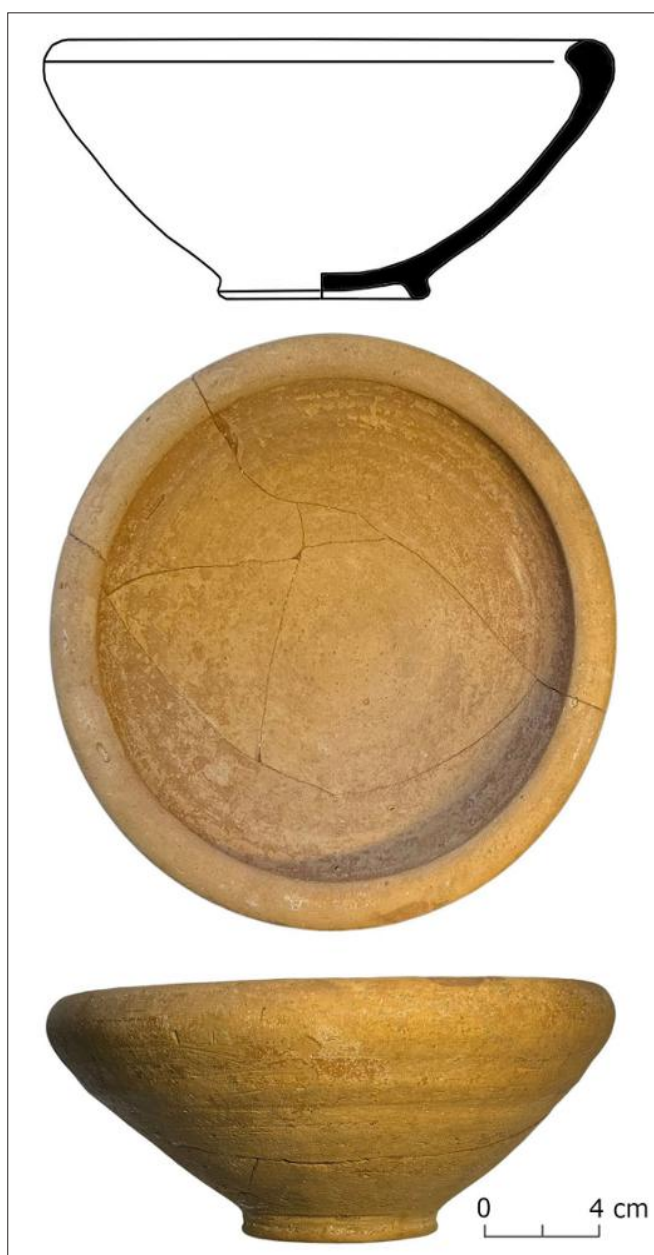


Fig. 4. Mereni 2023. Castron ceramic roman.

Fig. 4. Mereni 2023. Roman ceramic bowl.

reconstituită a vasului este de 16 cm, diametrul maxim de 13,8 cm, diametrul buzei de 12,3 cm, iar diametrul fundului de 7,7 cm (fig. 5,2).

5. *Capac* fragmentar, lucrat cu mâna, realizat din pastă grosieră cu cioburi pisate și alți degresanți în compoziție, de culoare brun-cenușie neuniformă. Prezintă formă aproximativ tronconică, cu buton de apucat aproximativ cilindric, scurt și alveolat în partea superioară, precum și margine simplă. Înălțimea capacului este de 6,5

cm, diametrul maxim de 12 cm, iar diametrul butonului de 3,5 cm (fig. 5,1).

Aceste vase ceramice descoperite la Mereni își găsesc analogii directe în diverse complexe funerare din primele secole ale erei creștine, atribuite sarmaților, precum și în unele așezări sau necropole aparținând populațiilor sedentare, în speță dacilor liberi, din spațiul carpato-nistean.

Astfel, în ceea ce privește amfora, se poate constata că, prin formă, dimensiuni și structura pastei, aceasta se încadrează în așa-numitul *tip Neapolis/Shelov C* [Shelov 1978, 18] sau *tip C IVC*, conform uneia dintre cele mai recente clasificări propuse de S. Vnukov [Vnukov 2003, 202; Vnukov 2006, 167].

Conform descoperirilor arheologice cunoscute până în prezent, amforele de acest tip reprezintă cele mai răspândite vase de transport utilizate de populația sarmatică nomadă din spațiul pruto-nistean. În general, amforele cu gât îngust – indiferent de variantele tipologice ale acestui tip – au fost folosite ca ambalaje pentru transportul mai ales a vinului grecesc de calitate superioară, produs utilizat nu doar ca băutură în viața cotidiană, ci și în cadrul unor practici cu caracter ritual, inclusiv funerare.

Până relativ recent, amforele de *tip C IVC* erau cunoscute în interfluvii pruto-nistean aproape exclusiv din complexe funerare sarmatice, fiind atestate în morminte sau necropole precum cele de la Pervomaisc [Rikman, Khynku 1970, 36-37, ris. 1, 3], Corpaci [Grosu 1979, 253-254, ris. 4], Petrești [Roșca 2001, 21-22, fig. 1; Kurchatov, Bubulich 2023, 169, foto, 8, 1, 2, 4], Bădragii Noi [Kurchatov *et al.* 1995, 113-117, 121, fig. 4; 6; 10], Șalvirii Noi [descoperire inedită, săpături S. Kurceatov] ș.a. Totodată, acest tip de amforă este bine documentat și în mediul culturii dacilor liberi din regiunile est-carpătice ale României [Bichir 1973, pl. CLVII, 2, 4-5]. În ultimii ani, astfel de recipiente au fost semnalate și la est de Prut, inclusiv în situri aparținând dacilor liberi, precum centrul de olărie de la Pruteni [Vornic *et al.* 2007, 111, 113, pl. 44, 1-2; fig. 39, 1; 73, 2, 6; 85, 1]. În ceea ce privește proveniența, cercetările din ultimele decenii au

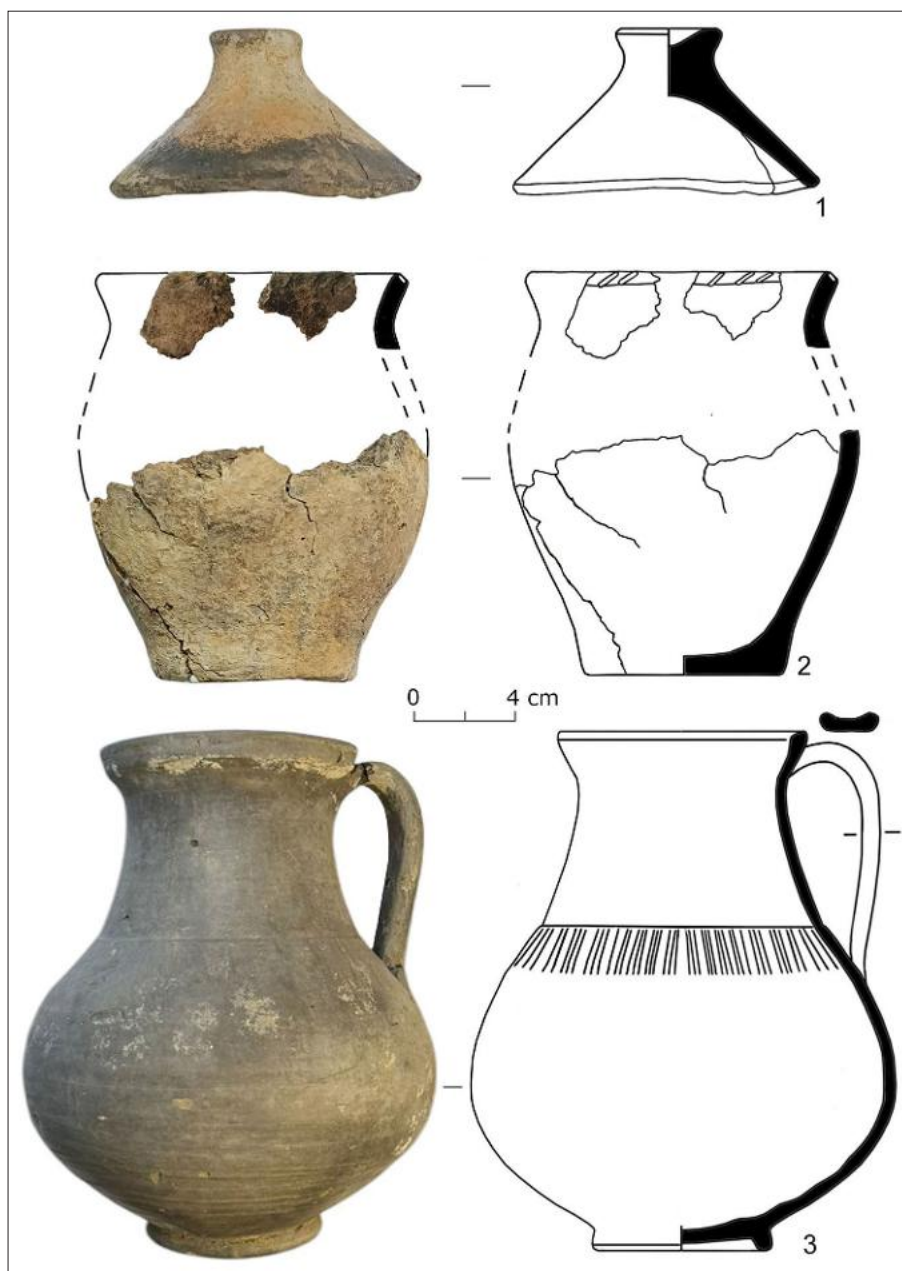


Fig. 5. Mereni 2023. Capac (1) și oală (2) lucrate cu mâna și cană lucrată la roată (3).

Fig. 5. Mereni 2023. Handmade lid (1) and pot (2), and wheel-made jug (3).

demonstrat – inițial prin analize petrografice, iar ulterior prin identificarea unor dovezi arheologice directe, constând în resturi de producție – că aceste amfore au fost realizate în atelierile din *Heraclea Pontica* [Vnukov 2003, 11; Paraschiv 2014, 28]. Referitor la datarea amforelor cu gâtul îngust, *variantea Neapolis/Shelov C/Vnukov C IVC*, acestea sunt tradițional plasate cronologic fie, în general, pe parcursul secolului al II-lea d.Chr. [Shelov 1978, 18], fie în a doua jumătate a acestui secol

și la începutul secolului al III-lea d.Chr. [Șovan, Șadurschi 1981, 54; Paraschiv 2014, 28].

Conform elaborărilor lui S. Vnukov, recipientele corespunzătoare *variantei C IVC* din cadrul clasificării sale sunt datate în intervalul cuprins între al doilea sfert și sfârșitul secolului al II-lea d.Chr. [Vnukov 2003, 202; Vnukov 2006, 167]. Mai recent, în cadrul acestei variante de amfore, autorul distinge două subvariante cronologice, notate *C IVC1* și *C IVC2*. Subvarianta timpurie

C IVC1 este reprezentată, în general, de amfore de dimensiuni mai mari, caracterizate prin umeri slab înclinați, cu o frângere pronunțată la îmbinarea cu corpul sub-conic, precum și printr-un gât aproape vertical, care se lărgeste doar ușor spre bază. Subvariantele mai târzii, *C IVC2*, cuprind vase de dimensiuni mai reduse, având un corp rotunjit, umeri bombati și înclinați, care trec lin în corp, și un gât relativ scurt, lărgit spre bază. Potrivit lui S. Vnukov, aceste forme constituie baza evolutivă pentru apariția ulterioară a amforelor de tip *C IVD* [Vnukov 2016, 41-43]. Pe baza caracteristicilor morfologice și a comparației cu schema tipologică propusă de S. Vnukov, amfora de la Mereni poate fi atribuită subvariantei *C IVC2*, datată în principal în a doua jumătate a secolului al II-lea d.Chr.

Referitor la castronul de factură romană, forma sa este una standard, larg răspândită și frecvent utilizată în lumea romană: tronconică, cu marginea îngroșată și îndoită spre interior, prevăzută cu fund pe suport inelar. În primele secole ale erei noastre, astfel de castroane sunt atestate în număr mare atât în centrele antice situate pe litoralul nordic și vestic al Mării Negre, cât și în așezările rurale din *chora* acestora [Knipovich 1952, *tipurile 14 (M)* și *13 (T)*, 303, 304, 315; Burakov 1976, 90, 91, 95, 96, tab. VII, 22-24, 27; VIII, 1-3, 10, 11, 13-15; Krapivina 1993, 42, 107-108, ris. 45, 1-8, 17, 20, 23, 24; Gavriluk, Krapivina 1999, 306, ris. 8, 44-46; 9, 5-7; 11, 30, 34, 35, 44-47, 51; Rădulescu 1975, 352].

Castronul roman de import, cu marginea îngroșată și arcuită spre interior, este bine reprezentat și în cadrul complexelor funerare sarmatice, fapt demonstrat de descoperirile de la Feștelita [Agul'nikov 1997, c. 279, 281, ris. 2, 14], Florițoaia Veche [Kurchatov, Levinskii 2007, 317-318, ris. 4, 1], Bădragii Noi [Kurchatov *et al.* 1995, 118-119, ris. 11, 6], Pogorăști [Ioniță 1964, p. 312, fig. 6], Petrești [Kurchatov, Bubulich 2023, 133, 141, 166, ris. 11, 6; 19, 1; foto 5, 5, 7] etc.

Fragmente de castroane de import, realizate din pastă roșiatică și caracterizate prin marginea îngroșată, îndoită spre interior, au fost semnalate și în unele așezări din secolele II-III d.Chr. din sudul și centrul interfluviului Prut-Nistru, cum sunt cele de la Drakulja [Gudkova, Fokeev 1984, 66-67, ris. 2, 8], Etulia (nr. X) (material inedit, săpături T. Shcherbakova), Cișmichioi [Vornic, Ciobanu

2007, 175, fig. 5, 11, 13, 15-17], Odaia [Vornic *et al.* 2006, 358, fig. 4, 1] Ialoveni [Vornic *et al.* 2008, 193, fig. 7, 10].

Este important de subliniat, în acest context, numărul foarte mare al castroanelor de formă tronconică, cu marginea îngroșată și îndoită spre interior, în cadrul centrului de olărie aparținând dacilor liberi de la Pruteni [Vornic *et al.* 2007, 79, tipul 1]. De remarcat faptul că majoritatea castroanelor realizate din pastă fină cărămizie, produse în atelierele acestui centru, prezintă întreaga suprafață interioară, precum și partea superioară a celei exterioare, acoperite cu o angobă roșiatică, care imită firnisul caracteristic exemplarelor de factură romană. Trebuie însă precizat că acest tip de castron de factură romană, din câte cunoaștem, este slab reprezentat sau chiar absent în complexe de tip Poieniști-Vîrteșcoi, frecvent atribuite carpilor sau altor populații dacice din secolele II-III d.Chr.

În ceea ce privește cronologia, acest tip de castroane are o datare mai largă, încadrată în limitele secolelor I-III d.Chr. Potrivit observațiilor unor specialiști, produsele confecționate dintr-o pastă semifină, fără degresanți grosieri, sunt caracteristice în special atelierelor ceramice bosporane din a doua jumătate a secolului al II-lea d.Chr. [Kurchatov, Bubulich 2023, 85].

Cana lucrată la roată, din pastă fină cenușie, cu corp bombat, gât cilindric scund și gură evazată în formă de pâlnie, de tipul celei descoperite la Mereni, utilizată pentru consumul băuturilor și, având în vedere dimensiunile sale, mai ales pentru turnarea lichidelor, reprezintă o formă ceramică frecvent întâlnită în complexe arheologice datate în secolele II-III d.Chr. Atribuită unei producții dacice sau carpice, aceasta este bine reprezentată atât în așezările și necropolele dacilor liberi, cât și în contexte funerare asociate sarmaților.

În tipologia ceramicii culturii carpice elaborată de Gh. Bichir, piesa analizată se încadrează în *tipul C/4*, ale cărui exemplare se caracterizează prin ardere reducătoare, cu colorit cenușiu, fiind atestate în ambele niveluri de locuire ale așezării de la Poiana-Dulcești [Bichir 1973, 82, fig. 16]. Conform clasificării propuse de I. Ioniță și V. Ursachi pentru ceramica din marea necropolă a dacilor liberi de la Văleni, vasul aparține *tipului 3* de căni, documentat prin patru exemplare, dintre care trei arse în atmosferă reducătoare și unul în atmosferă oxidantă; toate au fost utilizate ca urne

funerare [Ioniță, Ursachi 1988, 71, fig. 43, 19, 21; 44, 63; 46, 39]. Într-o clasificare mai recentă, realizată de D. Spănu pentru ceramica necropolei de epocă romană de la Poienеști, această formă este atribuită *tipului 2*, identificat în două morminte [nr. 608 și 1290], în ambele cazuri fiind vorba despre vase arse la cenușiu și utilizate ca urne [Spănu 2019, 45-46, 128, 140, fig. 10, V2; pl. 32, 608]. Prezența formei este confirmată și în cadrul centrului de olărie dacic din epoca romană de la Pruteni, unde a fost încadrată în *tipul 1* de căni. În acest context sunt cunoscute exemplare realizate atât din pastă arsă oxidant [la roșu], cât și reducător [la cenușiu], fapt ce sugerează o producție relativ standardizată, dar adaptabilă din punct de vedere tehnologic [Vornic *et all.* 2007, 101, pl. 39].

Relativ frecvent, cămile de tipul celei descoperite la Mereni sunt prezente și în complexe funerare din spațiul carpato-nistrean, atribuite sarmaților. Dintre descoperirile mai vechi sau recente de acest tip de pe teritoriul Republicii Moldova, documentate atât în morminte tumulare, cât și în necropole plane sarmatice, pot fi menționate cele de la Gradiște [Oboldueva 1955; 38, 43, ris. 8, 3], Bocani [Fedorov 1956, 51, 52, ris. 3], Mărcăuți [Grosu 1995, 139, fig. 5, 2], Seliște [Grosu 1995, 139, fig. 5, 4], Petrești [Kurchatov, Bubulich 2023, 83, 134, 166, ris. 12, 1; foto 5, 1] și Corjeuți [Popovici *et all.* 2024, 30, fig. 2-3], precum și cele de la Ordășei, provenite din cercetări recente încă inedite ale Agenției Naționale de Arheologie. Referitor la cronologie, aceste căni, la fel ca și castroanele tronconice de factură romană, sunt în general datate în secolele I-III d.Chr., fără a putea fi însă considerate criterii precise pentru atribuirea culturală sau cronologică.

Din complexul arheologic de la Mereni, descoperit acum trei ani, mai provin, pe lângă recipientele descrise și analizate anterior, o oală-borcan și un capac lucrate cu mâna din pastă grosieră. Aceste tipuri ceramice sunt foarte răspândite în mediul sarmatic din primele secole ale erei noastre [Bărcă 2006, 67, fig. 151, 1-6; Bărcă, Symonenko 2009, 220-221; Kurchatov, Bubulich 2023, 82, foto 6, 1-3, 6; 7, 3], deși ele apar și în unele complexe de tip Mologa [Gudkova 1999, 253-255], Etulia [Shcherbakova 1988, 94, 95, ris. 3, 4-6; Gudkova 1999, 279-290], precum și în contexte atribuite dacilor liberi, cum este centrul de olărie de la Pruteni [Vornic *et all.* 2007, 77]. Prezența lor în diferite medii culturale sugerează o circulație extinsă și o utilizare a vaselor și a capacelor de acest tip atât în scopuri gospodărești, cât și funerare.

Concluzii

Generalizând datele prezentate mai sus și având în vedere că toate vasele ceramice găsite la Mereni, fie lucrate la roată, fie cu mâna, se întâlnesc în complexe funerare atribuite sarmaților, precum și faptul că cele câteva resturi osoase recuperate sunt umane, considerăm că această descoperire fortuită reprezintă un mormânt de înhumatie sarmatic, dezvelit doar parțial, databil în secolul al II-lea sau, mai probabil, în a doua jumătate a acestuia. O cercetare sistematică prin săpături arheologice a acestui punct ar putea să verifice această ipoteză, investigațiile urmând să clarifice, de asemenea, dacă este vorba despre un mormânt de înhumatie realizat într-o movilă funerară nivelată complet prin lucrări edilitare sau despre o necropolă sarmatică plană.

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Ion Ursu, Ludmila Bacumenco-Pîrnău, Vlad Vornic, Sergiu Musteață

Cercetări arheologice în necropola de la Lozova-*La hotar cu Vornicenii* din perioada Hoardei de Aur (campania 2024)*

Key words: archaeological site, necropolis, funeral ritual, Lozova, Moldavia, Middle Ages.

Cuvinte-cheie: sit arheologic, necropolă, ritual funerar, Lozova, Moldova, evul mediu.

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Archaeological research at the medieval necropolis of Lozova-*La hotar cu Vornicenii* (2024 campaign)

The authors present the preliminary results of the archaeological research conducted during the 2024 campaign in the area of the medieval necropolis of Lozova-*La hotar cu Vornicenii* (Strășeni district, Republic of Moldova). The continuation of systematic excavations within the perimeter of this site led to the discovery of 17 burial features, comprising 18 inhumations. These belong to a local Christian community. The deceased (adults and children) were buried according to Christian ritual: on their backs, with their heads facing west and their legs extended, and their arms bent at the elbows, with their hands placed on their abdomen, chest, or shoulders. The grave goods are rich and diverse, including jewelry such as earrings, rings, beads, pendants, and veil rings, along with various clothing accessories (spherical buttons, brooches, buckles) and utensils (thimbles) and fabric remains, etc. The artifacts indicate that the cemetery was in use during the 14th century. The medieval necropolis of Lozova is one of a series of archaeological sites of particular importance for reconstructing the spiritual life of the orthodox population of 14th-century Moldavia, and the continuation of interdisciplinary research and rigorous analysis of the entire archaeological inventory will provide further valuable insights into the rural communities in the region between the Prut and the Dniester during the late period of the Golden Horde and the emergence and eastward expansion of the Principality of Moldavia.

Ion Ursu, Ludmila Bacumenco-Pîrnău, Vlad Vornic, Sergiu Musteață

Cercetări arheologice recente în necropola medievală de la Lozova-*La hotar cu Vornicenii* (campania 2024)

Autorii prezintă rezultatele preliminare ale cercetărilor arheologice din campania anului 2024, efectuate în aria necropolei medievale de la Lozova-*La hotar cu Vornicenii* (r-nul Strășeni, Republica Moldova). Continuarea săpăturilor sistematice în perimetrul acestui sit au dus la descoperirea a 17 complexe funerare, cuprinzând 18 înhumați. Acestea aparțin unei comunități creștine locale. Decedații (maturi și copii) au fost înhumați potrivit ritualului creștin: pe spate, cu capul spre vest și picioarele întinse, iar brațele îndoite din coate, cu mâinile așezate pe abdomen, piept sau pe umeri. Inventarul funerar este bogat și divers, incluzând piese de podoabă, precum cercei, inele, mărgel, pandantive și verigi de tâmplă, alături de piese de port, cum ar fi nasturi globulari, aplici și cataram, precum și degetare, resturi de țesături ș.a. Artefactele indică utilizarea cimitirului în secolul al XIV-lea, posibil și la începutul veacului următor. Necropola medievală de la Lozova face parte din șirul de situri arheologice deosebit de importante pentru reconstituirea vieții spirituale a populației ortodoxe din Moldova secolului al XIV-lea, iar continuarea cercetărilor interdisciplinare și analiza riguroasă a întregului inventar arheologic vor oferi și alte informații valoroase privind comunitățile rurale din spațiul dintre Prut și Nistru în perioada de sfârșit a Hoardei de Aur și începutul constituirii și extinderii spre est a Țării Moldovei.

* Lucrarea cuprinde rezultate ale cercetărilor efectuate în cadrul proiectului *Cercetarea așezărilor rurale din spațiul dintre Prut și Nistru în perioada Hoardei de Aur și a constituirii Țării Moldovei (secolul XIV)*, cod 25.80012.0807.48SE, finanțat prin programul național „Stimularea excelenței cercetărilor științifice” pentru anul 2025-2026 (Ludmila Pîrnău, Ion Ursu).

Introducere

Una dintre direcțiile fundamentale ale cercetării științifice în domeniul arheologiei medievale naționale rămâne reconstituirea istoriei spațiului rural din Moldova în secolul al XIV-lea, cu precădere a arealului dintre Prut și Nistru, într-o perioadă complexă, marcată de dominația impe-

riului Hoardei de Aur, precum și de procesele de constituire și consolidare a statului medieval moldovenesc. Această etapă cronologică reprezintă un moment de tranziție majoră, în care structurile politice, economice și sociale existente au fost supuse unor transformări profunde, determinate atât de influențele lumii tătaro-mongole, cât și

de afirmarea noii organizări statale de la est de Carpați.

În acest context, evoluția și dinamica internă a comunităților rurale locale, aflate în relație directă sau indirectă cu centrele urbane cunoscute în epocă, rămân încă insuficient cercetate. Aspecte precum organizarea habitatului, practicile funerare, schimburile comerciale, contactele culturale, schimbările demografice și formele de adaptare la noile realități politico-administrative necesită o analiză mai aprofundată. Această lacună de cercetare trebuie reconsiderată în lumina vestigiilor arheologice caracteristice mediului cultural al Hoardei de Aur, descoperite mai ales în așezările medievale urbane, dar și în cele rurale din zona centrală a Moldovei, încadrate cronologic, în linii generale, în secolul al XIV-lea. Aceste descoperiri permit nu doar nuanțarea imaginii privind prezența și influența Hoardei de Aur în regiune, ci și înțelegerea modului în care comunitățile locale au traversat procesul de integrare într-un nou cadru politic și cultural.

Așezarea și cimitirul medieval de la Lozova-*La hotar cu Vornicenii* constituie unul dintre cele mai reprezentative ansambluri arheologice din zona centrală a Republicii Moldova (fig. 1). Prin caracterul și diversitatea descoperirilor, situl oferă o perspectivă semnificativă asupra evoluției comunităților rurale locale din valea râului Bucovăț, asupra raporturilor acestora cu grupurile nomade aflate sub administrația Ulusului giucid, precum și asupra tranziției ulterioare către noua structură politică constituită în spațiul de la est de Carpați. Astfel, situl de la Lozova-*La hotar cu Vornicenii* reflectă în mod relevant interferența dintre tradițiile locale și influențele culturale specifice lumii Hoardei de Aur, într-un context istoric decisiv pentru formarea Țării Moldovei.

Situl medieval de la Lozova-*La hotar cu Vornicenii* (r. Strășeni, Republica Moldova), identificat în anul 2007 și cercetat pe parcursul a cinci campanii arheologice (2010-2011, 2014-2015, 2024), a furnizat descoperiri arheologice valoroase, care țin mai ales de credințele religioase și practicile funerare [Bacumenco-Pîrnău, Vornic, Ursu 2011; Vornic *et al.* 2012; Ursu, Bacumenco-Pîrnău, Vornic 2015; Ursu *et al.* 2016; Ursu *et al.* 2025]. Acestea contribuie substanțial la completarea tabloului istoric și la o mai bună înțelegere a unei perioade cruciale, în care dominația Hoardei

de Aur, transformările din mediul rural și procesul de constituire și extindere spre răsărit a Țării Moldovei se intersectează în mod direct.

Cercetările arheologice de teren inițiate în anul 2010 au avut la bază rezultatele preliminare ale prospecțiunilor magnetometrice și pedologice, care au indicat existența unor anomalii susceptibile de a corespunde unor complexe arheologice. Primele campanii de săpături, desfășurate în anii 2010-2011, au confirmat prezența unei așezări medievale și a unei necropole adiacente, fiind documentate primele 10 morminte.

Un moment important în cercetarea sitului s-a conturat în primăvara anului 2011, când observațiile de teren au evidențiat impactul distructiv al arăturilor adânci asupra necropolei. Această situație a impus efectuarea unei intervenții urgente de salvare în sectorul de sud-vest al acesteia, într-o zonă puternic afectată, desemnată convențional drept „suprafața mormintelor distruse”. În acest sector au fost înregistrate 19 aglomerări de oase umane, atribuite, pe baza analizei antropologice, unui număr de 18 indivizi, provenite din complexe funerare distruse sau puternic răvășite de lucrările agricole. Alături de resturile osteologice au fost recuperate și piese de inventar, unele asociate unui schelet de copil de 8-9 ani, dintre care se remarcă un inel sigilar de argint, un inel de bronz cu montură de sticlă albastră, un cercel sau o verigă de tâmplă din argint, un nasture sferoidal de bronz, mai multe mărgelile din coral și pastă sticloasă, fragmente de aplici de bronz și resturi textile [Vornic *et al.* 2012, 248].

Săpăturile arheologice au continuat sistematic în anii 2014 și 2015, prin extinderea suprafețelor investigate și prin completarea semnificativă a datelor privind organizarea spațiului funerar. În urma acestor campanii, bilanțul cercetărilor a ajuns la 106 de morminte de înhumatie documentate. Aceste intervenții au evidențiat, totodată, vulnerabilitatea accentuată a cimitirului în fața factorilor antropici și naturali. Adâncimea redusă de înhumare a defuncțiilor, frecvent cuprinsă între 0,20 și 0,60 m, coroborată cu procesele de eroziune a solului de pe versanți, a favorizat expunerea și afectarea complexelor funerare. Cele mai vulnerabile s-au dovedit a fi mormintele de copii, ale căror oseminte, mai fragile și depuse la adâncimi mai mici, au fost supuse într-o măsură mai mare distrugerii mecanice și degradării tafonomice.

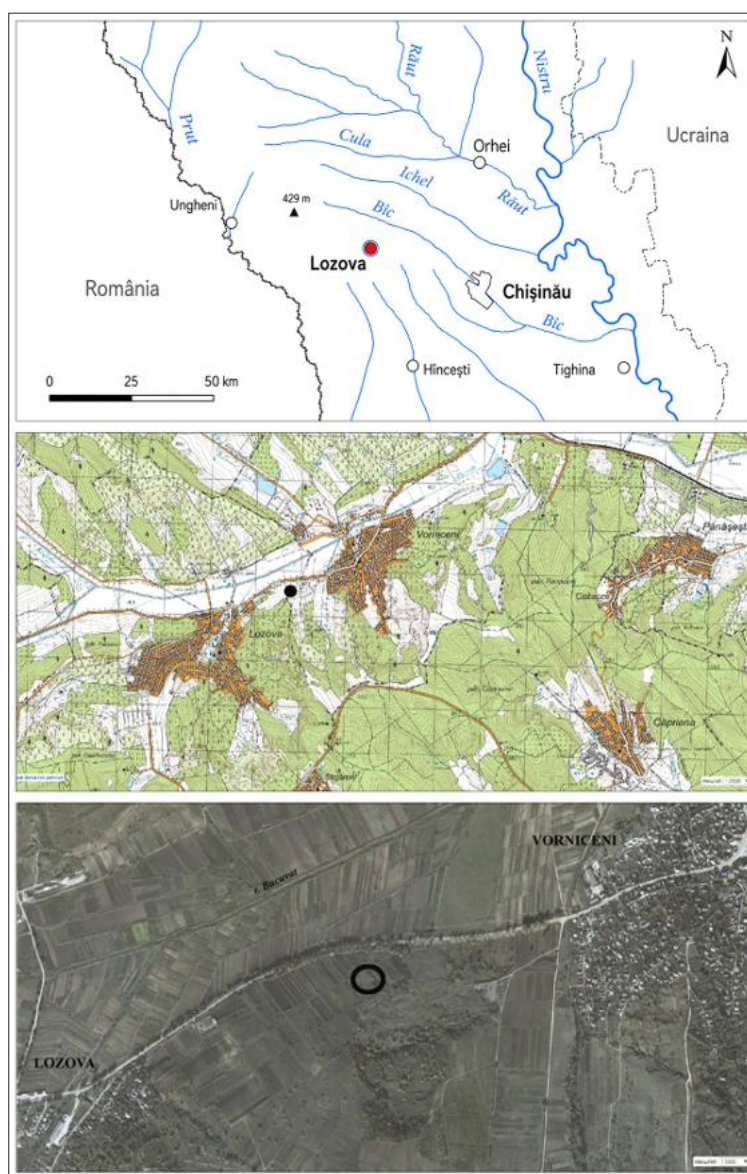


Fig. 1. Amplasarea geografică a sitului Lozova-*La hotar cu Vornicenii*.

Fig. 1. Geographical location of the site Lozova-*La hotar cu Vornicenii*.

Investigațiile arheologice sistematice efectuate în cimitirul medieval de la Lozova-*La hotar cu Vornicenii* în campania anului 2024¹ au avut, ca și

1. La cercetările arheologice sistematice din acest punct au participat: dr. Ion Ursu (responsabil științific) (Institutul Patrimoniului Cultural, Chișinău; dr. Ludmila Pîrnău (Institutul Patrimoniului Cultural, Chișinău/Institutul de Arheologie din Iași); Vlad Vornic (Agenția Națională Arheologică / Institutul Patrimoniului Cultural, Chișinău/; Sergiu Musteață (Universitatea Pedagogică de Stat „Ion Creangă”/ Institutul Patrimoniului Cultural, Chișinău); Sergiu Heghea, Sergiu Popovici, Adrian Iorga, Igor Dimov și Vladimir Chitic (Agenția Națională Arheologică, Chișinău) și nouă studenți de anul I de la Facultatea de Filologie și Istorie din cadrul Universității Pedagogice de Stat „Ion Creangă” din Chișinău.

în anii anteriori, un pronunțat caracter de salvare și au dus la dezvelirea resturilor scheletice a 18 defuncți, proveniți din 17 morminte, dintre care unul dublu, toate încadrându-se în ritualul creștin de înhumare. Eșantionul celor 123 de morminte de înhumare cercetate sau înregistrate până în prezent a furnizat un fond bogat și divers de date arheologice și bioantropologice, contribuind la reconstituirea unor particularități ale vieții cotidiene, ale credințelor religioase și, în special, ale practicilor funerare ale comunității, precum și la conturarea profilului său demografic.

O importanță deosebită a fost acordată și cercetării bioarheologice. Astfel, analiza paleoantropologică a eșantionului format din 18 schelete umane prelevate în campania anului 2024, realizată sub coordonarea dr. Vasilica-Monica Groza, cercetător științific III la Centrul de Cercetări Antropologice și Biomedicale „Olga Necrasov” al Filialei Iași a Academiei Române², completează semnificativ rezultatele studierii materialului osteologic uman deshumat în campaniile arheologice anterioare (2010-2011, 2014-2015) [Simalcsik 2012, 316-343; Simalcsik, Simalcsik, Groza 2013a, 71-80; 2013b, 228-244; Simalcsik, Simalcsik, Groza 2014, 85-96; Simalcsik *et al.* 2014, 247-265; Simalcsik, Groza 2015].

Necesitatea continuării cercetărilor arheologice în necropola de la Lozova-La hotar cu Vornicenii este determinată, în primul rând, de starea de vulnerabilitate a sitului, amplasat pe un teren utilizat intens pentru culturi agricole (fig. 2). Lucrările repetate de arat au afectat numeroase complexe funerare, unele fiind deranjate parțial, iar altele distruse aproape integral. În aceste condiții, au fost pierdute sau compromise informații importante privind contextul arheologic al practicilor funerare, poziția inițială a defuncțiilor, asocierea pieselor de inventar și, implicit, elemente relevante pentru înțelegerea culturii materiale a comunității creștine medievale din această zonă.

Prin urmare, cercetările întreprinse au urmărit nu doar investigarea sistematică a necropolei, ci și salvarea și documentarea științifică a complexelor funerare aflate în pericol de distrugere. Chiar și în cazul mormintelor afectate anterior de lucrările agricole, intervențiile arheologice au permis recuperarea unor informații, artefacte și resturi scheletice umane deranjate, deplasate sau împrăștiate în stratul arabil. Aceste date, deși provenite uneori din contexte parțial compromise, contribuie la completarea imaginii generale asupra ritului funerar, inventarului arheologic și structurii comunității înhumate în această necropolă. Un alt obiectiv important al campaniei a fost delimitarea mai precisă

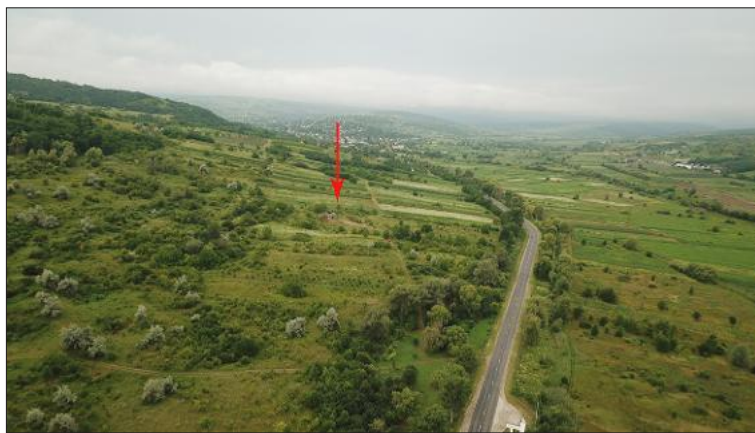


Fig. 2. Vedere cu suprafața sitului Lozova-La hotar cu Vornicenii (foto din dronă, 2024).

Fig. 2. View of the Lozova-La hotar cu Vornicenii site area (drone photo, 2024).

a limitei sudice a necropolei. Această acțiune este necesară pentru întocmirea unui plan detaliat al sitului, identificarea zonelor cu densitate ridicată a mormintelor și orientarea viitoarelor cercetări arheologice. În același timp, stabilirea limitelor cimitirului are o importanță directă pentru definirea măsurilor de protecție și pentru prevenirea extinderii lucrărilor agricole în zonele cu vestigii arheologice din spațiul funerar.

Pe lângă investigarea necropolei, cercetările arheologice au vizat și verificarea stratului de depuneri antropogene din zona adiacentă acesteia, corespunzătoare periferiei nordice a așezării medievale atribuite secolului al XIV-lea. Acest demers a avut drept scop identificarea unor urme de locuire care să permită o mai bună înțelegere a raportului dintre spațiul funerar și cel de habitat, precum și a modului în care comunitatea medievală își organiza teritoriul. Prin urmare, s-a urmărit descoperirea unor vestigii arheologice relevante pentru caracterizarea zonei de contact dintre necropolă și așezarea propriu-zisă, inclusiv eventuale complexe de locuire, amenajări gospodărești sau materiale arheologice care ar putea oferi indicii privind organizarea spațială, activitățile economice și alte aspecte ale vieții cotidiene.

Un obiectiv distinct al investigațiilor l-a constituit verificarea ipotezei existenței unei biserici în apropierea necropolei. Având în vedere caracterul creștin al ritului funerar documentat, identificarea unor structuri arhitectonice, a unor elemente constructive sau a altor vestigii asociate unui edificiu de

2. Vezi studiul elaborat de către Vasilica-Monica Groza, Ion Ursu, Ludmila Bacumenco-Pîrnău, Luminița Bejenaru, Mariana Popovici, *Necropola medievală de la Lozova-La hotar cu Vornicenii. Raport antropologic (campania 2024)*, publicat în același număr al acestei reviste.

cult ar contribui substanțial la clarificarea organizării spațiului sacru al comunității. Totodată, asemenea descoperiri ar permite o mai bună înțelegere a gradului de afirmare a creștinismului în mediul rural din zona centrală a Moldovei, într-o perioadă marcată de dominația politică a imperiului giucid și de începuturile constituirii statului medieval moldovenesc.

Descrierea săpăturilor și a complexelor arheologice

Amplasarea suprafețelor de cercetare în campania anului 2024 a fost stabilită în raport cu sectoarele investigate anterior, respectiv Secțiunile I-VI și „zona mormintelor distruse”, fiind vizată în special latura sudică a necropolei. Noile unități de săpătură au fost trasate la o distanță de 24 m spre nord-vest față de colțul Secțiunii VI, cercetată în anul 2015. În acest context, au fost deschise patru noi suprafețe, numerotate în continuarea

celor precedente: Secțiunile VII-X (fig. 3). Prin amplasarea noilor suprafețe s-a urmărit, pe de o parte, continuarea investigării arealului funerar, prin Secțiunile VII și VIII, iar pe de altă parte, verificarea zonei situate la vest de necropolă, atribuită așezării medievale din secolul al XIV-lea, prin Secțiunile IX și X (fig. 4). De asemenea, au fost întreprinse cercetări de suprafață mai amănunțite în „zona mormintelor distruse”, areal din care a fost recuperat un material arheologic bogat.

Secțiunea VII

Secțiunea VII, orientată pe direcția nord-vest – sud-est, a fost trasată paralel cu Secțiunea VI, având dimensiunile de 2×18 m (fig. 5,I-II). Primul nivel de depunere, raportat la nivelul actual de călcare, este reprezentat de un strat de sol vegetal de culoare neagră, lipsit de material arheologic. La adâncimea de circa 0,20 m față de ni-

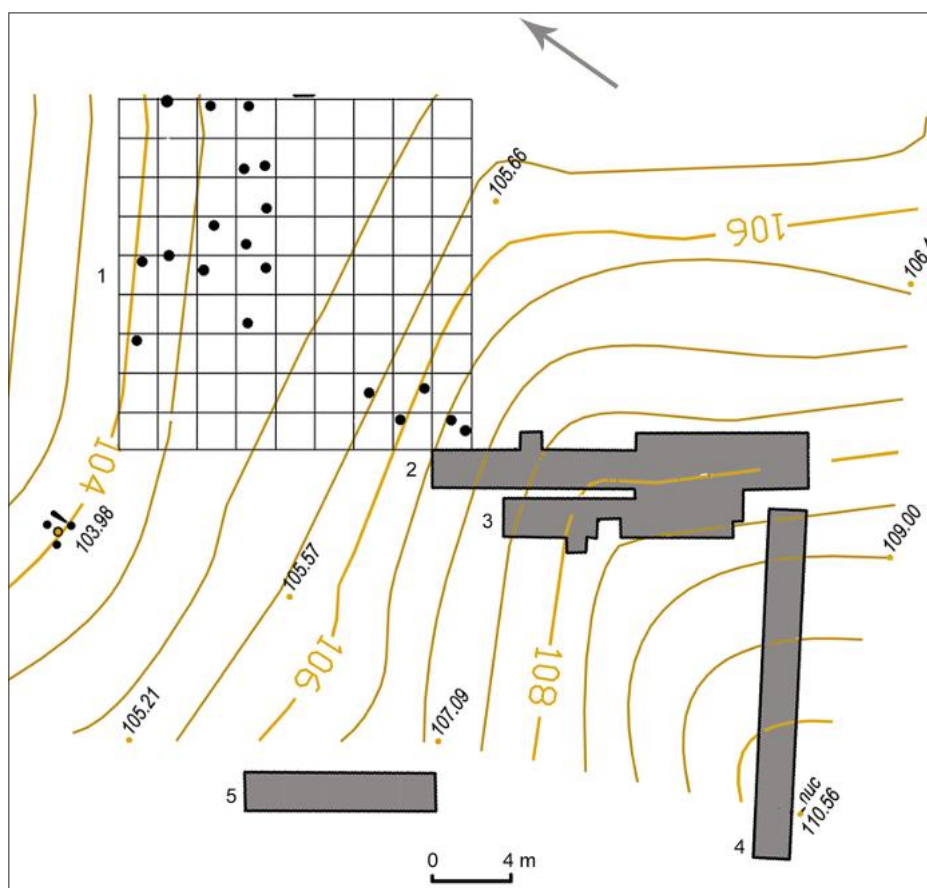


Fig. 3. Planul general al săpăturilor din situl Lozova-La hotar cu Vornicenii, campania 2024: 1 – zona mormintelor distruse; 2 – Secțiunea VII; 3 – Secțiunea VIII; 4 – Secțiunea IX; 5 – Secțiunea X.

Fig. 3. General plan of the excavations at the Lozova-La hotar cu Vornicenii site, 2024 campaign: 1 – area of disturbed graves; 2 – Section VII; 3 – Section VIII; 4 – Section IX; 5 – Section X.

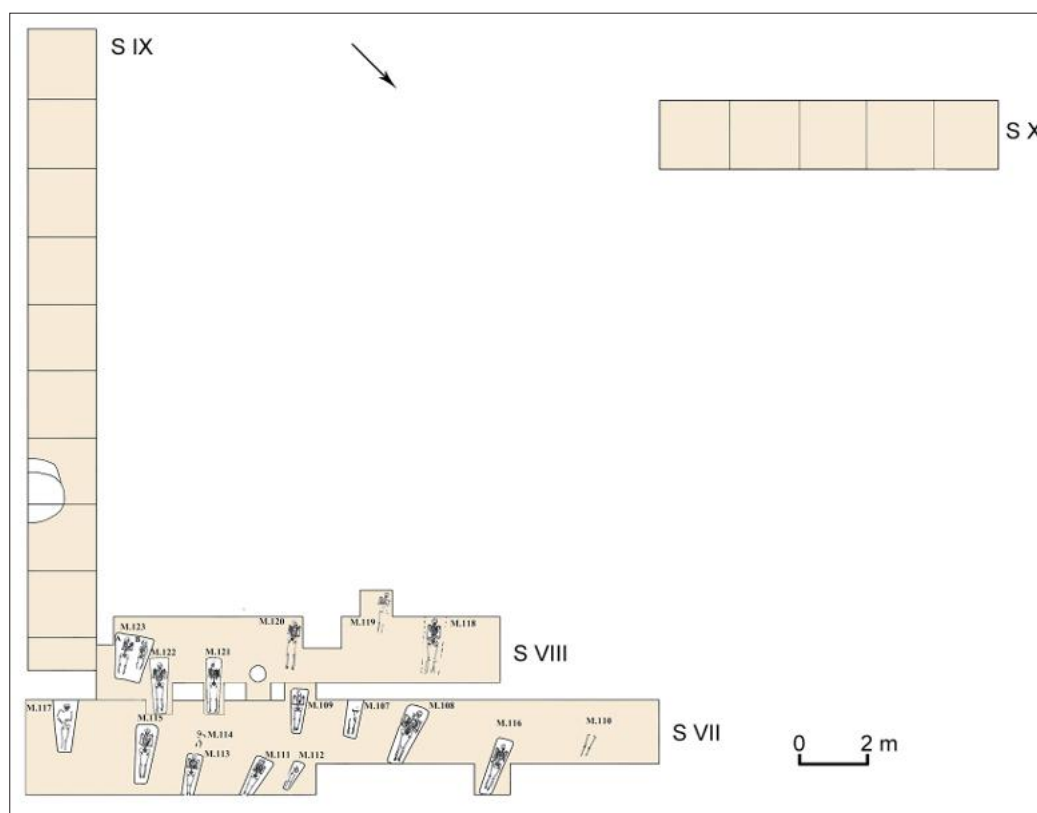


Fig. 4. Situl Lozova-La hotar cu Vornicenii. Planul amplasării secțiunilor VII-X (campania 2024).

Fig. 4. Lozova-La hotar cu Vornicenii site. Plan showing the location of Sections VII-X (2024 campaign).

velul actual de călcare, pe anumite segmente ale suprafeței cercetate, a fost surprins sterilul geologic, reprezentat de lutul viu. În urma răzuirii, au fost identificate contururile mai multor complexe funerare, precum și resturi osteologice umane izolate, rezultate din deranjamentele provocate de lucrările agricole.

În segmentul cuprins între carourile 5 și 9 s-a observat o variație a grosimii depunerilor, acestea fiind mai consistente în raport cu restul secțiunii. Sub stratul vegetal de sol negru, succesiunea stratigrafică evidențiază două orizonturi distincte: un nivel de sol brun-închis, urmat de un strat de tranziție de nuanță brun-măslinie. Sterilul geologic, reprezentat de lutul viu de culoare galbenă, a fost interceptat la adâncimi cuprinse între 0,40 și 0,60 m în zonele neafectate de intervenții antropice.

Profilul secțiunii reflectă cu claritate modul în care gropile mormintelor străpung aceste niveluri superioare și pătrund adânc în sterilul geologic, atingând cote maxime de aproximativ 0,90-1,00 m față de nivelul actual de călcare. Umplutura acestor complexe funerare, constând

dintr-un sol brun-cenușiu bine tasat, contrastează puternic cu galbenul intens al lutului viu, fapt ce a facilitat identificarea și delimitarea precisă a limitelor gropilor încă de la nivelul de conturare.

În acest sector au fost investigate 11 morminte, o parte dintre acestea depășind limitele inițiale ale secțiunii. Pentru cercetarea lor integrală, s-a impus executarea a trei casete suplimentare: una pe latura de sud-vest (cu dimensiunile de 1,0×1,0 m) și două pe latura de nord-est (cu suprafețele de 1,0×4,0 m și 1,0×1,0 m), asigurându-se astfel degajarea completă a contextelor funerare.

Secțiunea VIII

Secțiunea VIII a fost trasată la sud-vest de Secțiunea VII, paralel cu aceasta și având aceeași orientare, între cele două unități de săpătură fiind păstrat un martor stratigrafic cu lățimea de 0,50 m (fig. 5,I,III). Secțiunea, inițial sub forma unui șanț cu dimensiunile de 2×12 m, a fost împărțită în șase carouri de 2×2 m. Primul nivel, reprezentat de stratul vegetal, a livrat un material ceramic redus cantitativ și nesemnificativ din punct de

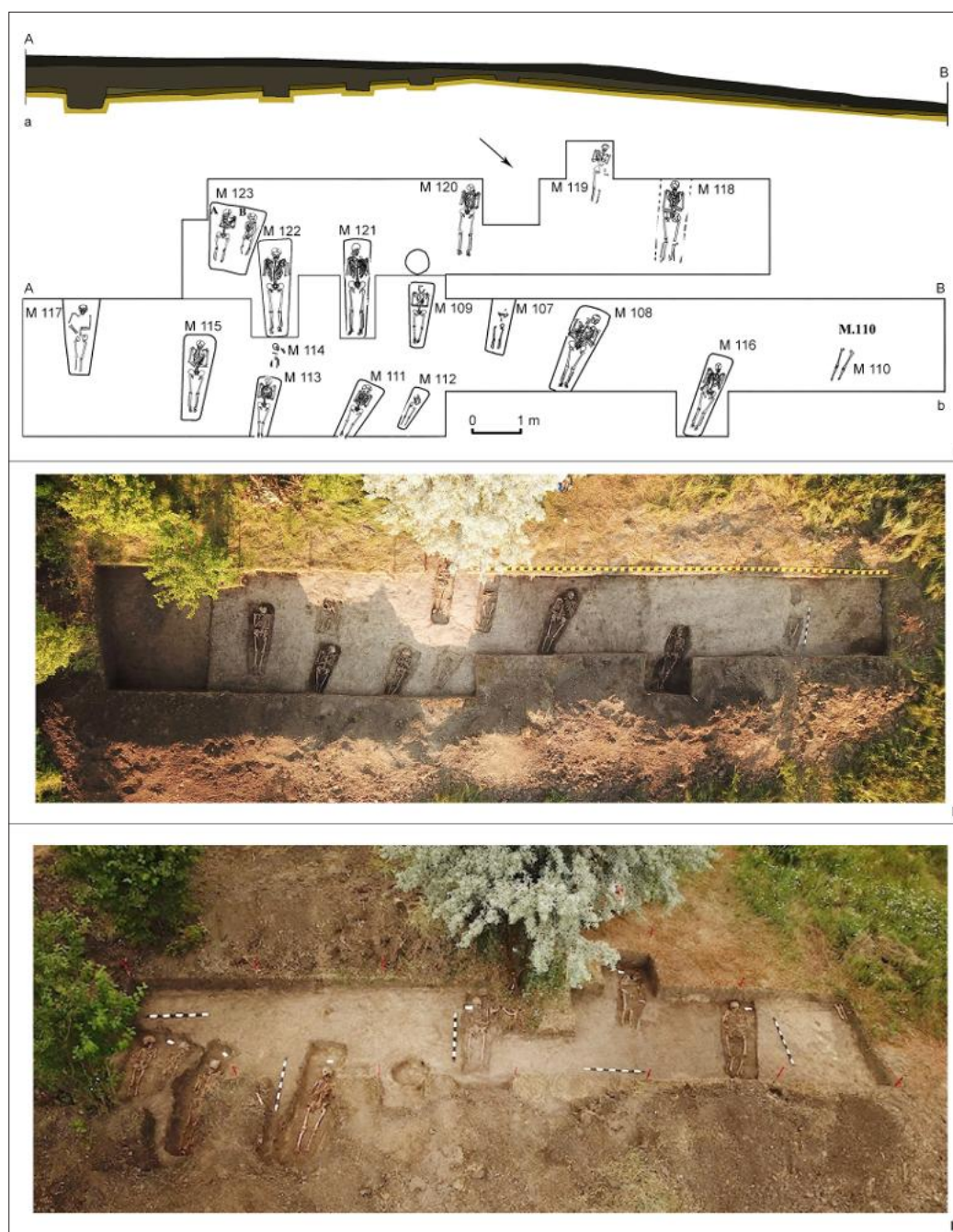


Fig. 5. Situl Lozova-*La hotar cu Vornicenii*. I – Planul și profilul secțiunilor VII-VIII (campania 2024); II – imagine cu Secțiunea VII (foto din dronă); III – imagine cu Secțiunea VIII (foto din dronă).

Fig. 5. Lozova-*La hotar cu Vornicenii* site. I – Plan and profile of Sections VII-VIII (2024 campaign); II – Section VII (drone photo); III – Section VIII (drone photo).

vedere diagnostic, atribuit perioadei Hoardei de Aur. La baza acestui strat, în carourile 1-5, au fost identificate contururile și resturile osteologice ale trei morminte.

În carourile 5 și 6, investigațiile au continuat prin decaparea celui de-al doilea nivel, sub care au fost

documentate alte patru complexe funerare. Având în vedere că majoritatea mormintelor se extindeau sub taluzurile de nord-est și sud-vest, s-a impus deschiderea a cinci casete suplimentare: una pe latura de sud-vest, trei pe cea de nord-est și una spre sud-est. Totodată, în caroul 4 a fost surprinsă o groapă cu

plan circular, având diametrul de 0,60 m și adâncimea de 0,15 m. Complexul prezenta o umplutură de sol brun-deschis, lipsită de material arheologic, motiv pentru care nu pot fi stabilite funcționalitatea și încadrarea sa cultural-cronologică.

Secțiunea IX

Secțiunea IX, cu dimensiunile de 19×2 m și orientată pe direcția nord-est – sud-vest, a fost trasată perpendicular pe limita sudică a Secțiunii VII, la o distanță de 1,0 m vest de caroul 9 al acesteia (fig. 6,I-II). Din punct de vedere topografic, terenul pe care a fost executată săpătura prezintă o pantă lină. Stratigrafia se prezintă astfel: primul nivel, vegetal, era alcătuit din sol negru amestecat cu resturi vegetale, reprezentând stratul de arătură, cu o grosime medie de 0,20 m. În zona carourilor 1-4, sub acest nivel a fost surprins direct sterilul geologic, reprezentat de lutul galben. Materialul arheologic era sporadic, fiind recuperate fragmente ceramice atribuite perioadei Hoardei de Aur și epocii fierului, alături de pigmenti de lut

ars și mici fragmente de lemn carbonizat. Al doilea strat, situat sub nivelul vegetal, începea de la adâncimea de 0,20 m și era alcătuit din sol brun, atingând adâncimea de 0,60 m în carourile 9-10 și la extremitatea estică a secțiunii.

În carourile 7-8, la adâncimea de 0,50-0,55 m, a fost identificat conturul unei gropi, desemnate drept Cx. 2, care intra sub profilul sudic al secțiunii. La nivelul de conturare, acesta avea dimensiunile de 1,70×1,00 m. Umplutura complexului, afectată de numeroase galerii de rozătoare, era constituită dintr-un sol bine tasat, de nuanță brună, evidențiat pe fundalul brun-gălbui al sterilului. Stratigrafia gropii indică un segment superior alcătuit din sol brun, până la adâncimea de 0,60 m față de nivelul de conturare, și un segment inferior, cu grosimea de circa 0,40 m, compus din sol brun cu lentile argiloase brun-deschise/gălbui. În umplutură au fost descoperite fragmente ceramice din alte perioade mai vechi, anterioare dominației Hoardei de Aur, și resturi faunistice, printre care un astragal de ovicaprină.

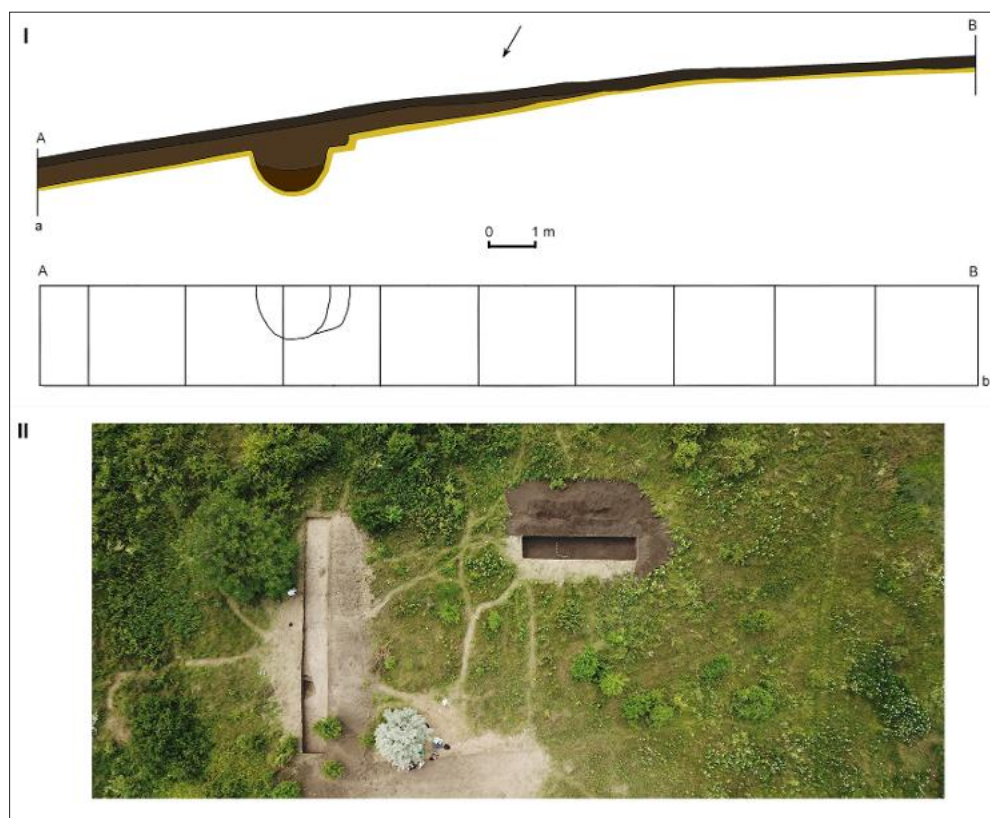


Fig. 6. Situl Lozova-La hotar cu Vornicenii. I – planul și profilul Secțiunii IX; II – imagine din dronă cu Secțiunea IX (campania 2024).

Fig. 6. Lozova-La hotar cu Vornicenii site. I – plan and profile of Section IX; II – drone photo of Section IX (2024 campaign).

Scopul principal al trasării Secțiunii IX a fost verificarea stratigrafică a zonei, în vederea identificării eventualelor urme de construcții sau amenajări care ar putea fi puse în legătură cu amplasamentul unei biserici medievale. Cercetările au evidențiat însă un strat cultural modest, caracterizat printr-o densitate redusă a materialului arheologic. În afara Cx. 2 descris anterior, pe întreaga suprafață a secțiunii nu au fost identificate elemente de zidărie, amprente de fundații, resturi de materiale de construcție ori alte intervenții antropice care să indice prezența unei construcții eclesiastice sau a unor anexe în acest perimetru. Absența unor niveluri de depunere clar definite, cu inventar arheologic consistent, sugerează că zona investigată prin Secțiunea IX se află la periferia nucleului de locuire, fiind caracterizată printr-o activitate umană sporadică, fără urme de intervenții majore în sol.

Secțiunea X

Secțiunea X, cu dimensiunile de 10×2 m, însumând o suprafață de 20 m², și orientată pe direcția nord-vest – sud-est (fig. 7,1-2), a fost deschisă la o distanță de 27 m sud-vest de Secțiunea VII și la 17,5 m nord-vest de Secțiunea IX. Deoarece terenul nu este inclus în circuitul agricol actual și era acoperit de vegetație spontană, cercetarea a debutat prin degajarea suprafeței, sub care a fost surprins un prim nivel de sol negru vegetal tasat. Din acest strat au fost recuperate câteva fragmente ceramice de culoare roșiatic-gălbuie.

Continuarea investigației a evidențiat un al doilea strat, alcătuit din sol negru compact, în care au fost identificate fragmente ceramice medievale, resturi faunistice și o fusaioală confecționată prin reutilizarea unui fragment de perete de vas de culoare roșiatic-gălbuie, piesă specifică perioadei Hoardei de Aur. Sub acest nivel, stratigrafia se modifică prin

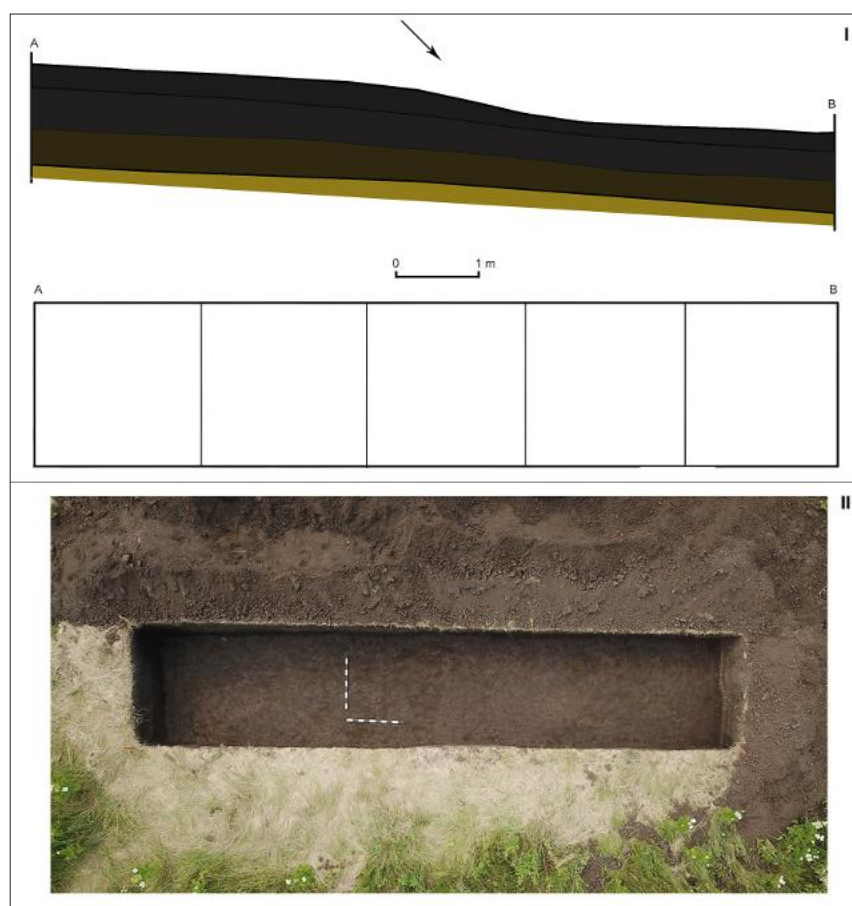


Fig. 7. Situl Lozova-*La hotar cu Vornicenii*. I – planul și profilul Secțiunii X; II – imagine din dronă cu Secțiunea X (campania 2024).

Fig. 7. Lozova-*La hotar cu Vornicenii* site. I – plan and profile of Section X; II – drone photo of Section X (2024 campaign).

apariția unui sol brun-închis compact, corespunzător stratului III, caracterizat printr-o densitate mai redusă a vestigiilor, dar marcat de descoperirea unei fusaiole bitronconice din ceramică roșiatică, caracteristică epocii fierului. În continuare, sub acest strat a fost observat un nivel de sol brun-deschis, corespunzător stratului IV, cu fragmente medievale izolate, urmat de un ultim nivel de sol brun-deschis spre gălbui, atribuit stratului V. Din acest ultim nivel a fost recuperat un fragment de vas decorat cu barbotină, element caracteristic culturii Poienești-Lucașeuca. Cercetarea a fost finalizată la atingerea sterilului geologic, reprezentat de lutul viu, care prezenta o suprafață plană la adâncimea de 1,25-1,30 m față de nivelul actual de călcare.

Materiale arheologice

Vestigiile arheologice recuperate pe parcursul campaniei din anul 2024 confirmă complexitatea locuirii din acest areal, deși materialul ceramic atribuit perioadei Hoardei de Aur este redus cantitativ. Puținele fragmente provin de la vase nesmălțuite, modelate din pastă roșiatic-gălbuie, repertoriul formelor identificabile incluzând ulcioare, străchini, oale și amfore. Din punct de vedere planigrafic, ceramica medievală a fost documentată în mai multe sectoare investigate. În Secțiunea VIII, nivelul vegetal de suprafață a livrat material ceramic fragmentar din perioada Hoardei de Aur, situație întâlnită și în Secțiunea X, unde stratul de sol negru a scos la iveală un material similar, cioburile fiind de mici dimensiuni. În Secțiunea IX, prezența materialului arheologic a fost mai sporadică, fragmentele ceramice medievale fiind descoperite alături de materiale datate în epoca fierului (fig. 8).

În Secțiunea X, în stratul II, a fost descoperită o fusaioală confecționată prin reutilizarea unui fragment de perete de vas de culoare roșiatic-gălbuie, tehnică specifică perioadei Hoardei de Aur (fig.

8,1). În aceeași unitate de săpătură, însă la o adâncime mai mare, corespunzătoare stratului III, a fost identificată o a doua fusaioală, de formă bitronconică. Aceasta a fost realizată din ceramică arsă la negru și poate fi atribuită, cu anumite rezerve, epocii fierului, indicând prezența unor vestigii aparținând unui nivel cultural mai vechi (fig. 9,4).

În afara descoperirilor provenite din contexte stratigrafice clare, cercetările de suprafață efectuate în arealul sitului au dus la recuperarea unor

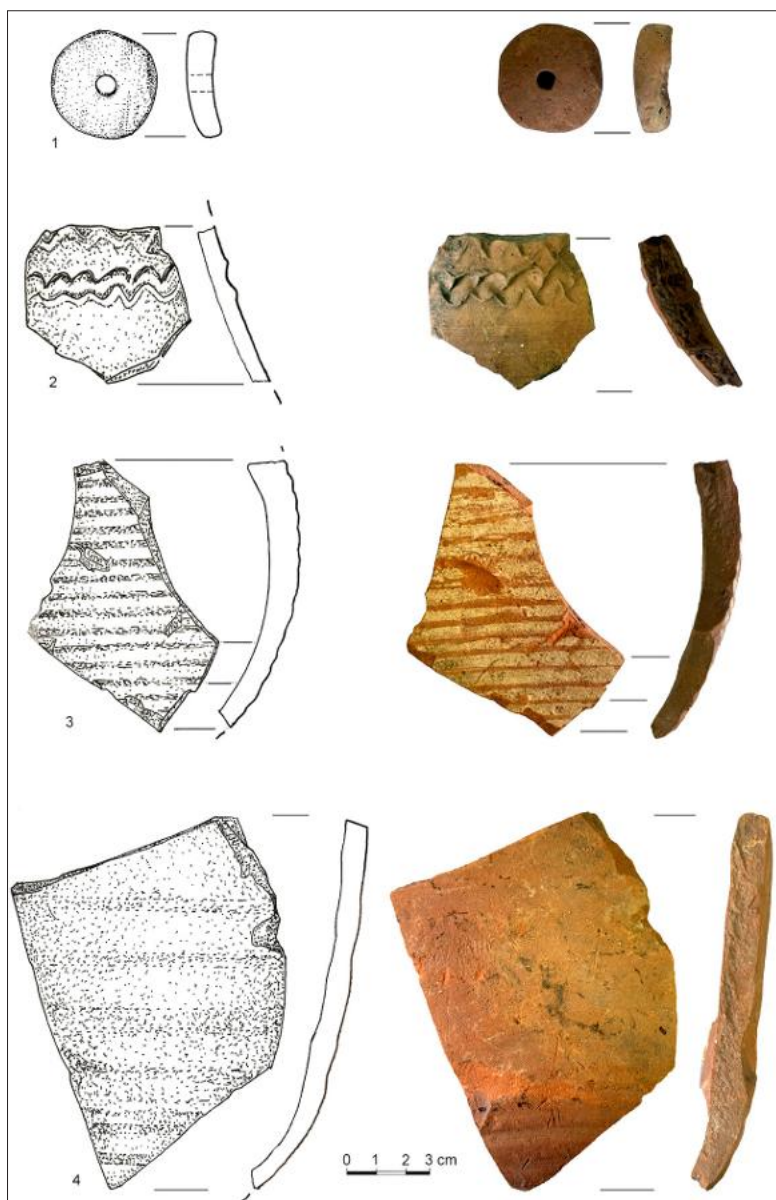


Fig. 8. Situl Lozova-La hotar cu Vornicenii. Material ceramic descoperit în campania 2024.

Fig. 8. Lozova-La hotar cu Vornicenii site. Pottery recovered during the 2024 campaign.

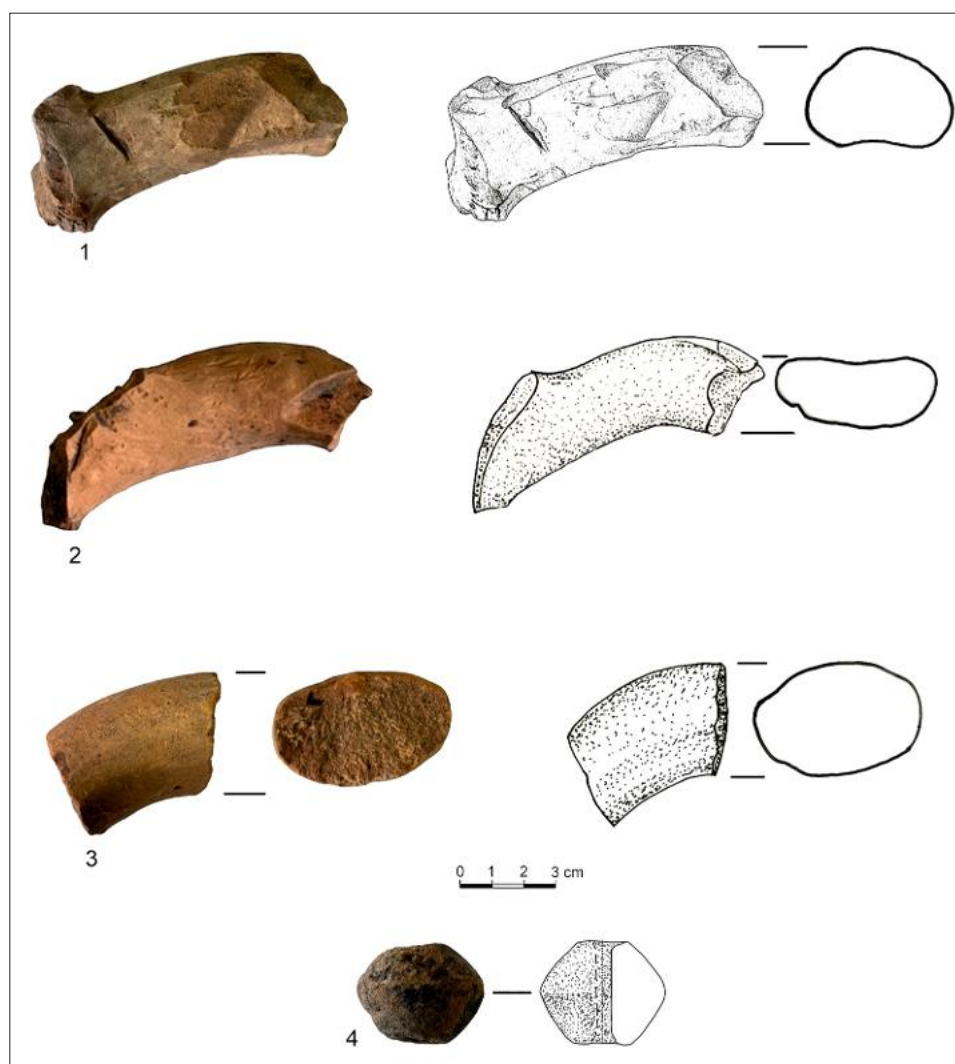


Fig. 9. Situl Lozova-*La hotar cu Vornicenii*. Material ceramic descoperit în campania 2024.

Fig. 9. Lozova-*La hotar cu Vornicenii* site. Pottery recovered during the 2024 campaign.

artefacte direct din stratul vegetal, afectat intens de arături. Printre aceste piese, dislocate din contextul lor inițial de lucrările agricole, se numără fragmente de vase de fontă utilizate la gătit (fig. 10,2), precum și o teslă/daltă destinată prelucrării lemnului (fig. 10,1).

Morminte³

M. 107 (fig. 11) a fost descoperit în caroul 4, la adâncimea de 0,25 m, având orientarea vest-est. Groapa funerară avea formă trapezoidală și o lun-

3. Numerotarea mormintelor s-a făcut în ordinea descoperirii lor în continuarea celor dezvelite în campania 2015. Ilustrația aferentă este grupată pe complexe funerare, cuprinzând desene și fotografii ale mormintelor și obiectelor descoperite. S-a utilizat prescurtarea M. pentru „mormânt”.

gime de 1,25 m. Scheletul, aparținând unui copil cu vârsta de circa 12 ani (*infans II*), de sex indeternabil, a fost depus în decubit dorsal, cu brațele îndoite din coate și palmele așezate pe torace. Complexul funerar a fost puternic deranjat de lucrările agricole, fapt ce a dus la distrugerea oaselor toracelui, precum și la lipsa craniului și a osului iliac drept. Nu a fost descoperită nicio piesă de inventar.

M. 108 (fig. 12,I,1; II) a fost descoperit în Secțiunea VII, carourile 3-4, la adâncimea de 0,30-0,40 m, având orientarea vest-est. Conturul gropii nu a putut fi precizat, aceasta fiind săpată într-un sol negru, probabil într-un șanț natural umplut cu cernoziom. Din cauza naturii afânate a solului în care a fost depus defunctul, scheletul

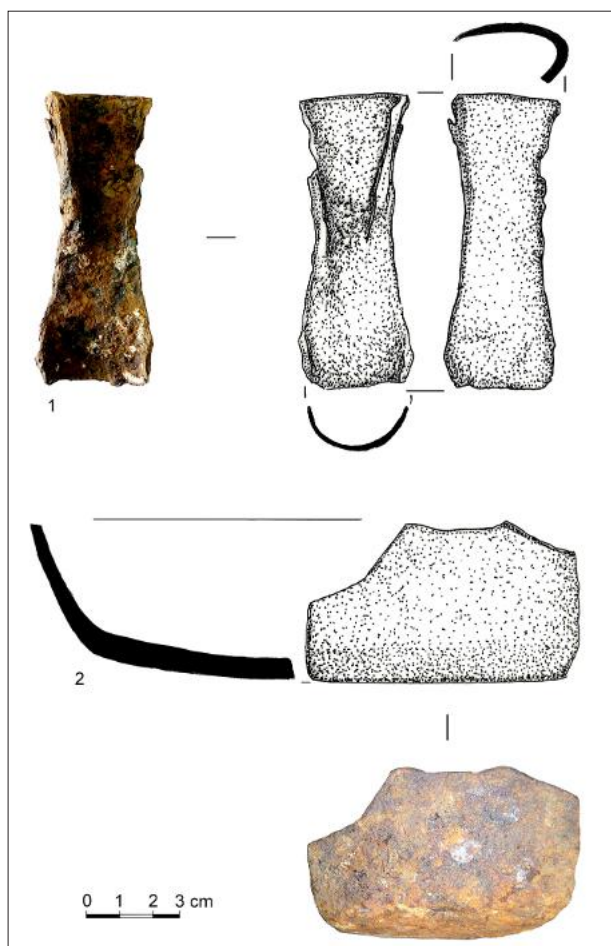


Fig. 10. Situl Lozova-La hotar cu Vorniceni. Piese de fier și fontă descoperite în campania 2024.

Fig. 10. Lozova-La hotar cu Vorniceni site. Iron and cast-iron artefacts recovered during the 2024 campaign.

a fost surprins ușor deplasat, cu partea superioară coborâtă sub nivelul anatomic normal. Scheletul, aparținând unei femei cu vârsta la deces de 35-40 de ani, se afla depus în decubit dorsal, în poziție întinsă, cu brațele așezate pe piept. În umplutura gropii, în zona toracelui și a bazinului, au fost identificate fragmente de cărbune de lemn.

Inventarul funerar al M. 108 este deosebit de bogat și divers, fiind alcătuit din piese de podoabă, accesorii de port și un obiect cu caracter utilitar (fig. 12,I,2-9). Piesele au fost descoperite în zona craniului, a toracelui, a bazinului și a membrilor inferioare, unele dintre acestea fiind ușor deplasate față de poziția lor inițială.

1. Degetar din cupru, descoperit pe osul sacru. Piesa are formă tronconică, cu partea superioară ușor rotunjită și suprafața prevăzută cu

adâncituri dispuse regulat, specifice acestui tip de obiect utilitar (fig. 12,I,5).

2. Nasture globular din bronz, identificat pe clavicula dreaptă. Piesa are corp sferoidal și este prevăzută cu urechiușă de prindere (fig. 12,I,6).

3. Nasture ovoidal, ajurat, lucrat din argint, descoperit în partea stângă a craniului, în zona tâmplei. Piesa este compusă dintr-un corp ovoidal decorat prin nervuri dispuse radial și prevăzută cu sistem de prindere și o granulă ornamentală la polul opus (fig. 12,I,2).

4. Inel de buclă din argint, spiralat, descoperit în partea dreaptă a craniului, în dreptul tâmplei. Piesa este realizată din fir de argint răsucit în spirală, cu capetele suprapuse sau apropiate (fig. 12,I,4).

5. Nasture globular fragmentar, aflat într-o stare avansată de degradare, recuperat de lângă femurul stâng. Piesa pare să fi avut corp sferoidal și urechiușă de prindere (fig. 12,I,7).

6. Nasture globular ajurat, confecționat din argint, descoperit în partea dreaptă a craniului, în apropierea tâmplei. Piesa prezintă corp sferoidal,

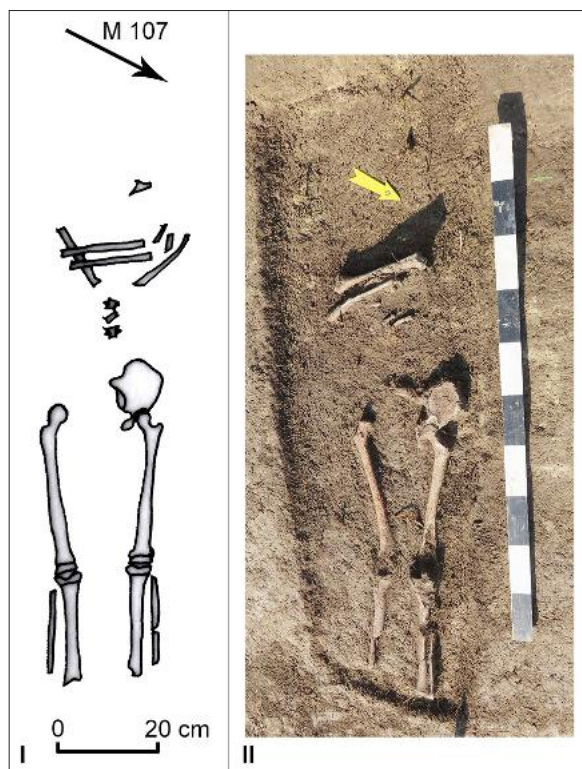


Fig. 11. Situl Lozova-La hotar cu Vorniceni. Mormântul 107, desen (I) și foto (II).

Fig. 11. Lozova-La hotar cu Vorniceni site. Grave 107, drawing (I) and photo (II).

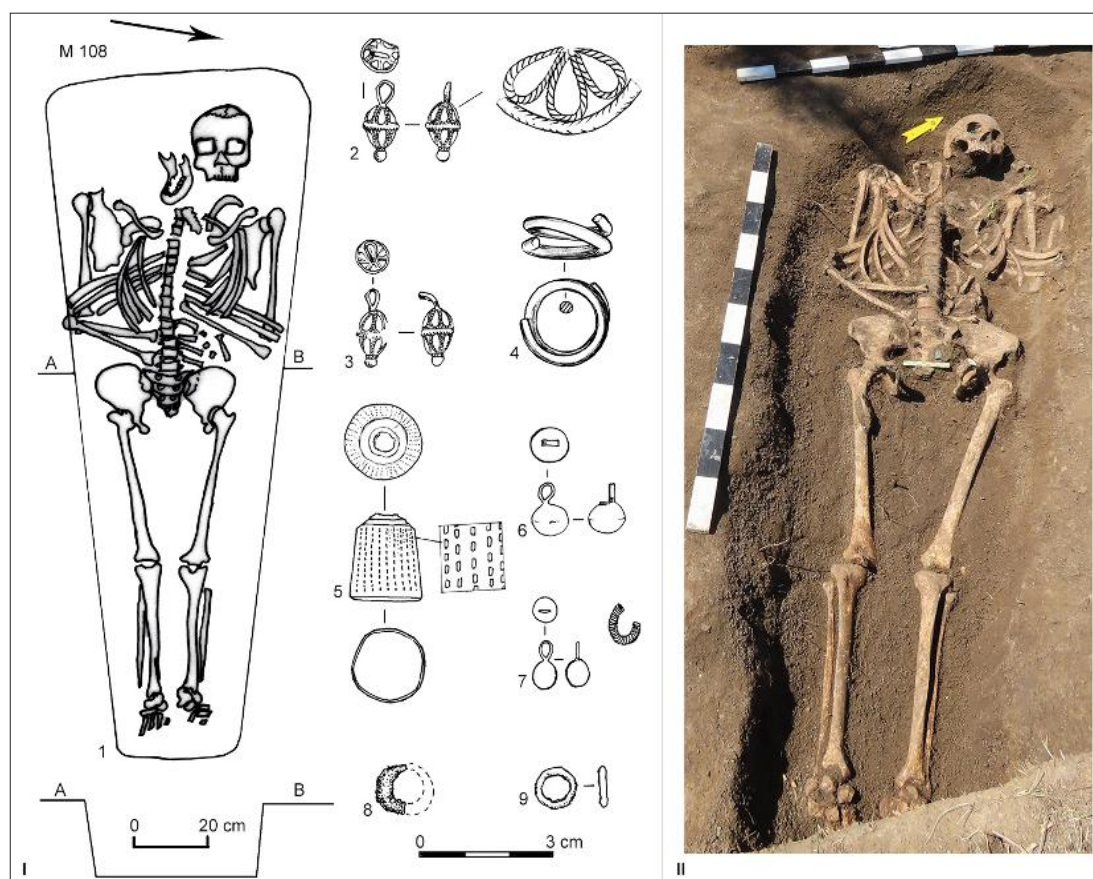


Fig. 12. Situl Lozova-La hotar cu Vornicenii. Mormântul 108, desen (I) și foto (II).

Fig. 12. Lozova-La hotar cu Vornicenii site. Grave 108, drawing (I) and photo (II).

decor ajurat și sistem de prindere, fiind apropiată ca formă de exemplarul descoperit în partea stângă a craniului (fig. 12,I,3).

7. Două verigi din fier, cu diametrele de 1,5 cm și, respectiv, 1,0 cm, identificate în regiunea toracelui. Una dintre piese este fragmentară și prezintă urme de coroziune accentuată (fig. 12,I,8-9).

M. 109 (fig. 13,I,1; II) a fost descoperit în Secțiunea VII, caroul 5, sub taluzul de sud-vest. Pentru cercetarea integrală a complexului, a fost trasată o casetă cu dimensiunile de 0,50×1,00 m. Groapa funerară, orientată V-E, avea o formă trapezoidală, fiind surprinsă la adâncimea de 0,25-0,35 m de la nivelul actual de călcare. Umplutura gropii păstrată este de numai 0,05-0,10 m. Scheletul, aparținând unui individ adolescent, de sex indeterminabil, era depus în poziție întinsă pe spate, cu brațele îndoite din coate și palmele așezate pe abdomen. Starea de conservare a resturilor osteologice este precară; craniul, orientat spre vest, nu s-a păstrat, cu excepția câtorva fragmente.

Inventarul funerar constă dintr-o singură piesă:

1. Cercel circular realizat din fir de argint cu secțiune circulară. Unul dintre capete este răsucit în formă de „S”, iar celălalt este îndoit spre exterior, fără a se putea preciza cu certitudine modul de prindere al piesei. Piesa a fost descoperită în imediata apropiere a tâmpiei drepte (fig. 13,I,2).

M. 110 (fig. 14,I-II) a fost descoperit în Secțiunea VII, caroul 1, lângă latura de nord-vest, la adâncimea de 0,20 m. Scheletul, aparținând unui copil cu vârsta de circa 8 ani (*infans II*), de sex indeterminabil, a fost surprins într-o stare de conservare precară, fiind în mare parte distrus în urma lucrărilor agricole. Din complexul funerar s-au mai păstrat doar oasele membrelor inferioare, care indică faptul că defunctul a fost depus în decubit dorsal, cu craniul orientat spre vest. Fără inventar.

M. 111 (fig. 15,I,1; II) a fost descoperit în Secțiunea VII, în colțul estic al caroului 5, la adâ-

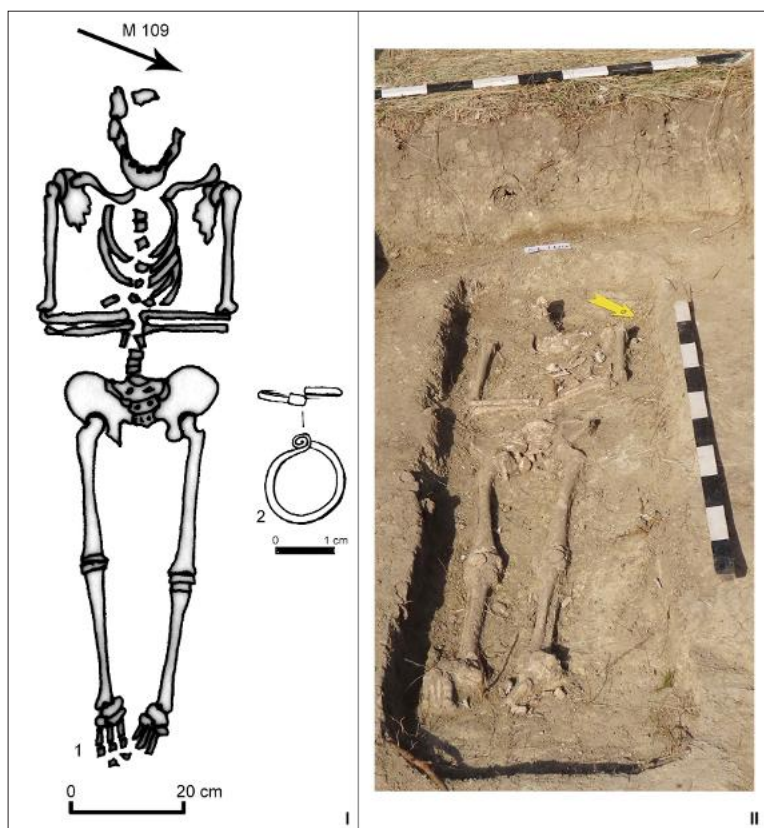


Fig. 13. Situl Lozova-La hotar cu Vorniceni. Mormântul 109, desen (I) și foto (II).

Fig. 13. Lozova-La hotar cu Vorniceni site. Grave 109, drawing (I) and photo (II).

cimea de 0,20 m. Pentru cercetarea integrală a complexului, a fost trasată o casetă cu lățimea de 1,00 m pe latura carourilor 5-6. Mormântul avea orientarea vest-est. Groapa funerară avea formă rectangulară, iar în interiorul acesteia au fost identificate urme de lemn, provenind probabil de la elemente ale amenajării funerare. Scheletul, aparținând unei tinere cu vârsta de 15-16 ani, era bine păstrat și a fost depus în decubit dorsal, cu brațele îndoite din coate și palmele așezate pe torace, în zona sternului. Craniul a fost surprins căzut pe tâmpla dreaptă, cu privirea orientată spre sud.

Inventarul funerar este reprezentat de o singură piesă:

1. Nasture din bronz, descoperit în zona umărului stâng. Piesa are corp sferoidal, ușor aplatizat, și este prevăzută în partea superioară cu o urechiușă de prindere (fig. 15,I,2).

M. 112 (fig. 16,I-II) a fost descoperit în Secțiunea VII, în caseta trasată pentru cerceta-

rea M. 111, la adâncimea de 0,20-0,25 m, având orientarea vest-est. Groapa avea formă trapezoidală, iar scheletul, aparținând unui copil cu vârsta de 4-5 ani (*infans I*), de sex indeterminabil, a fost depus în decubit dorsal, cu brațele așezate pe piept. Din cauza lucrărilor agricole, complexul funerar a fost parțial distrus, craniul defunctului nefiind păstrat. Fără inventar.

M. 113 (fig. 17,I-II) a fost descoperit în Secțiunea VII, în caseta II, în proximitatea caroului 6, la adâncimea de 0,35 m, având orientarea vest-est. Groapa, de formă trapezoidală în plan, avea adâncimea de 0,20-0,25 m de la nivelul identificării. Scheletul, aparținând unui bărbat cu vârsta de 55-60 de ani, a fost depus în decubit dorsal, cu brațele așezate pe abdomen. Craniul a fost surprins ușor căzut spre stânga, cu privirea orientată spre nord. Fără inventar.

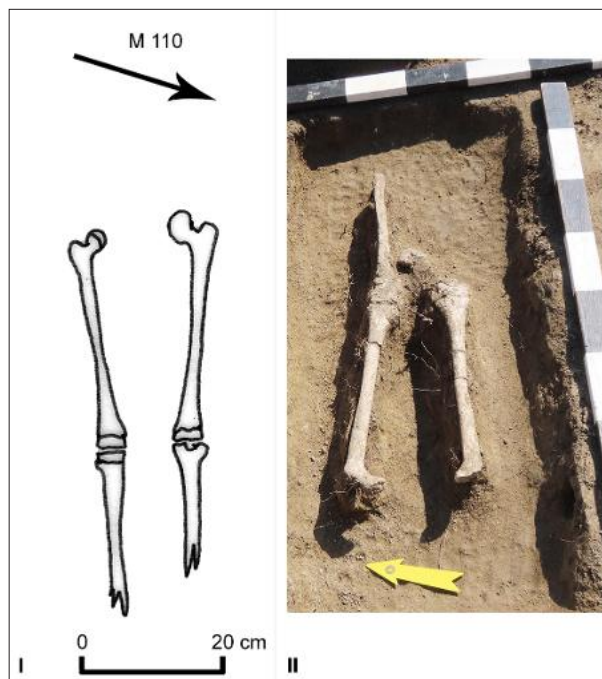


Fig. 14. Situl Lozova-La hotar cu Vorniceni. Mormântul 110, desen (I) și foto (II).

Fig. 14. Lozova-La hotar cu Vorniceni site. Grave 110, drawing (I) and photo (II).

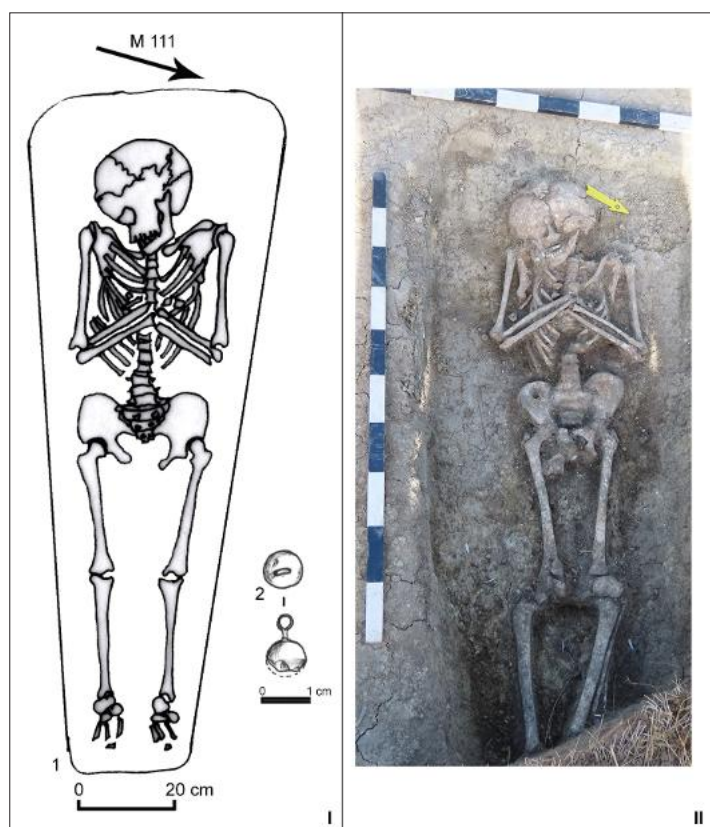


Fig. 15. Situl Lozova-La hotar cu Vornicenii. Mormântul 111, desen (I) și foto (II).

Fig. 15. Lozova-La hotar cu Vornicenii site. Grave 111, drawing (I) and photo (II).

M. 114 (fig. 18,I,1; II) a fost descoperit în Secțiunea VII, la adâncimea de 0,20 m, odată cu conturarea primelor fragmente ale calotei craniene. Scheletul, aparținând unui copil cu vârsta de 4-5 ani (*infans I*), de sex indeterminabil, a fost grav deranjat de lucrările agricole. *In situ* s-au păstrat doar parțial craniul, oasele brațelor, femurele și osul iliac stâng. Conform poziției resturilor osteologice, defunctul a fost depus în decubit dorsal, cu craniul orientat spre vest.

Inventarul funerar cuprinde două piese:

1. Nasture globular din argint, realizat din fir metalic dispus simetric, formând un corp sferoidal cu aspect ajurat, prevăzut cu verigă de prindere (fig. 18,I,2).

2. Verigă din fier, de formă circulară, realizată din tijă metalică cu secțiune circulară, identificată în zona toracelui (fig. 18,I,3).

M. 115 (fig. 19,I,1; II) a fost descoperit în Secțiunea VII, la limita sudică a caroului 7, la

adâncimea de 0,35 m, având orientarea vest-est. Groapa avea formă trapezoidală, iar fundul acesteia a fost identificat la adâncimea de 0,10-0,15 m de la nivelul de conturare. Scheletul, aparținând unui bărbat cu vârsta de 40-45 de ani, era bine păstrat și a fost depus în decubit dorsal, cu brațul drept așezat pe abdomen și palma stângă pe torace. Craniul era așezat pe occipital, cu privirea orientată spre est.

Inventar:

1. Piesă de silex, cu dimensiunile de 3×2,5 cm, descoperită în partea stângă a osului iliac stâng (fig. 19,I,2).

M. 116 (fig. 20,I,1; II) a fost descoperit în Secțiunea VII, caroul 3, la adâncimea de 0,25-0,30 m, având orientarea vest-est. Groapa avea formă trapezoidală, cu lungimea de 1,80 m și adâncimea de 0,12-0,15 m de la nivelul identificării. Scheletul, aparținând unui bărbat cu vârsta de 60-65 de ani, a fost depus în decubit dorsal, cu membrele inferioare întinse. Craniul era așezat pe occipital, cu privirea orientată în sus. Brațele par

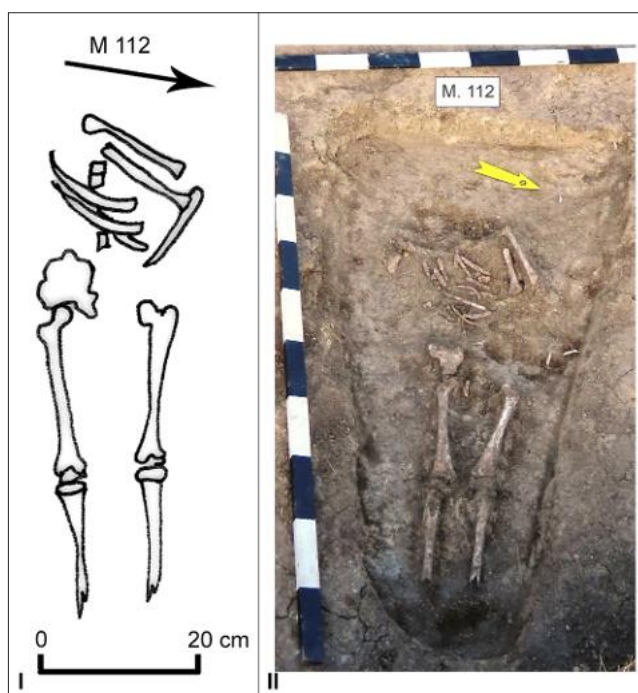


Fig. 16. Situl Lozova-La hotar cu Vornicenii. Mormântul 112, desen (I) și foto (II).

Fig. 16. Lozova-La hotar cu Vornicenii site. Grave 112, drawing (I) and photo (II).

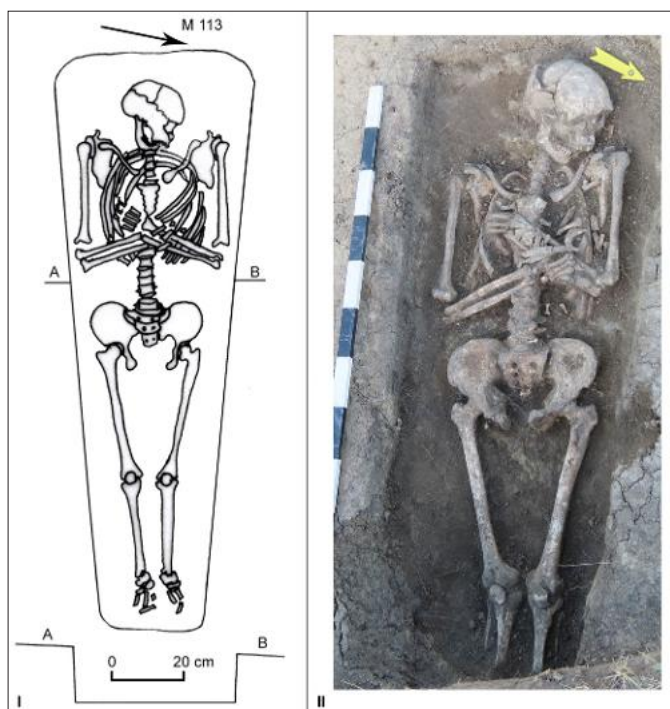


Fig. 17. Situl Lozova-La hotar cu Vornicenii. Mormântul 113, desen (I) și foto (II).

Fig. 17. Lozova-La hotar cu Vornicenii site. Grave 113, drawing (I) and photo (II).

fiind situată pe linia taluzului de sud-vest. Conturul complexului a fost identificat la adâncimea de 0,65 m față de nivelul vechi de călcare. Groapa funerară avea formă rectangulară, cu lungimea de 1,70 m și lățimea de 0,70 m în zona capului, respectiv 0,44 m în zona picioarelor. Adâncimea gropii, raportată la nivelul de conturare, era de 0,30 m în dreptul craniului și de 0,20 m în zona picioarelor. Mormântul avea orientarea vest-est.

Scheletul, aparținând unei femei cu vârsta de 40-45 de ani, a fost depus în decubit dorsal, cu brațul stâng îndoit din cot și palma așezată pe abdomen, iar brațul drept depus pe bazin. Craniul era așezat pe occipital, cu privirea orientată spre est. Starea de conservare a resturilor osteologice era precară, în principal din cauza activității intense a rozătoarelor. Oasele erau extrem de fragile, păstrându-se doar craniul, oasele brațelor și ale membrelor inferioare, fragmente ale bazinului și urme ale coloanei vertebrale. În colțul vestic al gropii, la stânga craniului, au fost documentate pe fundul complexului urme de lemn putrezit și cărbune ars, pe o suprafață de aproximativ 15×30 cm.

să fi fost poziționate inițial pe piept, unde s-au păstrat oasele palmelor, însă antebrațul drept a fost deplasat post-inhumare spre zona bazinului. Deranjamente au fost semnalate și în regiunea coccigiană, unde vertebrele erau deplasate, iar osul sacru a fost identificat pe osul iliac stâng. Sub craniu au fost documentate urme de cărbune de lemn.

Inventar funerar:

1. Nasture globular din bronz, fragmentar, descoperit pe torace, în partea dreaptă a coloanei vertebrale. Piesa are corp sferoidal, ușor aplatizat, și păstrează veriga de prindere (fig. 20,I,2).

M. 117 (fig. 21,I,1; II) a fost descoperit în Secțiunea VII, caroul 9, partea superioară a gropii

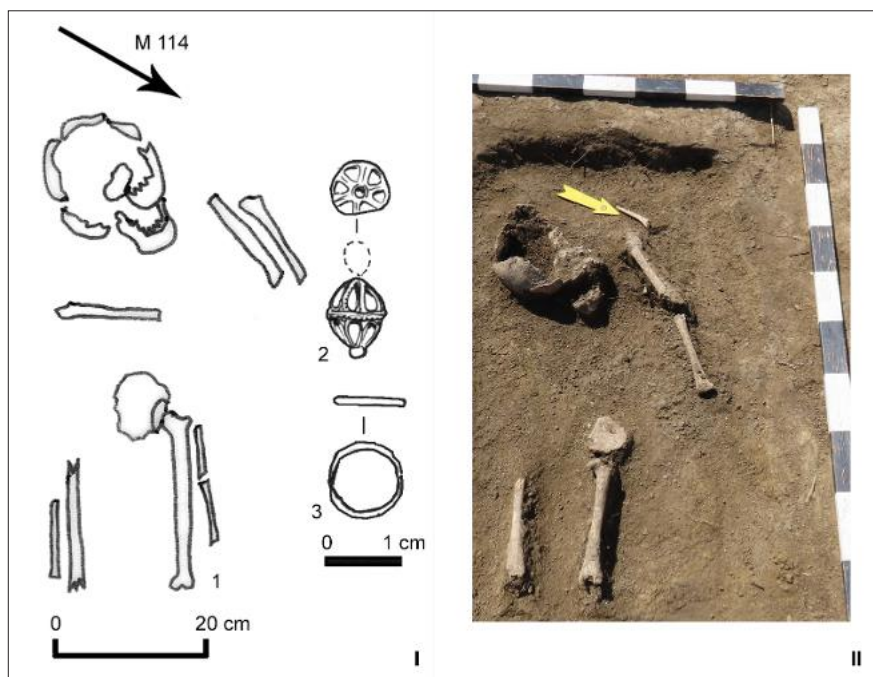


Fig. 18. Situl Lozova-La hotar cu Vornicenii. Mormântul 114, desen (I) și foto (II).

Fig. 18. Lozova-La hotar cu Vornicenii site. Grave 114, drawing (I) and photo (II).

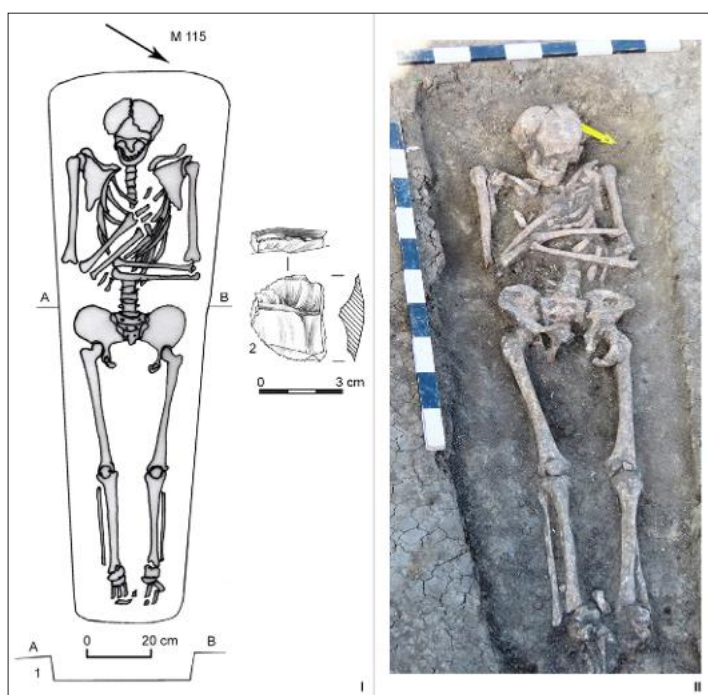


Fig. 19. Situl Lozova-La hotar cu Vornicenii. Mormântul 115, desen (I) și foto (II).

Fig. 19. Lozova-La hotar cu Vornicenii site. Grave 115, drawing (I) and photo (II).

Din cauza perturbărilor produse de activitatea rozătoarelor, o parte dintre piesele de inventar au fost deplasate din poziția lor anatomică inițială, fiind recuperate atât de pe schelet, cât și din umplutura gropii sau din crotovine.

Inventar:

1. Inel din aur, cu verigă rombică în secțiune și montură centrală aproximativ circulară, în care este încastrată o piatră de granat. Piatra era fixată prin paru mici elemente din fir subțire de aur, îndoite în formă de buclă și aplicate pe marginea monturii; dintre acestea se păstrează un element, celelalte fiind pierdute sau păstrate fragmentar. Registrul central este flancat simetric de patru elemente ornamentale ajurate, dispuse radial, cu aspect de rozete, care par să fi constituit casete secundare pentru inserții litice, în prezent pierdute. Prin compoziția decorativă complexă, piesa se remarcă drept un obiect de podoabă cu valoare de prestigiu, montura centrală fiind pusă în evidență de decorul ajurat periferic. Inelul a fost găsit în umplutura gropii, la 10 cm de la nivelul de conturare a complexului (fig. 21,I,10; 23,2).

2. Inel din argint, cu veriga relativ lată, prevăzută pe fața exterioară cu două șanțuri longitudi-

dinale și ușor lătită spre zona monturii. Piesa are o montură ovală, înaltă, în care este fixată o inserție de culoare albă, probabil din pastă vitroasă, cu fisuri vizibile la suprafață. Montura este încadrată perimetral de un decor aplicat, alcătuit din mici granule și elemente circulare realizate din fir de argint, dispuse pe margine, conferind piesei un aspect elaborat. Inelul a fost identificat între femure, la adâncimea de 0,90 m față de nivelul de călcare, respectiv la 0,15 m sub nivelul de conturare. În proximitatea sa, la circa 10 cm spre est, a fost găsită o falangă cu urme de patină metalică de culoare verde, indiciu care poate sugera poziția inițială a piesei pe deget (fig. 21,I,13; 23,1).

3. Inel din argint, fragmentar, cu veriga ruptă, relativ lată, prevăzută pe fața exterioară cu două șanțuri longitudinale și ușor lătită spre zona monturii. Piesa are o montură ovală alungită, înaltă, în care este fixată o inserție de culoare bej-albicioasă, probabil din sticlă. Montura este încadrată de un decor

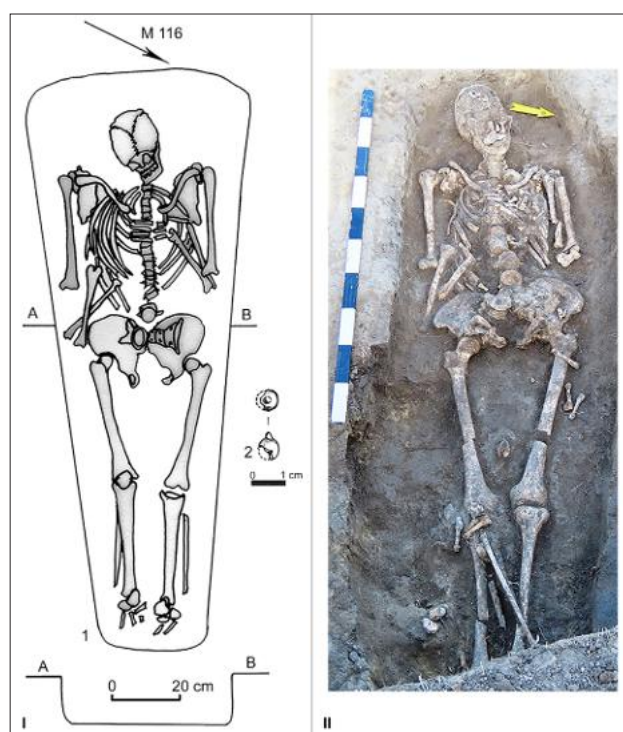


Fig. 20. Situl Lozova-La hotar cu Vornicenii. Mormântul 116, desen (I) și foto (II).

Fig. 20. Lozova-La hotar cu Vornicenii site. Grave 116, drawing (I) and photo (II).

aplicat, format din granule și mici elemente circulare realizate din fir de argint, dispuse perimetral (fig. 21,I,11; 23,3).

4. Inel din argint, cu veriga relativ lată, semicirculară în secțiune, lățită în zona superioară sub forma unei plăci rectangulare. Placa superioară este delimitată printr-un chenar rectangular incizat, fără decor vizibil în câmpul central. Umerii inelului sunt decorați simetric cu panouri incizate, în interiorul cărora se observă motive curbilinii de tip volute sau „S”-uri stilizate, încadrate de linii marginale. Piesa este bine păstrată, deși suprafața prezintă urme de uzură și oxidare (fig. 21,I,15; 23,4).

5. Inel din argint, realizat sub forma unei verigi simple, cu secțiune semicirculară și fața interioară plată. Veriga se lățește treptat spre partea

superioară, unde formează o placă oval-alungită, ușor aplatizată, nedecorată. Umerii piesei sunt slab marcați, iar trecerea de la verigă spre placa superioară este lină (fig. 21,I,14; 23,5).

6. Nasture sferoidal înalt din argint, de dimensiuni mari, realizat din două emisfere unite median. La extremitatea superioară piesa este prevăzută cu o urechiușă de prindere, iar la extremitatea opusă prezintă un mic element ornamental alcătuit din patru granule dispuse piramidal. Zona mediană a nasturelui este marcată de un decor realizat din fir filigranat, dispus sub forma unui brâu triplu care separă cele două emisfere. Piesa a fost descoperită în peretele sudic al mormântului, la adâncimea de 15 cm față de nivelul de conturare (fig. 21,I,2).

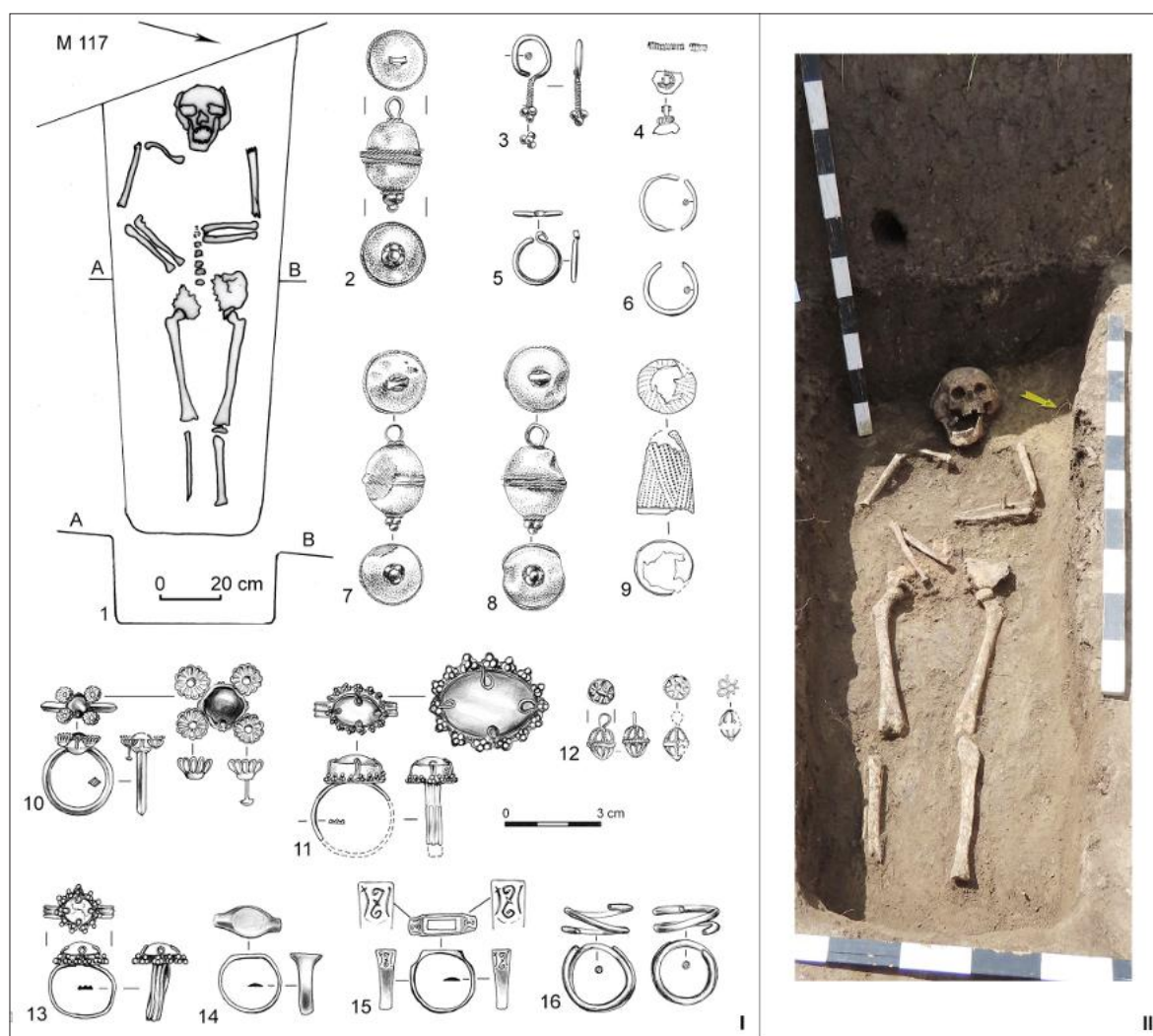


Fig. 21. Situl Lozova-La hotar cu Vornicenii. Mormântul 117, desen (I) și foto (II).

Fig. 21. Lozova-La hotar cu Vornicenii site. Grave 117, drawing (I) and photo (II).

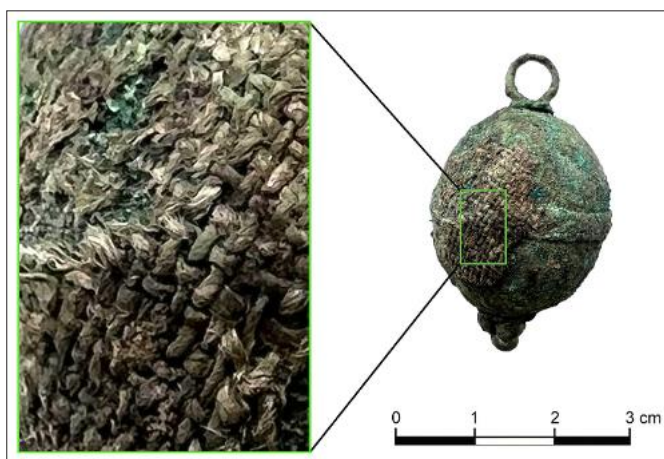


Fig. 22. Situl Lozova-*La hotar cu Vornicenii*. Pandativ globular din argint cu urme de textile descoperit în M. 117 (foto).

Fig. 22. Lozova-*La hotar cu Vornicenii* site. Globular silver pendant with textile remains, recovered from Grave 117 (photograph).

7. Nasture globular înalt din argint, executat din două emisfere unite median, zona de îmbinare fiind decorată de jur împrejur cu fir filigranat, de forma unui brâu triplu. Piesa este prevăzută la partea superioară cu o urechiușă circulară de suspendare, iar la extremitatea inferioară cu un

mic element terminal ornamental, alcătuit din patru granule dispuse piramidal: trei la bază și una deasupra, în vârf. Nasturele a fost descoperit în zona toracelui, pe oasele antebrațului drept, fiind separat de acestea printr-un strat de sol de aproximativ 4 cm. Pe suprafața piesei aflată în contact cu scheletul se păstrează resturi textile aderente, sub forma unei mase compacte de fibre mineralizate, conservate prin contactul direct cu metalul. Acestea au aspectul unei țesături compacte, posibil cu armură simplă, însă tipul exact al țesăturii și natura fibrelor nu pot fi precizate fără investigații microscopice și analize de specialitate. Urmele respective pot proveni de la un fragment de veșmânt sau de la un element de acoperământ asociat portului funerar (fig. 21,I,7; 22).

8. Nasture globular înalt din argint, de dimensiuni mari, confecționat din două emisfere unite median. La extremitatea superioară, piesa este prevăzută cu o urechiușă de prindere, iar la extremitatea opusă prezintă un mic element ornamental alcătuit din patru granule dispuse piramidal. Zona mediană a nasturelui este marcată de un decor realizat din fir filigranat, dispus sub forma unui brâu triplu care separă cele două emisfere.



Fig. 23. Situl Lozova-*La hotar cu Vornicenii*. Inele descoperite în M. 117 (foto).

Fig. 23. Lozova-*La hotar cu Vornicenii* site. Rings recovered from Grave 117 (photo).

Piesa este parțial deformată și a fost descoperită în peretele sudic al gropii funerare, la adâncimea de 15 cm față de nivelul de conturare a complexului (fig. 21,I,8).

9. Nasture globular din argint, realizat din fir metalic dispus simetric, formând un corp sferoidal cu aspect ajurat. Piesa este prevăzută cu verigă de suspendare și a fost descoperită în umplutura mormântului, la adâncimea de 0,65 m, la o distanță de 0,30 m față de latura de sud-vest a gropii funerare (fig. 21,I,12).

10. Nasture fragmentar din argint, realizat din fir metalic dispus simetric, formând un corp sferoidal cu aspect ajurat. Piesa este păstrată parțial, lipsindu-i veriga de prindere, găsit în interiorul mandibulei, poziționată pe coloana vertebrală (fig. 21,I,12).

11. Nasture fragmentar din argint, similar ca formă și tehnică de realizare cu piesa precedentă, confecționat din fir metalic dispus simetric. Corpul sferoidal ajurat este păstrat parțial, iar veriga de prindere lipsește. Piesa a fost găsită lângă brațul drept, fiind mișcată, probabil, de rozătoare ca și în cazul altor piese din acest mormânt (fig. 21,I,14).

12. Cercel din argint, realizat din fir metalic circular în secțiune, având corpul curbat în forma semnelui întrebării. La capătul inferior se păstrează un element decorativ compus din patru granule de argint dispuse piramidal, trei la bază și una în partea superioară. Piesa a fost găsită lângă tâmpla stângă (fig. 21,I,3).

13. Cercel din argint, realizat dintr-un fir metalic cu secțiune circulară, având unul dintre capete terminat printr-o volută, iar celălalt capăt simplu. Piesa a fost recuperată lângă tâmpla stângă (fig. 21,I,5).

14. Degetar fragmentar din cupru, descoperit deasupra tâmplei drepte, lângă craniu, la adâncimea de 0,30 m față de nivelul de identificare a complexului. Piesa are formă tronconică, cu partea superioară ruptă, iar suprafața exterioară este prevăzută cu adâncituri, dispuse în șiruri regulate (fig. 21,I,9).

15. Nasture globular din bronz, fragmentar, cu partea inferioară lipsă. Piesa a fost identificată în interiorul bazinului, lângă osul iliac stâng, la

adâncimea de 0,30 m față de nivelul de conturare a gropii funerare.

16. Verigă de tâmplă spiralată din argint, realizată din fir circular în secțiune, cu capetele răsucite în spirală. Piesa a fost recuperată dintr-o crotovină situată sub nivelul mormântului, (fig. 21,I,18).

17. Verigă de tâmplă spiralată din argint, realizată din fir circular în secțiune, cu capetele răsucite în spirală. Piesa a fost descoperită în zona inferioară a osului iliac drept, la 10 cm sub femur, la adâncimea de 0,95 m (fig. 21,I,19).

18. Verigă simplă din bronz, realizată din fir metalic cu secțiune circulară, cu capetele deschise. Piesa a fost identificată la o distanță de 7 cm de tâmpla dreaptă a defunctului (fig. 21,I,6).

19. Verigă fragmentară simplă, realizată din fir metalic circular în secțiune (fig. 21,I,6).

M. 118 (fig. 24,I,1; II) a fost descoperit în Secțiunea VIII, la joncțiunea carourilor 1 și 2, la adâncimea de 0,30 m față de nivelul actual de călcare, având orientarea vest-est. Groapa funerară, slab conturată, avea formă trapezoidală în plan și prezenta o umplutură din sol brun. Scheletul,

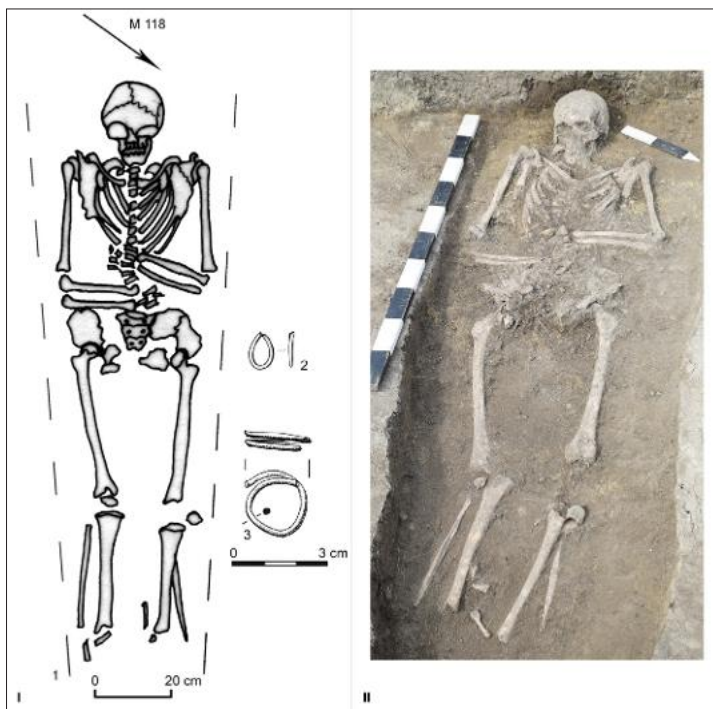


Fig. 24. Situl Lozova-La hotar cu Vorniceni. Mormântul 118, desen (I) și foto (II).

Fig. 24. Lozova-La hotar cu Vorniceni site. Grave 118, drawing (I) and photo (II).

apartinând unei femei cu vârsta la deces de 60-65 de ani, a fost depus în decubit dorsal, cu membrele inferioare întinse și brațele îndoite din coate, palmele fiind așezate pe torace. Craniul a fost surprins la o cotă ușor mai ridicată față de restul scheletului, la adâncimea de 0,25 m, fiind așezat pe occipital, cu privirea spre est. Deși complexul funerar nu a fost deranjat, gradul de conservare a oaselor era precar, acestea fiind afectate de factori naturali.

Inventar funerar:

1. Verigă oval-circulară din bronz, realizată din fir metalic subțire, cu capetele tăiate drept și dispuse față în față (fig. 24,I,1).

2. Verigă de tâmplă spiralată din bronz, realizată din fir metalic cu secțiune circulară. Piesa are capetele subțiate și suprapuse, formând o spirală simplă (fig. 24,I,2).

M. 119 (fig. 25,I,1; II) a fost descoperit în Secțiunea VIII, la joncțiunea carourilor 2 și 3, în partea superioară a secțiunii, la adâncimea de 0,30 m față de nivelul actual de călcare. Deoarece craniul, toracele și bazinul se aflau sub profilul de sud-vest, a fost necesară deschiderea casetei 1, în vederea degajării și cercetării integrale a complexului. Conturul gropii funerare nu a putut fi identificat cu precizie. Mormântul avea orientarea vest-est. Scheletul, aparținând unei tinere cu vârsta de 16-18 ani, avea lungimea păstrată de 1,40 m. Defuncta a fost depusă în decubit dorsal, cu membrele inferioare întinse și brațele îndoite din coate, palmele fiind așezate pe torace. Craniul a fost surprins așezat pe occipital, cu privirea orientată în sus. Starea de conservare a oaselor era precară, resturile osteologice fiind fragmentate

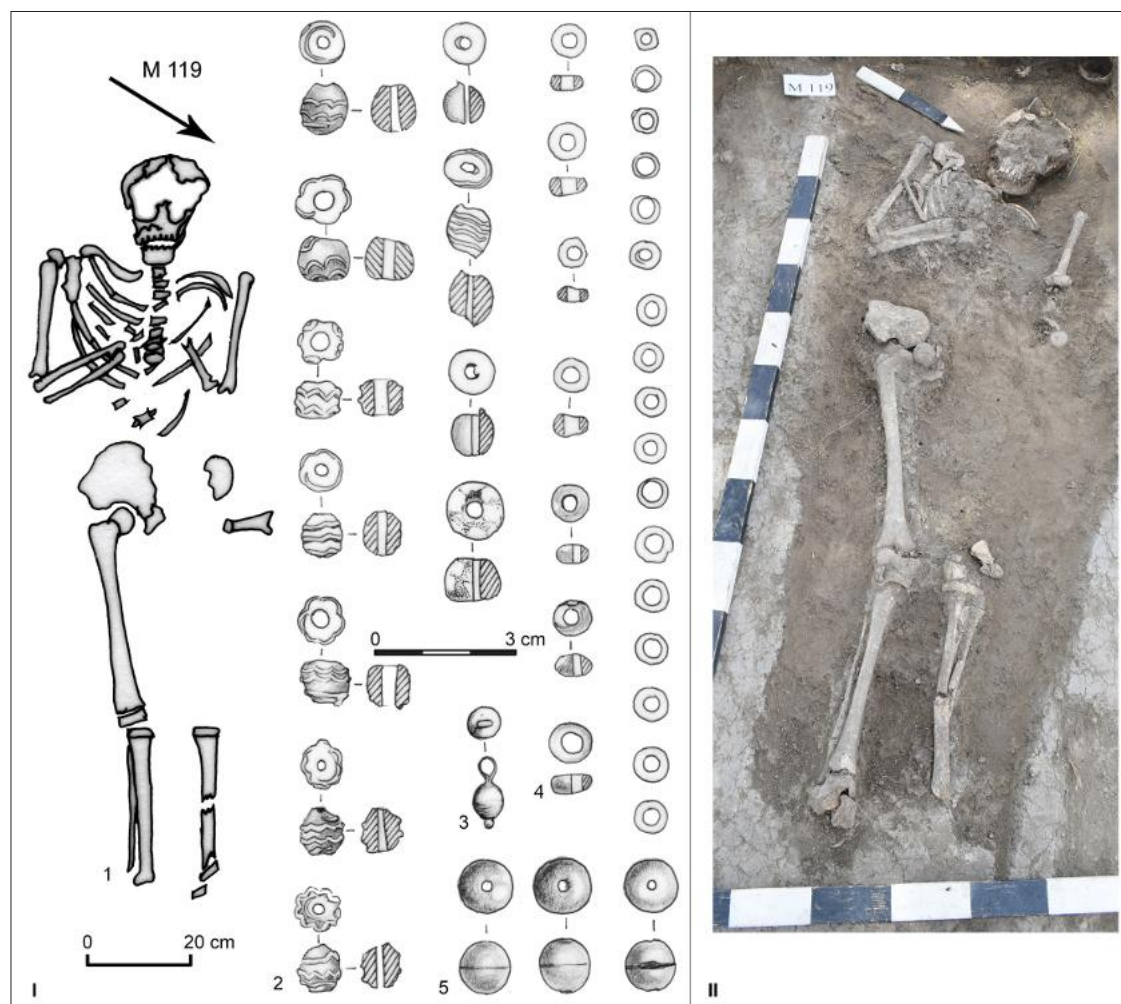


Fig. 25. Situl Lozova-*La hotar cu Vornicenii*. Mormântul 119, desen (I) și foto (II).

Fig. 25. Lozova-*La hotar cu Vornicenii* site. Grave 119, drawing (I) and photo (II).



Fig. 26. Situl Lozova-La hotar cu Vornicenii. Mărgelile descoperite în M. 119 (foto).

Fig. 26. Lozova-La hotar cu Vornicenii site. Beads recovered from Grave 119 (photo).

sub presiunea solului și ca urmare a acțiunii factorilor naturali.

Inventar:

1-35. Șirag alcătuit din 35 de mărgelile din pastă sticloasă colorată. Dintre acestea, opt sunt sferoidale, decorate cu motive încrustate, trei sunt sferoidale simple, fără decor încrustat, iar celelalte au formă inelară sau discooidală. Pieseile au fost recuperate din regiunea cervicală, fiind identificate atât pe coloana vertebrală, cât și sub craniu (fig. 25,I,2; 26).

36-38. Trei piese globulare din bronz, păstrate fragmentar, alcătuite din câte două emisfere unite. Acestea au fost recuperate din regiunea gâtului, fiind parte din șiragul de mărgelile (fig. 25,I,5; 26).

39. Nasture sferoidal înalt din bronz, prevăzut cu verigă de prindere și cu o granulă ornamentală la polul opus. Piesa a fost descoperită în apropierea colierului, în regiunea superioară a scheletului (fig. 25,I,3).

M. 120 (fig. 27,I,1; II) a fost descoperit în Secțiunea VIII, la adâncimea de 0,20 m față de nivelul actual de călcare. Conturul gropii funerare nu a putut fi surprins cu precizie. Mormântul avea orientarea vest-est. Scheletul, aparținând unei femei cu vârsta de 35-40 de ani, era orientat vest-est. Defuncta a fost depusă în decubit dorsal, cu brațul stâng

îndoit din cot și palma așezată pe torace, iar brațul drept îndoit, cu palma orientată spre umăr, în partea superioară a toracelui. Craniul era așezat pe occipital, cu privirea orientată spre nord. Oasele femurale au fost surprinse într-o poziție nefirească, fiind ușor arcuite. În umplutura gropii au fost identificate fragmente ceramice atribuite perioadei Hoardei de Aur și mici fragmente de cărbune de lemn ars.

Inventar funerar:

1. Nasture sferoidal din bronz, prevăzut cu verigă de prindere, descoperit în zona omoplatului stâng. Piesa are corp sferoidal și se păstrează relativ bine (fig. 27,I,2).

2. Nasture globular din bronz, identificat sub torace. Piesa se păstrează fragmentar, împreună cu elementul de prindere (fig. 27,I,3).

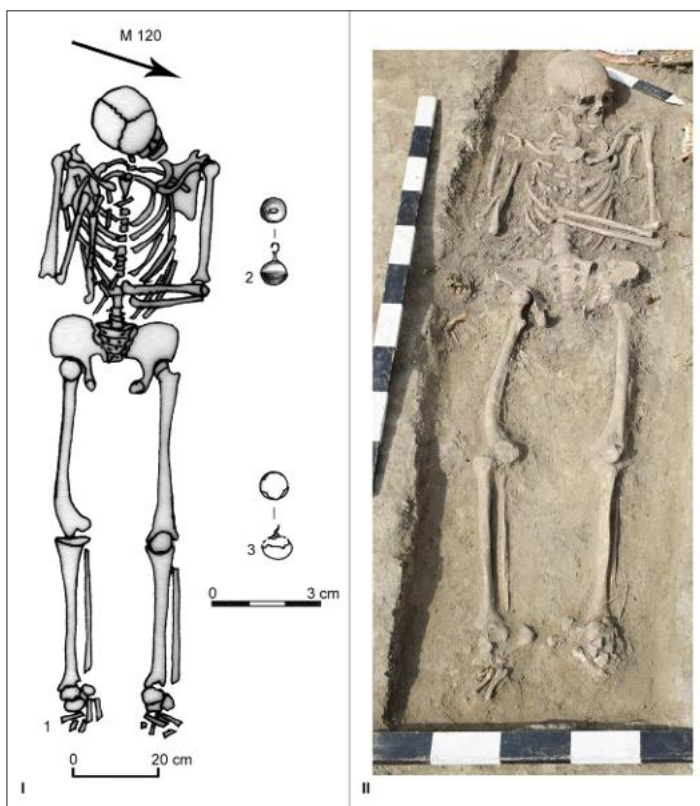


Fig. 27. Situl Lozova-La hotar cu Vornicenii. Mormântul 120, desen (I) și foto (II).

Fig. 27. Lozova-La hotar cu Vornicenii site. Grave 120, drawing (I) and photo (II).

M. 121 (fig. 28,I,1; II) a fost descoperit în Secțiunea VIII, caroul 5. Deoarece complexul intra sub taluzul de nord-est al secțiunii, pentru cercetarea integrală a acestuia a fost necesară executarea casetei 2, cu dimensiunile de 0,60×1,0 m. Groapa funerară avea formă rectangulară, conturul acesteia fiind surprins la adâncimea de 0,23 m față de nivelul actual de călcare. Groapa avea lungimea de 2,10 m și adâncimea de 0,20 m de la nivelul de conturare, orientarea fiind vest-est.

Scheletul, aparținând unei femei cu vârsta la deces de circa 20-22 de ani, se găsea în decubit dorsal, cu membrele inferioare întinse și brațele puternic îndoite din coate, palmele fiind orientate spre umeri. Craniul era așezat pe occipital și ușor

înclinat spre tâmpla dreaptă. Pe oasele craniului au fost observate urme de oxizi metalici.

Inventar funerar:

1-2. Două pandantive din argint, asemănătoare ca formă și tehnică de realizare. Fiecare piesă este prevăzută în partea superioară cu o verigă filigranată de suspendare, prinsă de o mică sferă, urmată de o verigă circulară de dimensiuni mari, realizată din fir cu secțiune circulară, de care este articulat corpul inferior. Acesta are partea inferioară semiovală alungită, iar partea superioară de formă neregulată, terminată printr-o sferă pe care este aplicat un mic element ornamental alcătuit din patru granule dispuse piramidal, trei la bază și una în vârf. Zona de legătură dintre

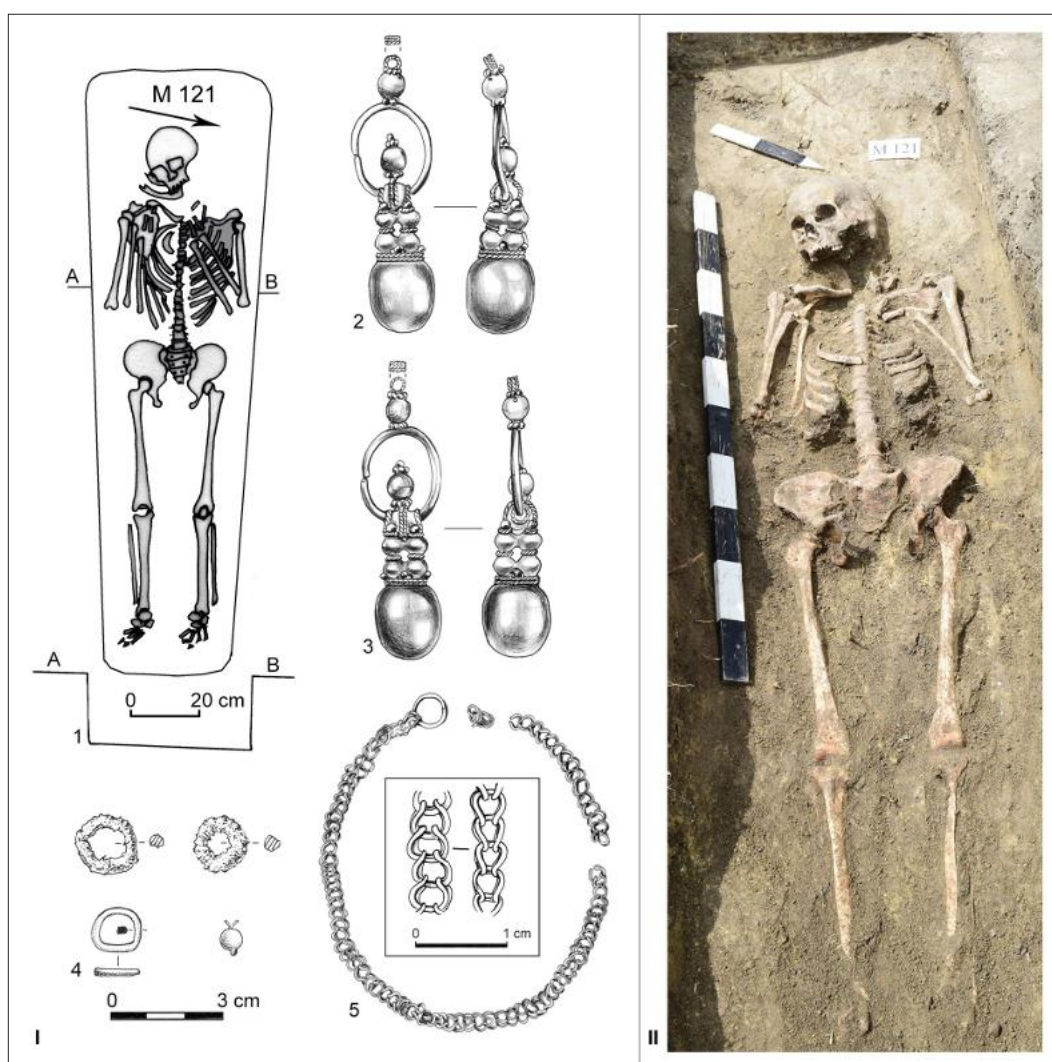


Fig. 28. Situl Lozova-*La hotar cu Vornicenii*. Mormântul 121, desen (I) și foto (II).

Fig. 28. Lozova-*La hotar cu Vornicenii* site. Grave 121, drawing (I) and photo (II).

verigă și corpul inferior este decorată cu elemente semisferice și registre ornamentale realizate din fire filigranate. Prin forma generală, piesele pot sugera o siluetă antropomorfă stilizată, cu brațele ridicate (fig. 28,I,2-3).

3. Lanț din argint, alcătuit din zale mici, unite succesiv, păstrat fragmentar, având un capăt terminat cu o verigă de mici dimensiuni. Piesa a fost utilizată, cel mai probabil, pentru prinderea sau suspendarea pandantivelor descrise anterior.

Pandantivele și lanțul au fost descoperite la o distanță de 0,15 m vest de craniu și la adâncimea de 0,10 m față de nivelul de conturare a gropii funerare (fig. 28,I,5).

4. Nasture globular din bronz, de mici dimensiuni, prevăzut cu verigă de prindere parțial ruptă. Piesa are corp sferoidal și a fost identificată în inventarul funerar al mormântului (fig. 28,I,4).

5. Verigă din bronz, realizată din fir metalic cu secțiune ovală, descoperită în zona labelor picioarelor (fig. 28,I,4).

6-7. Două verigi din fier, realizate din fir metalic cu secțiune aproximativ circulară, puternic corodate (fig. 28,I,4).

M. 122 (fig. 29,I-II) a fost descoperit în Secțiunea VIII, caroul 6, la adâncimea de 0,35 m față de nivelul actual de călcare. Deoarece segmentul inferior al complexului, respectiv bazinul și membrele inferioare, se extindea sub profilul de nord-est, cercetarea integrală a fost realizată prin deschiderea casetei 3. Groapa funerară avea adâncimea de 0,30 m de la nivelul de sesizare, fiind orientate pe axa vest-est.

Scheletul, aparținând unei persoane cu vârsta de 17-18 ani, de sex indeterminabil, era bine păstrat, oasele fiind relativ puțin afectate de factorii de mediu. Defunctul a fost depus în decubit dorsal, cu membrele inferioare întinse și brațele puternic îndoite din coate, palmele fiind așezate pe umeri. Craniul a fost identificat la adâncimea de 0,40 m, fiind situat cu aproximativ 0,10-0,15 m mai sus față de restul corpului. Fără inventar.

M. 123 (fig. 30,I-II) a fost descoperit în Secțiunea VIII, caroul 6, în proximitatea taluzului de sud-est, la adâncimea de 0,40 m față de nivelul actual de călcare. Groapa funerară avea formă trapezoidală, cu lungimea de 1,30 m,

lățimea de 1,10 m în zona capului și de 0,70 m în zona picioarelor. Adâncimea gropii era de 0,15 m de la nivelul de conturare, iar orientarea vest-est. Complexul reprezintă o înhumare dublă de copii.

Scheletul A (fig. 30,I,A), poziționat în partea stângă a gropii, aparținea unui copil de circa 9 ani (*infans II*), de sex indeterminabil. Acesta a fost depus în decubit dorsal, cu brațele îndoite din coate și palmele așezate pe abdomen. Craniul era așezat pe occipital și ușor înclinat spre tâmpla dreaptă. Lungimea scheletului era de 1,10 m.

Scheletul B (fig. 30,I,B), situat în partea dreaptă a gropii, aparținea unui copil de aproximativ 6 ani (*infans I*), de sex indeterminabil. Defunctul a fost depus în decubit dorsal, cu membrele inferioare întinse și brațele așezate pe abdomen. Craniul era așezat pe occipital și ușor înclinat spre stânga.

Distanța dintre cele două schelete era de 0,25 m în regiunea umerilor și de 0,35 m în zona picioarelor. Starea de conservare a oaselor era precară, ambele craniuri fiind afectate de presiunea solului și de acțiunea acizilor humici. Fără inventar.

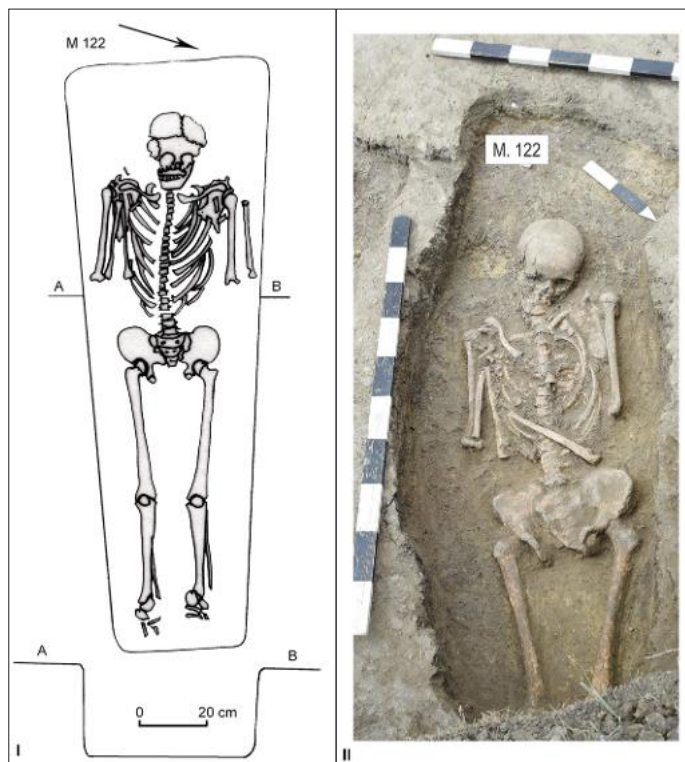


Fig. 29. Situl Lozova-La hotar cu Vornicenii. Mormântul 122, desen (I) și foto (II).

Fig. 29. Lozova-La hotar cu Vornicenii site. Grave 122, drawing (I) and photo (II).

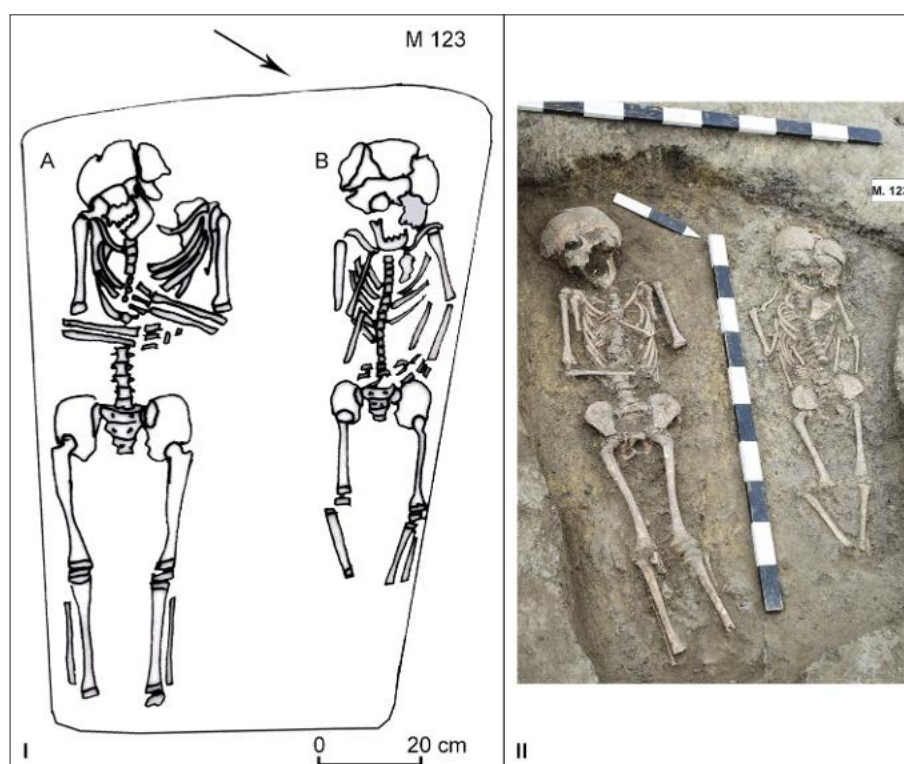


Fig. 30. Situl Lozova-*La hotar cu Vornicenii*. Mormântul 123, desen (I) și foto (II).

Fig. 30. Lozova-*La hotar cu Vornicenii* site. Grave 123, drawing (I) and photo (II).

Piese descoperite passim în zona mormintelor distruse

O atenție deosebită a fost acordată „zonei mormintelor distruse”, identificată inițial în campania din anul 2010. Acest sector, cu o suprafață de 18×20 m, a fost împărțit în 90 de carouri (2×2 m). Fiind situată în partea de sud-vest a necropolei, pe un teren în pantă, zona a fost expusă eroziunii solului, fapt care a dus la subțierea stratului cultural în timp.

Din cauza adâncimii reduse la care se aflau mormintele, acestea au fost distruse în totalitate de lucrările agricole. Dacă în 2010 cercetările au permis recuperarea resturilor de oase de la 18 indivizi (copii și adulți), intervenția din acest an s-a soldat doar cu recuperarea unor piese de inventar.

Utilizarea detectorului de metale, dispozitiv care nu a fost folosit în etapele anterioare ale cercetării, a permis de această dată colectarea unui material arheologic variat și bogat. Au fost recuperate piese de port, obiecte de podoabă și ustensile realizate din argint, bronz și fier. Deși aceste artefacte nu au fost descoperite in situ, fiind scoase din contextul arheologic inițial de plug, ele repre-

zintă obiecte provenite indubitabil din inventarul funerar al defuncților înhumați în acest sector al necropolei. Astfel, au fost recuperate următoarele artefacte (fig. 31-33):

1. Set compus din două verigi circulare din argint și un lanț fragmentar din bronz. Verigile sunt realizate din fir metalic cu secțiune circulară; una dintre acestea este simplă, iar cealaltă este prinsă de lanțul fragmentar, alcătuit din zale mici, realizate din fir subțire torsionat. Ansamblul reprezenta, cel mai probabil, un element de prindere sau de suspendare a unor piese de podoabă (fig. 31,1).

2. Verigă de tâmplă spiralată din argint, realizată din fir metalic cu secțiune circulară. Piesa are formă circulară, cu capetele apropiate și răsu-cite, formând o spirală simplă (fig. 31,2).

3. Cercele circular din argint, realizat din fir metalic cu secțiune circulară. Unul dintre capete este îndoit spre interior sub formă de volută, iar celălalt capăt este terminat simplu (fig. 31,3).

4. Nasture globular din bronz, de mici dimensiuni, alcătuit probabil din două emisfere unite. Piesa este prevăzută cu verigă de prindere, fiind parțial ruptă (fig. 31,4).

5. Inel din argint, cu verigă circulară și montură superioară alungită, de formă aproximativ romboidală. Placa superioară este decorată prin incizii geometrice dispuse simetric, formând un motiv central alungit, asemănător unui trident dublu suprapus. Umerii inelului sunt ușor lățiți spre montură (fig. 31,5).

6. Nasture globular înalt din argint, de dimensiuni mari, confecționat din două emisfere unite median. Piesa este prevăzută în partea superioară cu o verigă de suspendare, iar la extremitatea inferioară cu un mic element ornamental alcătuit din granule dispuse piramidal. Zona mediană este decorată cu registre de fir filigranat, dispuse sub forma unui brâu triplu care separă cele două emisfere (fig. 31,6).

7. Pandantiv conic din argint, realizat din tablă subțire, cu corp alungit, ușor evazat spre bază. Piesa este prevăzută în partea superioară cu o verigă de suspendare, iar la extremitatea inferioară cu un mic element ornamental globular. Marginea inferioară este decorată cu un registru filigranat, care marchează trecerea spre elementul terminal (fig. 31,7).

8. Nasture globular din bronz, de mici dimensiuni, prevăzut cu verigă de prindere. Corpul piesei este sferoidal, ușor alungit, fiind redat atât din față, cât și din profil (fig. 31,8).

9. Pandantiv conic din argint, asemănător ca formă și tehnică de realizare cu piesa nr. 7. Corpul este alungit, de formă conică, prevăzut în partea superioară cu verigă de suspendare, iar la bază cu o mică granulă. Decorul este concentrat în zona inferioară, unde se observă un registru ornamental realizat din fir filigranat (fig. 31,9).

10. Nasture globular din bronz, prevăzut cu verigă de prindere. Piesa are corp sferoidal, aplatizat și este realizată din două emisfere sudate median (fig. 31,10).

11. Verigă de tâmplă sau închizătoare în formă de „S” din argint, realizată din fir metalic cu secțiune circulară. Piesa prezintă urme evidente de deformare mecanică, având corpul puternic curbat și capetele neunite (fig. 31,11).

12. Placă fragmentară din bronz, probabil aplică vestimentară sau element de fixare. Piesa are formă aproximativ rectangulară, cu colțurile rotunjite, și prezintă decupaje care puteau servi la prindere. Starea fragmentară nu permite stabilirea cu certitudine a funcționalității sale (fig. 31,12).

13. Degetar fragmentar din cupru, cu corp tronconic. Partea superioară este ruptă, iar suprafața exterioară este acoperită cu adâncituri, dispuse în șiruri verticale regulate (fig. 31,13).

14. Fragment de pandantiv globular din argint, provenit de la o piesă realizată din două emisfere unite median. Pe suprafață se păstrează un registru decorativ realizat din fir filigranat, dispus sub forma unui brâu median. Starea fragmentară indică desprinderea piesei dintr-un pandantiv globular de tipul celor descrise anterior (fig. 31,14).

15. Aplică vestimentară din bronz, în formă de rozetă semisferică. Piesa prezintă decor realizat prin perforații și mici elemente reliefate dispuse marginal. Probabil a fost utilizată ca element decorativ aplicat pe veșmânt sau pe un accesoriu textil (fig. 31,15).

16. Cadrul unei monturi de inel de argint.

17. Fragment de nasture globular, reprezentat de o emisferă păstrată parțial. Pe marginea piesei se observă un decor realizat din fir filigranat, dispus sub forma unui brâu median, element care indică apartenența fragmentului la un nasture globular compus din două emisfere unite (fig. 31,16).

18. Aplică ornamentală din bronz, de formă ovală sau ușor rectangulară, păstrată fragmentar. Piesa prezintă margini rotunjite și un sistem de fixare vizibil pe una dintre fețe, fiind probabil destinată aplicării pe cureauă, veșmânt sau pe un accesoriu textil (fig. 31,17).

19. Verigă din fier, deformată (fig. 31,18).

20. Aplică vestimentară din bronz, păstrată fragmentar, de formă circulară, cu decor în formă de rozetă. Piesa prezintă un cerc reliefat, iar marginea este modelată sub forma unor lobi dispuși radial. Piesa poate fi atribuită categoriei aplicilor decorative utilizate pe veșmânt, cureauă sau pe un accesoriu textil (fig. 31,19).

20-21. Două aplici rectangulare din bronz, asemănătoare ca formă și tehnică de realizare. Piese au corp aproximativ rectangular, cu capetele profilate prin decupaje laterale în formă de volute orientate spre interior. Fiecare aplică este prevăzută cu patru nituri de prindere, dispuse câte două la fiecare capăt, și prezintă în zona centrală nervuri longitudinale. Piese au aparținut, cel mai probabil, unei garnituri de cureauă (fig. 32,1-2; 33,1).

22. Capăt de cureauă din bronz, de formă aproximativ triunghiulară, prevăzut cu trei nituri de

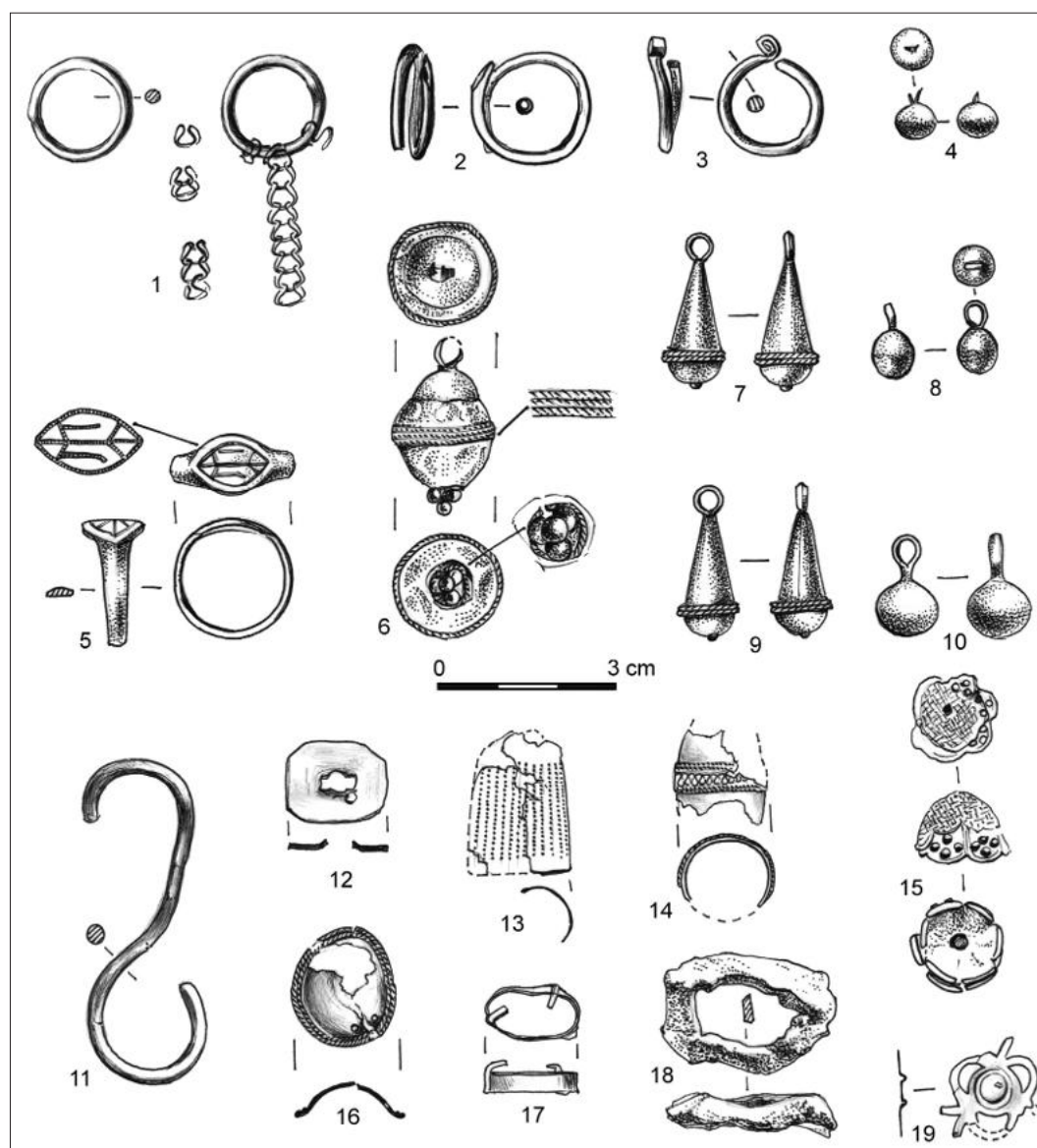


Fig. 31. Situl Lozova-La hotar cu Vornicenii. Piese de podoabă și port descoperite în „zona mormintelor distruse”, campania 2024.

Fig. 31. Lozova-La hotar cu Vornicenii site. Personal ornaments and dress accessories recovered from the “disturbed graves area”, 2024 campaign.

prindere. Piesa prezintă margini profilate și decor realizat prin trei perforații circulare dispuse marginal, având atât rol ornamental, cât și probabil funcțional. A servit ca element terminal al unei curele (fig. 32,3; 33,13).

23. Cataramă din bronz, păstrată împreună cu placa de fixare a curelei. Placa este alungită, decorată prin nervuri longitudinale și elemente laterale profilate, fiind prinsă de curea prin două nituri. Cadrul cataramii are formă aproximativ rectangulară, cu partea anterioară arcuită și de-

corată cu linii adâncite. Ansamblul reprezintă un element de închidere a curelei (fig. 32,6; 33,11).

24. Verigă din bronz, prinsă de o placă de fixare a curelei. Placa este prevăzută cu un nit de prindere și trei puncte adâncite cu rol ornamental, iar veriga, de formă ovală, era utilizată probabil ca element auxiliar de prindere sau suspendare în cadrul garniturii de curea (fig. 32,7; 33,12).

25-26. Două aplici din bronz, compuse fiecare din două rozete unite printr-o verigă centrală și prevăzute cu nituri de prindere. Prin formă și

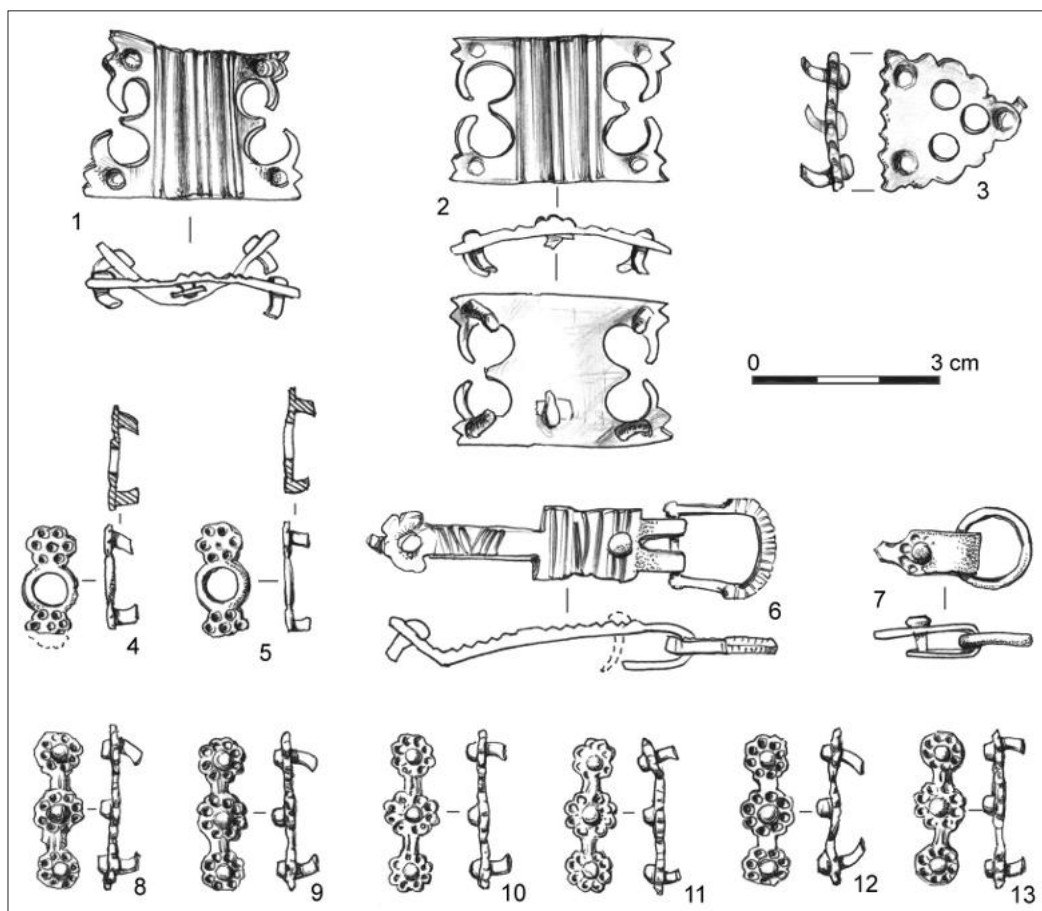


Fig. 32. Situl Lozova-La hotar cu Vornicenii. Elemente de centură descoperite în „zona mormintelor distruse”, campania 2024.

Fig. 32. Lozova-La hotar cu Vornicenii site. Belt fittings recovered from the “disturbed graves area”, 2024 campaign.

sistemul de fixare, piesele aparțin garniturii de curea, având atât funcție decorativă, cât și, probabil, funcție de prindere sau articulare a unor elemente auxiliare (fig. 32,4-5; 33,9-10).

27-32. Șase aplici din bronz, compuse fiecare din trei rozete dispuse vertical și prevăzute cu două nituri de prindere. Piesele au avut rol decorativ și erau aplicate, cel mai probabil, pe curea sau pe un accesoriu vestimentar din piele ori material textil (fig. 32,8-13; 33,1-3,6-8).

Considerații generale

Rezultatele campaniei arheologice din anul 2024, corelate cu datele și materialele obținute în etapele anterioare de cercetare, confirmă importanța așezării și necropolei medievale de la Lozova-La hotar cu Vornicenii pentru cunoașterea comunităților rurale din zona centrală a spațiului pruto-nistean în perioada dominației Hoardei de Aur și a constituirii statului medieval moldo-

venesc. Cele 17 complexe funerare cercetate în campania recentă, care cuprind resturile osteologice a 18 defuncți, completează substanțial imaginea oferită de cercetările din anii 2010-2011 și 2014-2015, ridicând numărul total al mormintelor documentate la 123. Prin caracteristicile ritualului funerar, bogăția și diversitatea inventarului, precum și prin datele bioarheologice disponibile, așezarea și necropola de la Lozova se impun drept unul dintre cele mai reprezentative ansambluri arheologice medievale din spațiul pruto-nistean.

Din punct de vedere funerar, complexe investigate reflectă un ritual creștin bine conturat. Defuncții, indiferent de vârstă și sex, au fost depuși în decubit dorsal, cu membrele inferioare întinse și cu orientarea constantă vest-est, capul fiind așezat spre apus. Poziția brațelor prezintă anumite variații, acestea fiind plasate pe abdomen, pe torace sau ridicate spre umeri, fără ca aceste diferențe să modifice caracterul general creștin al ritualului. Prezența

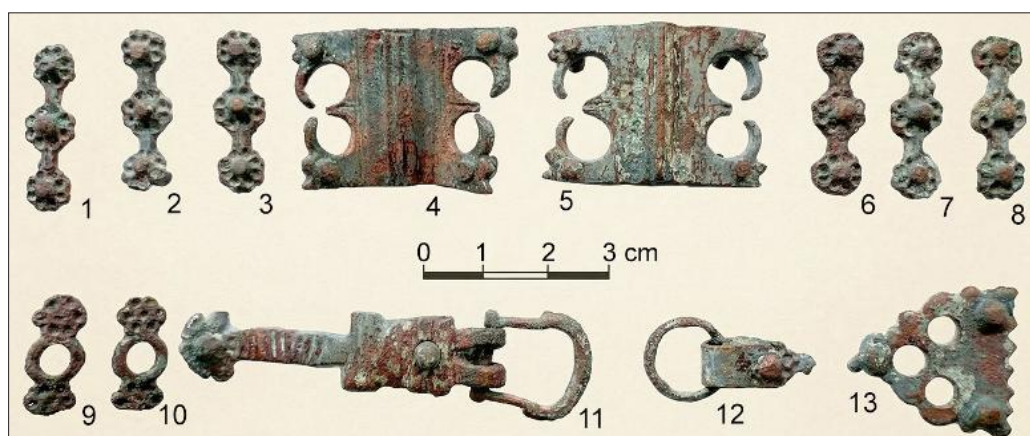


Fig. 33. Situl Lozova-*La hotar cu Vornicenii*. Elemente de centură descoperite în „zona mormintelor distruse” (foto), campania 2024.

Fig. 33. Lozova-*La hotar cu Vornicenii* site. Belt fittings recovered from the “disturbed graves area” (photo), 2024 campaign.

copiilor, adolescenților și adulților în același spațiu funerar indică utilizarea necropolei de către întreaga comunitate și sugerează existența unui cimitir organizat, aparținând unei populații sedentare și stabile. Această organizare este susținută și de dispunerea generală a mormintelor în șiruri, fapt ce reflectă o anumită planificare a spațiului funerar.

Unele elemente observate în interiorul mormintelor indică existența unor practici funerare complementare, care trebuie interpretate cu prudență. Fragmentele de cărbune de lemn documentate în anumite complexe, precum și urmele de lemn putrezit identificate pe fundul unor gropi funerare, pot reflecta obiceiuri rituale asociate momentului înhumării sau amenajării gropii sepulcrale. Totodată, anumite caracteristici ale gropilor, inclusiv forma trapezoidală a multora dintre acestea, ar putea fi invocate în favoarea existenței unor amenajări funerare din materiale organice, eventual de tipul coșciugelor. Cu toate acestea, absența unor elemente constructive clare, precum cuie, resturi de scânduri sau contururi regulate de sicrie, nu permite susținerea utilizării sistematice a sicriilor de lemn. Probabil, în numeroase cazuri defuncții au fost depuși direct în groapă, eventual pe un suport din materiale vegetale ori textile, greu de surprins arheologic din cauza condițiilor de conservare.

Datele antropologice contribuie la conturarea profilului demografic al comunității. Lotul osteologic analizat pentru campania anului 2024 include indivizi adulți, adolescenți și copii, ceea ce confirmă caracterul familial și comunitar al cimitirului. Ponderea importantă a segmentului

subadult indică o mortalitate infantilă și juvenilă semnificativă, fenomen de altfel caracteristic societăților medievale. În același timp, observațiile paleopatologice și bioarheologice oferă informații relevante privind starea de sănătate, alimentația, condițiile de viață și solicitările fizice la care era supusă această populație [Groza *et al.* 2026].

Inventarul funerar recuperat în campania anului 2024 este considerabil mai numeros și mai variat decât cel cunoscut în etapa anterioară a cercetărilor. Piese de podoabă și de port – inele din aur, argint și bronz, cercei, pandantive de tipuri diferite, verigi de tâmplă, mărgelile, nasturi globulari, aplici, cataramă și elemente de garnitură de curea – alături de ustensile, precum degetarele, indică existența unei comunități cu un nivel material ridicat și cu multiple legături economice și comerciale regionale. Deosebit de importante sunt piesele de prestigiu, precum inelul de aur cu montură de granat, pandantivele de argint purtate, probabil, împreună cu lanțuri, precum și ansamblurile de aplici și cataramă provenite din zona mormintelor distruse. Unele dintre aceste descoperiri sunt rare, iar anumite piese de lux pot fi considerate, în stadiul actual al cercetării, unice pentru întreg spațiul carpato-nistean. Prin urmare, inventarul de obiecte din situl funerar de la Lozova nu poate fi interpretat exclusiv prin analogii locale, ci trebuie plasat într-un cadru cultural și geografic mai larg.

Chiar și în stadiul actual al cercetării, necropola de la Lozova se distinge net, prin bogăția inventarului de obiecte, de alte cimitire medievale cunoscute în interfluviul dintre Prut și Nistru, in-

clusiv de cele asociate centrelor urbane de la Orheiul Vechi și Costești, unde inventarul funerar este, în general, mult mai redus (Byrnia, Riaboi 1998, 90-95; Bacumenco-Pîrnău, Postică 2021, 250-251; Vornic *et all.* 2019, 221-242). Totodată, prin caracterul și diversitatea pieselor de podoabă și de port, cimitirul de la Lozova se deosebește clar și de necropola din apropiere de la Sadova, identificată cu cimitirul *Seliștii lui Tihomir* și datată în prima parte a secolului al XV-lea (Gorodenco, Gukin 2001). Această situație evidențiază statutul particular al comunității de la Lozova și necesitatea unei analize comparative mai ample a inventarului funerar din necropolele rurale medievale din Moldova, dar și prin raportare la descoperirile de la răsărit de Nistru.

Din punct de vedere tipologic, o serie de piese își găsesc analogii în mediul cultural al imperiului giucid, inclusiv în spațiul nord-pontic, în Crimeea, în regiunea Volgăi inferioare și în nordul Cauzului (Fedorov-Davydov 1966, 35-77, fig. 6), dar și în unele descoperiri de la vest de Prut, precum cele de la Trifești (Spinei 1994, 235-236). Acest fapt sugerează integrarea comunității de la Lozova într-un sistem mai larg de circulație a bunurilor, podoabelor și influențelor culturale specifice secolului al XIV-lea. Totodată, prezența acestor artefacte într-un cimitir cu ritual creștin indică faptul că populația locală a asimilat selectiv elemente de cultură materială specifice mediului Hoardei de Aur, unde islamul devenise religie oficială, fără a renunța la propriile norme religioase și funerare.

În lumina noilor descoperiri, datarea necropolei trebuie reconsiderată. În etapa inițială a cercetării, pe baza unui inventar mai restrâns și a analogiilor disponibile la acel moment, inclusiv cu unele descoperiri de la Suceava atribuite perioadei lui Alexandru cel Bun, cimitirul a putut fi pus în legătură cu începutul secolului al XV-lea. În aceeași logică interpretativă, a fost avută în vedere și posibila asociere cu așezarea rurală dispărută *Săcăreni*, menționată în actul de cancelarie din 1420 (Vornic *et all.* 2012, 254-255). Noile date arheologice indică însă o cronologie mai timpurie. Bogăția inventarului, caracterul și factura pieselor de podoabă și de port, precum și analogiile acestora în mediul cultural al Hoardei de Aur pledează pentru utilizarea necropolei în secolul al XIV-lea, cu posibilitatea unei prelungiri spre începutul secolului al XV-lea. Prin urmare, legătura cu realitățile atestate în actul emis

în anul 1420 nu trebuie exclusă complet, însă ea nu mai poate constitui principalul reper cronologic pentru această necropolă. Utilizarea necropolei pe o perioadă mai îndelungată, posibil corespunzătoare unui interval de două sau trei generații, poate fi sugerată și de unele cazuri de suprapunere sau intersecție a mormintelor. Totuși, numărul redus al acestor situații pare să indice că mormintele erau marcate la suprafață, ceea ce a permis evitarea, în cele mai multe cazuri, a afectării înmormântărilor anterioare. O eventuală prelungire a utilizării cimitirului spre începutul secolului al XV-lea trebuie analizată cu prudență și verificată prin corelarea inventarului funerar cu materialul ceramic, inclusiv cu fragmentele de vase de culoare roșiaticogălbuie, lucrate la roata cu turație medie, descoperite în unele morminte. Prezența acestor fragmente în contexte funerare rămâne dificil de interpretat, însă caracteristicile lor tehnice și cromatice sunt tipice vaselor folosite în perioada de dominație a Hoardei de Aur în regiune. În acest sens, dacă încetarea stăpânirii politico-militare directe a Ulusului giucid în zonă este plasată spre sfârșitul deceniului al șaptelea al secolului al XIV-lea, aceste materiale susțin, în primul rând, o încadrare cronologică în cursul secolului al XIV-lea, fără a exclude cu totul posibilitatea ca necropola să fi continuat să fie utilizată și în primele decenii ale veacului următor.

Astfel, cimitirul medieval de la Lozova-*La hotar cu Vornicenii* reflectă existența unei comunități creștine sedentare, stabile și bine structurate, active într-un context istoric marcat de interferența dintre tradițiile rurale locale și mediul cultural al Hoardei de Aur. Prin caracteristicile ritualului funerar, structura demografică a materialului antropologic și bogăția inventarului, situl arheologic oferă date esențiale pentru cunoașterea vieții populației rurale din zona centrală a Moldovei în secolul al XIV-lea și, eventual, la începutul secolului al XV-lea. Continuarea cercetărilor se impune atât prin importanța deosebită a vestigiilor, cât și prin pericolul distrugerii continue a sitului. Analiza comparativă a inventarului și coroborarea rezultatelor cercetărilor bioarheologice și interdisciplinare vor permite precizarea mai exactă a cronologiei, a statutului social, a apartenenței etnico-culturale a acestei comunități medievale sătești de pe malul drept al Bucovățului, precum și a relațiilor sale cu centrele politice, comerciale și culturale ale epocii, aspecte încă insuficient clarificate.

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Tezaur de podoabe și accesorii vestimentare din evul mediu târziu descoperit la Ordășei (r-nul Telenești)*

Key words: Middle Ages, Ordășei, treasure, silver pieces, 16th-17th centuries.

Cuvinte cheie: evul mediu, Ordășei, tezaur, piese din argint, sec. XVI-XVII.

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Treasure of Jewelry and Clothing Accessories from the Late Middle Ages Discovered at Ordășei (Telenești District)

In the autumn of 2024, on the plateau between the villages of Ordășei and Prodănești, a treasure consisting of 36 items – most of them made of silver, along with several bronze objects and two ceramic fragments – was discovered. The pieces were found scattered over an area of approximately 15×15 m, as a result of agricultural activity, near a Bronze Age barrow. The treasure includes jewelry and clothing accessories: filigree earrings with multifaceted settings, a multipartite earring with pendants, a truncated-conical pendant, an “S”-shaped belt clasp, numerous globular buttons of two types (small and large, some with a rattling core), as well as a fragment of a bronze ring. XRF analyses revealed the technological diversity of the items, most of them being made of silver with varying proportions of copper and tin, while two pieces belong to copper-based alloys. Comparison with similar treasures from the Republic of Moldova and the Carpathian–Dniester region allowed the assemblage to be dated to the last decades of the 16th century through the end of the 17th century, most likely to its first half. The luxurious character of some pieces, as well as the presence of a rare belt clasp, suggests that the treasure belonged to a person of high social status. The study highlights the importance of medieval hoards for reconstructing the social, economic, and cultural contexts of the period.

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Tezaur de podoabe și accesorii vestimentare din evul mediu târziu descoperit la Ordășei (r-nul Telenești)

În toamna anului 2024, pe platoul dintre satele Ordășei și Prodănești a fost descoperit un tezaur alcătuit din 36 de piese, majoritatea din argint, la care se adaugă câteva obiecte din bronz și două fragmente ceramice. Piese au fost găsite dispersate pe o suprafață de circa 15×15 m, în urma lucrărilor agricole, în apropierea unui tumul din epoca bronzului. Tezaurul cuprinde podoabe și accesorii vestimentare: cercei filigranați cu montură polifațetată, un cercel multipartit cu pandantive, un pandantiv tronconic, o închizătoare de cingătoare în formă de „S”, numeroși nasturi globulari de două tipuri (mici și mari, unii cu miez zornăitor), precum și un fragment de inel din bronz. Analizele XRF au demonstrat diversitatea tehnologică a pieselor, majoritatea fiind realizate din argint cu diferite proporții de cupru și staniu, iar două piese aparțin unor aliaje pe bază de cupru. Compararea cu tezauri similare din Republica Moldova și regiunea carpato-nistreană a permis datarea ansamblului între ultimele decenii ale secolului al XVI-lea și sfârșitul secolului al XVII-lea, probabil în prima jumătate a acestuia. Caracterul luxos al unor podoabe, precum și prezența unei închizători de centură rare sugerează apartenența tezaurului unei persoane cu statut social înalt. Cercetarea subliniază importanța tezaurilor medievale pentru reconstituirea contextelor sociale, economice și culturale ale epocii.

* Cercetare realizată în cadrul proiectului: 170101. *Cercetarea și valorificarea patrimoniului cultural construit, etnografic, arheologic și artistic din Republica Moldova în contextul integrării europene (2024-2027).*

Printre descoperirile arheologice, un loc cu totul aparte îl ocupă tezaurul – numite în limbaj comun „comori” – sau depozitele de bunuri. Acestea se disting nu doar prin valoarea materială a pieselor care le compun, ci mai ales prin informația istorică, culturală, socială și economică pe care o concentrează. Spre deosebire de descoperirile izolate sau de inventarele funerare, tezaurul reprezintă depuneri intenționate, adesea realizate în

contexte de criză – conflicte militare, instabilitate politică, migrații sau pericole iminente. În acest sens, ele reflectă momente tensionate din istoria unei comunități și pot fi interpretate drept veritabile „instantanee” ale unei epoci. Tezaurul ocupă un loc aparte și prin caracterul lor selectiv. Piese incluse – bijuterii, accesorii vestimentare, obiecte de prestigiu, monede sau lingouri – nu sunt întâmplătoare, ci reprezintă bunuri de valoare, sim-

boluri ale statutului social și ale identității culturale. Astfel, ele oferă date esențiale despre ierarhiile sociale, despre circulația bogăției, despre gusturile estetice și despre nivelul tehnologic al epocii. Un alt argument care subliniază importanța acestor ansambluri îl constituie potențialul lor cronologic ridicat. În special atunci când includ monede sau piese cu analogii bine datate, acestea permit stabilirea unor repere temporale precise pentru anumite fenomene istorice și culturale. În același timp, analiza compoziției metalelor și a tehnicilor de execuție poate evidenția ateliere, influențe regionale și rețele de schimb. Nu în ultimul rând, tezaurele ilustrează conexiunile culturale și economice dintre diferite regiuni. Tocmai prin această capacitate de a concentra informație monetară și economică relevantă, ele constituie surse primare indispensabile pentru reconstituirea evoluției sistemelor monetare, a circulației și a schimbului în diverse epoci istorice. Prezența unor piese de proveniență îndepărtată demonstrează existența unor relații comerciale sau politice extinse, contribuind la înțelegerea integrării unei comunități într-un spațiu cultural mai larg. Prin urmare, tezaurele nu sunt doar acumulări de obiecte prețioase, ci documente istorice complexe, care pot să ofere informații esențiale despre contextul social, economic și politic al unei epoci. Din aceste motive, tezaurele – sau, mai larg, depozitele de bunuri – ocupă un loc privilegiat în cadrul cercetărilor arheologice și al interpretării patrimoniului cultural [Butnariu 1994, 9; Petrescu-Dâmbovița 1996, 48-49; Oberländer-Târnoaveanu 2014, 18-24; Vornic 2019, 25-27].

În rândurile de mai jos ne propunem să prezentăm și să analizăm o asemenea descoperire arheologică interesantă, realizată la Ordășei (r-nul Telenești) în toamna anului 2024, în cursul cercetării unui tumul (nr. 20) de către Agenția Națională Arheologică, în colaborare cu Centrul de Arheologie din Olomouc (Cehia) și Institutul Patrimoniului Cultural. Este vorba despre un tezaur alcătuit din obiecte de podoabă și de port, lucrate din argint și bronz, la care se adaugă un cuțitaș de toaletă din bronz și două fragmente ceramice provenind de la o oală lucrată la roată, datând din evul mediu târziu.

Tezaurul a fost descoperit împrăștiat, în urma lucrărilor agricole, pe o suprafață de aproximativ 15×15 m, situată la circa 100 m nord-

vest de Tumulul 20 (coordonate: 47°43'3.30"N, 28°29'2.97"E), o parte dintre obiecte fiind scoase la suprafața solului¹. Movila respectivă, care s-a dovedit a fi fost ridicată în epoca bronzului timpuriu, făcea parte dintr-un aliniament compus din opt asemenea monumente funerare, amplasate pe un platou situat pe malul stâng al râului Răut, la nord de localitatea Ordășei și la sud de satul Prodănești (fig. 1).

Tezaurul era alcătuit din 36 (?) de piese întregi și fragmentare, dintre care 34 lucrate din argint și două din bronz. Dintre piesele de podoabă se remarcă doi cercei, numiți și verigi de tâmplă, lucrați în tehnica granulației și a filigranului, un al treilea cercel din argint, de tip diferit, un pandantiv de argint, parte probabil al unui lanț sau colier, precum și un inel fragmentar din bronz. Piesele de vestimentație sunt mai numeroase, cuprinzând 21 de nasturi sferoidali mici, cu verigă de prinde-re, întregi sau fragmentari, șapte nasturi sferoidali mari, întregi sau fragmentari, care au în interior câte o biluță sau un miez metalic – motiv pentru care pot fi interpretați și ca pandantive-clopoței –, și un capăt de cingătoare în formă de „S” culcat, cu capetele decorate în formă de șarpe, din argint. La acestea se adaugă o piesă din argint, realizată dintr-o plăcuță dreptunghiulară îndoită în formă de prismă cu secțiune pătrată, decorată la exterior în tehnica filigranului, cu destinație neprecizată. Din zona în care au fost descoperite aceste obiecte de metal² au mai fost recuperate două fragmente ceramice, provenite de la o oală lucrată din caolin la roata rapidă, decorată pe umăr cu linii pictate roșii, orizontale, și având marginea înaltă, evazată.

1. La recuperarea pieselor am beneficiat de sprijinul geodezului Iurie Lungu și al colegilor arheologi Sergiu Heghea și Dumitru Avram, cărora le adresăm și pe această cale mulțumirile noastre. Precizăm că, după identificarea la suprafață a primelor piese de podoabă, între care se afla și un cercel decorat în tehnica filigranului, pentru depistarea și recuperarea completă a elementelor care alcătuiesc tezaurul a fost utilizat un detector de metale. Totodată, pentru a verifica existența unei eventuale gropi de depunere, suprafața de unde au fost recuperate piesele a fost decapată mecanizat până la adâncimea de 0,8 m, moment în care a fost atins stratul de sol galben steril, fără a fi identificat vreun complex arheologic.

2. Inițial, am inclus în ansamblul tezaurului și o piesă interpretată drept cuțitaș de toaletă [Vornic *et al.* 2025]. Analizele chimice efectuate ulterior au demonstrat însă că obiectul (ORD 36 din tabelul 1 și diagrama 4) este realizat dintr-un aliaj pe bază de cupru-zinc (alamă), cu un adaos semnificativ de cadmiu (3,77%) și urme ale altor elemente, compoziție specifică epocii contemporane. În consecință, piesa nu poate fi atribuită tezaurului istoric propriu-zis.

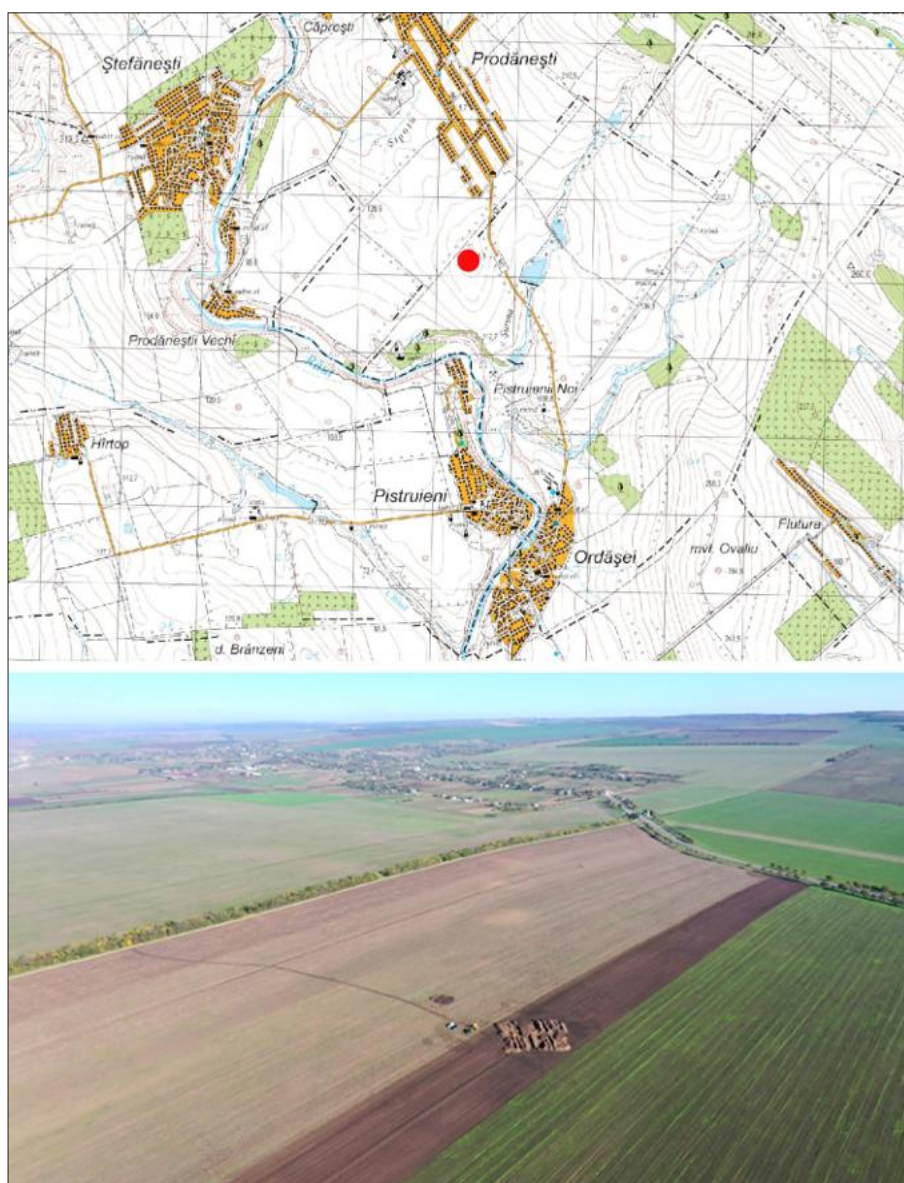


Fig. 1. Amplasarea topografică a descoperirii (1) și vedere asupra locului descoperirii dinspe sud (2).

Fig. 1. Topographical location of the discovery (1), and view of the discovery site from the south (2).

Descrierea pieselor

În continuare, vom descrie detaliat aceste piese, prezentând caracteristicile lor morfologice și metrice, după care vom proceda la analiza lor tipologică, cu identificarea celor mai apropiate analogii, în vederea încadrării cronologice cât mai exacte a descoperirii și, eventual, a stabilirii contextului său istoric.

1. **Cercel de argint**, lucrat în tehnica granulației și a filigranului, cu montură polifațetată, realizată prin asamblarea a 14 plăcuțe, dintre care șase rombice și opt triunghiulare, toate laturile fiind con-

rate în filigran. Pe centrul fiecărei fațete se află câte o piramidă triunghiulară din granule, dintre care cea de pe fațeta pătrată din partea inferioară nu s-a păstrat. Piramidele din granule de pe plăcuțele triunghiulare sunt dispuse în șiruri descrescătoare, $6+5+4+3+2+1$, iar cele de pe patru plăcuțe pătrate laterale – $7+6+5+4+3+2+1$. Piramida de pe placa rombică superioară este de dimensiuni mai reduse, având granulele dispuse $4+3+2+1$. Granulele din vârful piramelor sunt ușor mai mari decât celelalte, însă s-au păstrat doar pe unele dintre ele. Cele patru colțuri ale plăcuțelor rombice, cu

excepția a două colțuri laterale ale plăcuței superioare, sunt ornamentate cu butoni sau granule de dimensiuni mai mari, fiecare având la bază câte o verigă filigranată. Segmentul exterior al verigii de prindere este realizat din sârmă de argint cu secțiune circulară, având un capăt fixat, iar celălalt deschis; acesta prezintă, spre margine, o urmă de tăiere, probabil veche. Capătul fixat în montura fațetată este ornamentat cu o sârmuliță filigranată, răsucită de cinci ori pe verigă, iar în partea opusă a monturii este atașată o verigă din sârmă plată, răsucită de trei ori. Dimensiuni: înălțime 2,4 cm; lungime 2,9 cm. Greutate: 12,03 g. (fig. 2,1; 5,1).

2. **Cercel de argint**, similar cu precedentul, însă mult mai deteriorat, lipsind piramidele granulate de pe patru plăcuțe rombice și de pe una triunghiulară, iar cele mai multe dintre cele păstrate prezintă granule parțial pierdute. De asemenea, are dezafectată verigă de pe marginea laturii superioare a monturii. Având plăcuța din partea superioară ruptă, s-a putut constata că segmentul verigii introdus în interiorul monturii este mult mai subțire, având forma unei benzi. Pornind de la această constatare, se poate presupune că verigă de pe sârmă plată, răsucită de trei ori, de la piesa precedentă, reprezintă capătul opus al verigii de prindere. Dimensiuni păstrate: înălțime 2,4 cm; lungime 2 cm. Greutate: 8,43 g. (fig. 2,2).

3. **Cercel din argint**, parțial deteriorat, compus din verigă lucrată din sârmă cu secțiune circulară și corp prevăzut cu pandantive. Veriga este prevăzută cu un capăt subțiat pentru introducerea în ureche și cu o mică verigă pentru suspendarea corpului; o altă verigă, secundară, nu mai are fixat niciun element. În zona inferioară, veriga este legată de o montură intermediară de formă aproximativ trapezoidală, realizată din două tije prinse cu plăcuțe subțiri. Corpul propriu-zis este de formă aproximativ tronconică, lucrat din tablă, gol în interior, iar pe latura frontală prezintă un orificiu circular, datorat, se pare, unei rupturi. Suprafața este ornamentată radial în șase câmpuri ușor adâncite, sugerând o rozetă stilizată. Pe marginea corpului, în partea superioară și inferioară, sunt fixate șase verigă: de cea superioară este prinsă veriga cercelului, prin intermediul monturii intermediare; două sunt secundare, cu orificiile dispuse vertical, iar de cele din partea inferioară sunt atașate trei pandantive. Fiecare dintre cele trei pandantive este compus dintr-un segment

scurt de tablă înfășurată spiralic, care se bifurcă în patru petale; în centru este fixat un fir de care este suspendat un corp globular, prevăzut la bază cu câte un mic buton. Montura intermediară dintre verigă și corp este fixată prin inele din sârmă, asigurând mobilitatea ansamblului. Cercelul prezintă o construcție multipartită, cu elemente mobile, ceea ce conferea piesei un efect dinamic în timpul purtării. Dimensiuni: lungimea totală 7,4 cm; lungimea verigii, care nu-și păstrează forma originală 3 cm, diametrul corpului 1,8 cm, înălțimea păstrată a corpului 0,7 cm, lungimea pandantivelor 2,3 cm. Greutate: 7,1 g. (fig. 2,3; 5,2).

4. **Pendantiv din argint**, parțial deteriorat, provenind din compoziția unui lanț sau colier. Piesa are structură tridimensională, cu corp aproximativ tronconic, realizat din tablă subțire și elemente aplicate din sârmă. Partea superioară este prevăzută cu un sistem de prindere format din patru brațe dispuse în cruce, din sârmă groasă, șanțuită pe mijloc, unite prin bare transversale, creând o structură de tip cadru. În zona centrală a acestui cadru se observă un mic element circular, probabil cu rol de articulare sau de fixare a verigii de suspendare pe lanț. Corpul propriu-zis are formă ușor tronconică, cu baza evazată. Fața inferioară este ornamentată radial, în opt segmente reliefate, dispuse ca o rozetă, delimitate prin nervuri ușor proeminente. Între nervuri se observă suprafețe ușor concave, sugerând o decorare prin modelare sau ștanțare. Marginea inferioară este prevăzută cu opt verigă de suspendare, distribuite circular. La aceste verigă erau atașate, prin intermediul unor verigă din sârmă, pandantive din plăcuțe în formă de cifră 8; din ansamblu s-a păstrat doar un exemplar, realizat din tablă subțire, ușor deformată. Celelalte elemente suspendate lipsesc, fiind pierdute. Construcția piesei este multipartită, realizată prin asamblare (sudare și prindere prin verigă), ceea ce asigura mobilitatea elementelor inferioare și producea un efect sonor și vizual în timpul purtării. Bijuteria se integrează, cel mai probabil, într-un ansamblu de lănișor sau colier – o podoabă destinată purtării la gât –, funcționând ca pendantiv central. Dimensiuni: lungimea totală 2,5 cm; lungimea corpului 1,8 cm, lățimea maximă 1,8, lungimea pandantivului 0,9 cm. Greutate: 3,44 g. (fig. 3,1).

5. **Piesă din argint**, interpretabilă drept închizătoare sau verigă de prindere pentru centură,



Fig. 2. Cercei (1–3) și închizătoare de centură (4) din argint, provenind din tezaurul medieval de la Ordășei.

Fig. 2. Silver earrings (1–3) and belt clasp (4) from the medieval hoard of Ordășei.

în formă de S culcat (dublu cârlig). Este realizată dintr-o tijă masivă, ușor fațetată pe alocuri, cu secțiune aproximativ ovală, modelată simetric. În zona mediană prezintă o nodozitate pronunțată, de formă ovoidală, care marchează punctul de echilibru al piesei. Capetele sunt modelate stilizat în formă de capete de șarpe, ușor applatizate, cu extremitățile lățite și decorate prin linii și puncte adâncite, realizate prin turnare, sugerând ochii și conturul botului. Având formă de S orizontal, cu terminațiile recurbate în sens opus, piesa permitea

agățarea sau fixarea elementelor de centură. Prin morfologie și execuție, se încadrează în categoria sistemelor de legătură pentru centură, având atât funcție practică, cât și rol ornamental. Dimensiuni: lungime 3,9 cm; lățime 2,1 cm, grosimea tijei 0,4×0,6 cm; diametrul nodozității 0,9 cm. Greutate: 22,15 g. (fig. 2,4; 5,6).

6. *Nasture sau pandantiv-clopoțel din argint*, de formă sferoidală, ușor applatizată, realizat din două emisfere și prevăzut, în jurul circumferinței, cu un tub de sârmă dispus în spirală strânsă. O emi-

sferă este prevăzută cu urechiușa de prindere, realizată dintr-o sârmă cu latura interioară plată, iar cea exterioară prevăzută cu o nervură longitudinală. Cealaltă emisferă este ornamentată cu două grupe a câte trei orificii circulare, dispuse în triunghi; orificiile din vârful triunghiurilor sunt unite printr-o tăietură. În interior se află o biluță sau miez mobil, care produce un ușor sunet la mișcare. Dimensiuni: înălțimea totală 2,7 cm; diametrul sferei 2 cm, lungimea verigii 0,7 cm, grosimea sârmei spiralate 0,2 cm. Greutate: 9,37 g. (fig. 3,2; 5,5).

7. **Piesă din argint**, de formă și dimensiuni similare cu precedenta, însă puternic turtită și deteriorată. Emisfera inferioară, fiind parțial desprinsă, a permis observarea sistemului de fixare: veriga de prindere prezintă capetele sârmei, cu lungimea de circa 0,6 cm, îndoite în interior în direcții opuse. De asemenea, s-a constatat că în interior se află un miez mobil din bronz, de formă aproximativ prismatică, cu baza rectangulară, care produce sunet la mișcare. (dimensiuni miez: 0,4×0,6 cm). Dimensiunile actuale ale piesei: 2,2×2,7 cm. Greutate: 8,37 g (fig. 3,4). Din interiorul corpului a fost recuperat elementul percutant al nasturelui/pandantivului-clopoțel, realizat dintr-o tijă metalică rulată (în formă de sul), cu lățimea de 0,5 cm și diametrul de 0,4×0,55 cm. Greutate: 0,75 g (fig. 3,4a).

8. **Nasture sau pandativ-clopoțel fragmentar din argint**, de formă și dimensiuni similare cu precedentul, însă puternic turtit și deteriorat; tubul de sârmă spiralată de pe circumferința piesei este parțial desprins, iar o porțiune din calota inferioară este ruptă. Dimensiunile actuale ale piesei: 3,2×2,6 cm. Greutate: 6,14 g. (fig. 3,7).

9. **Piesă fragmentară din argint**, de formă și dimensiuni similare cu precedenta, cu emisfera inferioară lipsă. Absența acesteia a permis observarea sistemului de fixare: veriga de prindere prezintă capetele sârmei scurte, lipite unul de altul. Dimensiunile actuale ale piesei: 2,1×2,6 cm. Greutate: 6,83 g. (fig. 3,5).

10. **Fragment din emisfera inferioară**, care cuprinde un orificiu și un segment dintr-un al doilea, provenind de la un nasture sau pandativ-clopoțel din argint, similar cu precedentele. Dimensiunile fragmentului: 1,2×2,2 cm. Greutate: 1,15 g. (fig. 3,3).

11. **Jumătate din calota inferioară**, prevăzută cu două orificii, provenind de la un nasture sau

pandativ-clopoțel din argint, similar cu precedentele. Dimensiunile fragmentului: 1,1×2,2 cm. Greutate: 1,11 g. (fig. 3,6).

12. **Fragment din emisfera inferioară**, care cuprinde un orificiu și porțiuni din alte două, provenind de la o piesă de argint, similară cu precedentele. Dimensiunile fragmentului: 0,8×2,1 cm. Greutate: 1,0 g. (fig. 3,8).

13. **Nasture sferoidal din argint**, alcătuit din două emisfere de mici dimensiuni, sudate între ele. Piesa este prevăzută cu o urechiușă de prindere realizată din sârmă, de asemenea sudată în zona de contact cu corpul nasturelui. În partea superioară, nasturele prezintă un orificiu de mici dimensiuni, rezultat probabil în procesul de asamblare a celor două emisfere. Se constată urme de deteriorare la nivelul suprafeței. Dimensiuni: înălțimea piesei 1,9 cm; diametrul sferei 1,2 cm; lungimea urechiușei 0,9 cm. Greutate: 1,19 g (fig. 4,1).

14. **Nasture din argint**, de formă și dimensiuni similare cu precedentul. Greutate: 1,45 g. (fig. 4,2).

15. **Nasture din argint**, similar ca morfologie și dimensiuni cu exemplarul precedent. Greutate: 1,23 g. (fig. 4,3).

16. **Nasture din argint**, de formă și dimensiuni similare cu precedentul. Greutate: 1,21 g. (fig. 4,4).

17. **Nasture din argint**, de formă și dimensiuni similare cu precedentul. Greutate: 1,17 g. (fig. 4,5).

18. **Nasture din argint**, de formă și dimensiuni similare cu precedentul, puternic deteriorat. Greutate: 0,87 g. (fig. 4,6).

19. **Nasture din argint**, similar ca morfologie și dimensiuni cu exemplarul precedent. Greutate: 1,48 g. (fig. 4,7; 5,4).

20. **Nasture din argint**, similar ca morfologie și dimensiuni cu exemplarul precedent. Greutate: 1,41 g. (fig. 4,8).

21. **Nasture din argint**, de formă și dimensiuni similare cu precedentul, puternic deteriorat. Greutate: 1,22 g. (fig. 4,9).

22. **Nasture din argint**, de formă și dimensiuni similare cu exemplarul precedent, aflat într-o stare avansată de deteriorare. Greutate: 0,85 g. (fig. 4,10).

23. **Nasture din argint**, de formă și dimensiuni similare cu precedentul. Greutate: 1,2 g. (fig. 4,11).

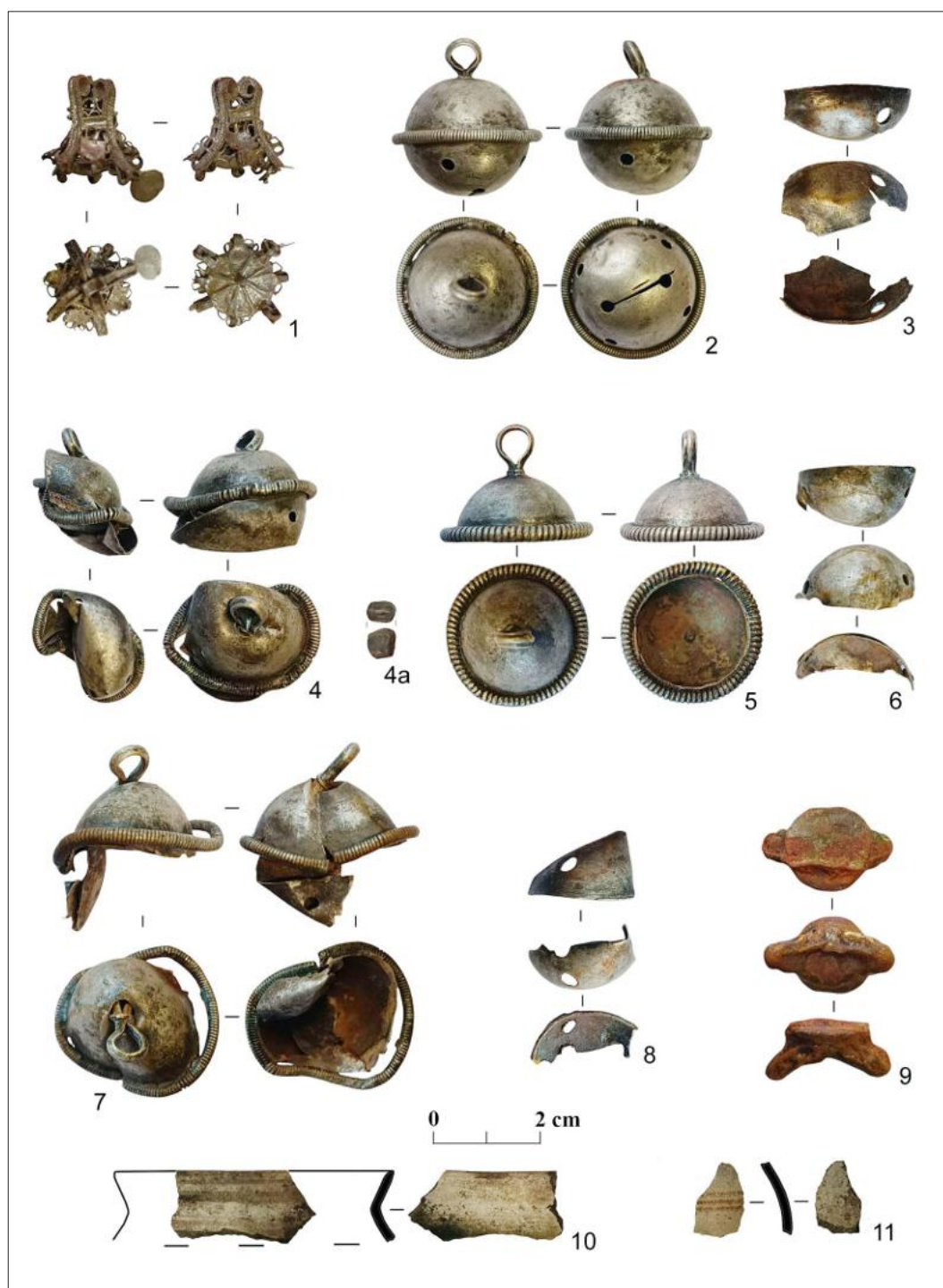


Fig. 3. Ordășei 2024. Pandantiv (1) și nasturi (2-8) de argint, inel de bronz (9) și fragmente ceramice (10-11).

Fig. 3. Ordășei 2024. Silver pendant (1) and buttons (2-8), bronze ring (9), and ceramic fragments (10-11).

24. *Nasture din argint*, de formă și dimensiuni similare cu precedentul. Greutate: 1,06 g. (fig. 4,12).

25. *Nasture din argint*, de formă și dimensiuni similare cu precedentul. Greutate: 1,13 g. (fig. 4,13).

26. *Nasture globular din argint*, din care se păstrează numai emisfera superioară, prevăzută cu urechiușă de prindere. Absența jumătății inferioare a permis observarea sistemului de fixare: veriga de prindere prezintă capetele sârmei scur-



Fig. 4. Nasturi de argint (1-18, 20-22), nasture de bronz (19) și piesă de argint (23), provenind din tezaurul medieval de la Ordășei.

Fig. 4. Silver buttons (1-18, 20-22), bronze button (19), and silver piece (23) from the medieval hoard of Ordășei.

te, lipite unul de altul. Piesa prezintă un orificiu executat lateral, la fel ca toate celelalte exemplare. Dimensiunile actuale ale piesei: 1,2×1,5 cm. Greutate: 1,38 g. (fig. 4,14).

27. *Nasture fragmentar din argint*, de formă și dimensiuni similare cu precedentul, cu calota inferioară lipsă. Absența acesteia a permis ob-

servarea sistemului de fixare: veriga de prindere prezintă capetele sârmei mai lungi și îndoite în interior în direcții opuse. Dimensiunile actuale ale piesei: 1,2×1,4 cm. Greutate: 0,69 g. (fig. 4,15).

28. *Nasture fragmentar din argint*, de formă și dimensiuni similare cu precedentul, cu emisfera inferioară lipsă. Absența acesteia a permis ob-

servarea sistemului de fixare: veriga de prindere prezintă capetele sârmei mai lungi și îndoite în direcții opuse. Dimensiunile actuale ale piesei: 1,2×1,4 cm. Greutate: 0,79 g. (fig. 4,16).

29. *Nasture fragmentar sferoidal din argint*, compus din două emisfere de mici dimensiuni, sudate, cu urechiușa de prindere lipsă, iar la polul opus cu un decor alcătuit din patru granule dispuse în piramidă (3+1). Dimensiunile actuale ale piesei: înălțime 1,7 cm, diametrul nasturelui 1,2 cm, diametrul granulelor 0,25 cm. Greutate: 1,85 g. (fig. 4,17).

30. *Nasture fragmentar sferoidal din argint*, compus din două emisfere de mici dimensiuni, sudate, cu urechiușa de prindere lipsă. Diametrul nasturelui: 1,2 cm. Greutate: 0,91 g. (fig. 4,18).

31. *Nasture fragmentar sferoidal din bronz*, compus din două emisfere de mici dimensiuni, sudate, cu urechiușa de prindere lipsă. Diametrul nasturelui: 1,3 cm. Greutate: 1,14 g. (fig. 4,19).

32. *Jumătatea inferioară a unui nasture sferoidal din argint*. Dimensiuni: 0,5×1,2 cm. Greutate: 0,53 g. (fig. 4,20).

33. *Jumătatea inferioară a unui nasture sferoidal din argint*. Dimensiuni: 0,5×1,2 cm. Greutate: 0,45 g. (fig. 4,21).

34. *Jumătatea inferioară a unui nasture sferoidal din argint*. Dimensiuni: 0,5×1,2 cm. Greutate: 0,34 g. (fig. 4,22).

35. *Piesă din argint*, realizată dintr-o plăcuță dreptunghiulară alungită, îndoită astfel încât formează o prismă cu secțiune pătrată. Capetele

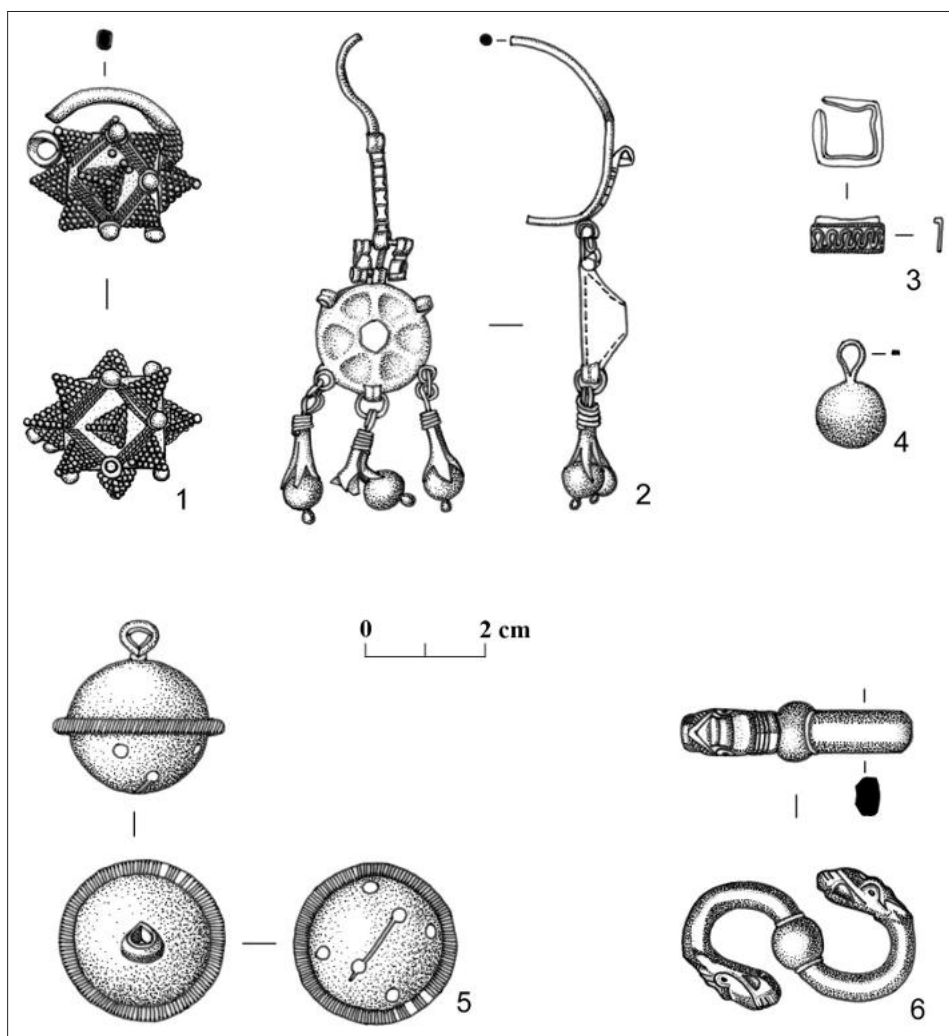


Fig. 5. Piese de argint provenite din tezaurul medieval de la Ordășei.

Fig. 5. Silver items from the medieval hoard of Ordășei.

plăcuței au fost inițial sudate, însă ulterior s-au desprins. La exterior, piesa este decorată în tehnica filigranului: de-a lungul marginilor sunt sudate două fire torsionate, iar în registrul central este aplicat un fir subțire, dispus în val strâns. Interiorul este gol. Destinația piesei rămâne incertă. Dimensiuni: 0,6×1,0 cm. Greutate: 1,06 g (fig. 4,23; 5,3)

36. **Fragment de inel din bronz**, probabil un semifabricat realizat prin turnare. Se păstrează montura, de formă discoidală, simplă, cu o linie în relief rezultată din procesul de turnare, precum și o porțiune arcuită a verigii, cu capetele rotunjite. Dimensiuni: 0,6×1,0 cm. Greutate: 10,25 g. (fig. 3,9).

37. **Un fragment de buză și un altul din corpul unei oale lucrate din pastă caolinoasă**, cu nisip în compoziție. Buza este evazată, prevăzută pe latura interioară cu o șanțuire largă pentru capac, iar corpul este bombat. Vasul era decorat cu linii roșii pictate, dispuse orizontal atât pe buză, cât și pe corp. Diametrul estimativ al guri: 10 cm (fig. 3,10-11).

Pentru piesele care alcătuiesc tezaurul mediev al de la Ordășei am efectuat și analiza compoziției chimice. Compoziția elementară a obiectelor din depozitul de la Ordășei a fost determinată prin spectroscopie de fluorescență cu raze X (X-Ray Fluorescence, XRF), analizele fiind efectuate la Institutul de Fizică Aplicată al Universității de Stat din Moldova. Investigațiile au fost realizate cu un spectrometru X-Calibur (Xenometrix, Israel), la o tensiune de accelerare de 45 kV, fără utilizarea filtrului, cu catod de rodium și detector de tip SDD, în atmosferă. Prelucrarea datelor a fost realizată cu ajutorul programului XRS-FP (dezvoltat de Crossroads Scientific). Determinarea compoziției chimice s-a bazat pe algoritmul Fundamental Parameters, rezultatele fiind prezentate sintetic în tab. 1.

Cercei filigranați (ORD 02-03). Ambele piese se încadrează în categoria aliajelor de argint de înaltă puritate (aprox. 919-929‰), cu cupru ca element principal de aliere și cu prezențe foarte mici de impurități (As, Pb) și adaos minor de Sn. Acest tip de compoziție este caracteristic pentru argint fin de bună calitate utilizat la confecționarea pieselor în epoca modernă, unde rafinarea metalului este mai avansată, de obicei bijuterii sau argintărie de calitate. Purity ridicată a argintului, aproape la nivelul standardului contemporan internațional 925‰ conduce la o rezistență bună

la oxidare și un luciu argintiu curat, culoare stabilă în timp. Cele 6-7.7% de cupru cresc duritatea și rezistența mecanică, iar staniul (1.15% și 1.78%) îmbunătățește rezistența la coroziune, contribuie la duritate. El este uneori prezent în argint din metal reciclat sau în tehnologii tradiționale/regionale. Plumbul (0.12% și 0.17%) prezent probabil ca impuritate din minereuri argentifere sau metal reciclat în concentrații mici, tipic pentru metalul rafinat premodern. Arsenicul (0.03% și 0.01%) prezintă o impuritate reziduală din minereuri, poate proveni din procesare tradițională. Ambele piese provin din argint bine rafinat, se încadrează în categoria aliajelor de argint de înaltă calitate (aprox. 920‰), diferențele mici în Cu și Sn pot reflecta loturi diferite de fabricație, surse diferite de materie primă, reciclare parțială. Nivelul redus de impurități (As, Pb) confirmă un proces metalurgic relativ avansat.

Cercel cu pandantive (ORD 05). Aliajul respectiv se încadrează în categoria argintului de înaltă puritate (~905‰), apropiat de ORD 02-03 și de standardele istorice și moderne pentru argintărie de calitate unde se dorește o combinație între luciul argintului și rezistența mecanică. Nivelul ridicat de argint indică un material rafinat care asigură culoarea alb-strălucitoare, conferă rezistență bună la oxidare și menține ductilitatea aliajului. Cuprul (6.79%) crește duritatea și rezistența mecanică, conferă stabilitate structurală pentru piese utilizate frecvent, poate induce o ușoară tendință spre patinare (oxidare la suprafață), însă la un nivel redus datorită procentului mic. Un conținut de 6-7% Cu este tipic pentru argintul ornamental. Staniul (2.38%) îmbunătățește rezistența la coroziune, contribuie la durificare, îmbunătățește turnabilitatea aliajului și reduce ușor tendința la tarnish față de aliajele Ag-Cu simple. La un nivel de ~2.4%, Sn este aproape sigur un adaos intenționat, nu doar o impuritate. Acest lucru poate indica un anumit stil tehnologic sau proveniență dintr-o tradiție metalurgică locală în care se folosește Sn pentru stabilizare. Plumbul (0.32%) îmbunătățește prelucrabilitatea la turnare (fluiditate mai bună), poate produce segregări la limitele de granule și ușoară fragilizare dacă piesa este prelucrată la cald. Conținutul este suficient de mic pentru a nu afecta semnificativ proprietățile mecanice.

Pandantiv (ORD 4). Aliajul este un argint debazat (tip „bilon”), cu o finețe ~503‰. Argin-

Nr.	Piesa	Cod	Ag	Cu	As	Pb	Sn	Cd	Zn	Greut., g.
1.	Cercel (fig. 2,1; 5,1)	ORD 03	91.92	6.12	0.01	0.17	1.78	0.00	0.00	12.03
2.	Cercel (fig. 2,2)	ORD 02	91.01	7.69	0.03	0.12	1.15	0.00	0.00	8.43
3.	Cercel (fig. 2,3; 5,2)	ORD 05	90.51	6.79	0.00	0.32	2.38	0.00	0.00	7.1
4.	Pandantiv (fig. 3,1)	ORD 04	50.36	46.58	0.00	1.20	1.86	0.00	0.00	3.44
5.	Închizătoare de centură (fig. 2,4; 5,6)	ORD 01	63.84	30.77	2.57	0.57	2.25	0.00	0.00	22.15
6.	Nasture (fig. 3,2; 5,5)	ORD 06	89.16	8.37	0.00	0.47	2.01	0.00	0.00	9.37
7.	Nasture (fig. 3,7)	ORD 07	80.53	12.52	0.00	0.67	6.28	0.00	0.00	6.14
8.	Nasture (fig. 3,4)	ORD 08	90.42	6.91	0.00	0.26	2.41	0.00	0.00	8.33
8a.	Elementul percutant al nasturelui ORD 08 (fig. 3,4a)	ORD 08z	0.3	98.16	0.09	0.27	0.93	0.00	0.26	0.76
9.	Nasture (fig. 3,5)	ORD 09	87.19	6.28	0.04	0.26	6.24	0.00	0.00	6.83
10.	Nasture (fig. 3,3)	ORD 10	86.36	8.57	0.04	0.34	4.70	0.00	0.00	1.29
11.	Nasture (fig. 3,6)	ORD 11	85.78	11.51	0.03	0.42	2.27	0.00	0.00	1.15
12.	Nasture (fig. 3,8)	ORD 12	87.71	7.15	0.05	0.26	4.84	0.00	0.00	1,0
13.	Plăcuță rectangulară (fig. 4,23; 5,3)	ORD 13	85.69	11.16	0.05	0.17	2.94	0.00	0.00	1.06
14.	Nasture (fig. 4,7; 5,4)	ORD 14	86.16	10.28	0.00	0.65	2.91	0.00	0.00	1.48
15.	Nasture (fig. 4,9)	ORD 15	76.77	10.09	0.10	1.54	11.50	0.00	0.00	1.22
16.	Nasture (fig. 4,4)	ORD 16	88.46	8.34	0.00	0.55	2.65	0.00	0.00	1.21
17.	Nasture (fig. 4,2)	ORD 17	86.72	6.15	0.02	0.66	6.45	0.00	0.00	1.45
18.	Nasture (fig. 4,1)	ORD 18	86.38	11.09	0.01	0.38	2.14	0.00	0.00	1.19
19.	Nasture (fig. 4,13)	ORD 19	92.08	5.02	0.00	0.48	2.42	0.00	0.00	1.2
20.	Nasture (fig. 4,5)	ORD 20	92.08	5.02	0.00	0.48	2.42	0.00	0.00	1.17
21.	Nasture (fig. 4,11)	ORD 21	88.13	8.81	0.03	0.48	2.55	0.00	0.00	1.13
22.	Nasture (fig. 4,3)	ORD 22	89.07	7.37	0.01	0.60	2.95	0.00	0.00	1.23
23.	Nasture (fig. 4,17)	ORD 23	81.26	15.13	0.20	0.28	3.14	0.00	0.00	1.85
24.	Nasture (fig. 4,10)	ORD 24	89.77	7.35	0.01	0.40	2.48	0.00	0.00	0.89
25.	Nasture (fig. 4,18)	ORD 25	89.56	8.23	0.02	0.30	1.90	0.00	0.00	0.91
26.	Nasture (fig. 4,12)	ORD 26	85.41	12.14	0.01	0.54	1.91	0.00	0.00	1.06
27.	Nasture (fig. 4,6)	ORD 27	86.51	8.04	0.02	0.49	4.94	0.00	0.00	0.87
28.	Nasture (fig. 4,8)	ORD 28	83.03	9.08	0.00	0.59	7.30	0.00	0.00	1.41
29.	Nasture (fig. 4,14)	ORD 29	86.34	9.48	0.14	1.16	2.88	0.00	0.00	1.38
30.	Nasture (fig. 4,16)	ORD 30	82.05	9.86	0.04	0.65	7.41	0.00	0.00	0.79
31.	Nasture (fig. 4,15)	ORD 31	74.61	13.87	0.00	1.56	9.96	0.00	0.00	0.69
33.	Nasture (fig. 4,20)	ORD 32	88.29	9.02	0.00	0.51	2.18	0.00	0.00	0.53
34.	Nasture (fig. 4,22)	ORD 33	89.77	7.67	0.02	0.37	2.18	0.00	0.00	0.34
35.	Nasture (fig. 4,21)	ORD 37	81.27	14.20	0.03	0.74	3.77	0.00	0.00	0.45
36.	Nasture (fig. 4,19)	ORD 34	0.22	70.26	0.21	1.05	28.25	0.00	0.00	1.14
37.	Inel (fig. 3,9)	ORD 35	0.05	89.11	0.00	0.95	2.39	0.00	7.51	10.25
38.	Cuțitaș (?)	ORD 36	0.04	86.28	0.15	0.19	0.05	3.77	13.30	1.25

Tab. 1. Rezultatele analizei spectrale a pieselor din depozitul de la Ordășei (wt%).

Tab. 1. Results of the spectral analysis of the items from the Ordășei hoard (wt%).

tul asigură luciu, culoare alb-argintie (atenuată de cupru) și rezistență bună la oxidare. Procentul relativ scăzut pentru un obiect „de argint” indică în utilizarea istorică un obiect utilitar sau compromis între aspect și cost/duritate. Conținutul ridicat de Cu (~46.6%) mută proprietățile mai aproape de un aliaj Ag-Cu, mult mai dur decât argintul obișnuit (925‰) și cu o culoare mai caldă (ușor roșiatică). Cupru întărește semnificativ aliajul și îi crește rezistența mecanică, aduce o nuanță roșiatică și favorizează patinarea/tarnish-ul mai rapid. Cantitatea de staniu (1.86%) și plumb (1.20%) sugerează originea lor fie reciclare metalică (topire de surse mixte), fie tehnologii tradiționale de turnare/rafinare parțial. Staniul îmbunătățește rezistența la coroziune și contribuie la întărire, iar plumbul prelucrabilitatea la așchiere și fluiditatea la turnare, însă tinde să segregheze la limite de granule sau sub formă de incluziuni moi, poate produce fragilizare și ridică probleme de sănătate, nefiind recomandat pentru obiecte purtate de copii sau piese purtate permanent pe piele. Compoziția respectivă e compatibilă cu bilonul folosit istoric la monede și obiecte utilitare/decorative când costul argintului trebuia redus, menținând totuși aspectul.

Închizătoare de centură (ORD 01). Compoziția indică un aliaj pe bază de argint, cu un procent semnificativ de cupru. Argintul este elementul de bază care oferă culoarea albă și rezistență la oxidare. Conținutul relativ scăzut pentru argint sugerează un scop funcțional în care este nevoie de duritate. Cuprul (30.77%) reprezintă un element mai obișnuit în aliajele cu bază de argint. În acest context, el crește duritatea și rezistența mecanică și aduce o ușoară tentă roșiatică în culoare. Este tipic ca argintul antic sau medieval să aibă un nivel ridicat de cupru. Arsenicul (2.57%) este un element foarte relevant arheometric, cu rol de dezoxidant în metalurgia tradițională, el crește fluiditatea metalului topit. Poate proveni din minereuri argentifere sau cuproase netratate complet, dar prezența lui la >2% sugerează o procesare metalurgică arhaică, deoarece în metalurgia modernă arsenicul este eliminat aproape complet. Staniul (2.25%) crește rezistența la coroziune și îmbunătățește duritatea. Este tipic în bronzuri, dar poate apărea accidental și în aliaje istorice din cauza reciclării metalelor. Foarte comun în aliajele vechi din argint în cantități reduse este plumbul. Prezența lui se datorează

frecvenței în minereurile argentifere. Conținutul de 0.57% admite rolul de impuritate, nu și adaos intenționat. Compoziția ORD 01 este tipică pentru argintul medieval sau premodern, rezultat din topirea minereurilor argentifere complex sulfurate. Aliajul obținut prezintă un argint de uz comun, potențial reciclat, unde au intrat bronzuri sau cupru contaminat.

Nasturi de dimensiuni mari (ORD 06-12). Cele șapte piese întregi sau fragmente indică aliaje pe bază de argint (~860-904‰) cu cupru drept element principal de aliere și staniu în proporții neobișnuit de ridicate pentru argint (până la ~6.2%). Arsenicul este practic absent, iar plumbul este prezent la nivel scăzut-moderat. Argintul este bine rafinat, de bună calitate, frecvent în piese decorative, liturgice sau bijuterii robuste de factură premodernă. Cuprul întărește și rigidizează aliajul, crește rezistența la uzură, poate induce o ușoară tentă caldă și patinare (sulfidare). Staniul – aproape sigur adaos intenționat (nu simplă impuritate) este punctul cheie al acestor artefacte folosit la sporirea turnabilității, stabilității la coroziune și durificare, și reduce tarnish-ul față de Ag-Cu simplu. La >~3% Sn, efectele de durificare devin vizibile, iar la 5-6% Sn pot apărea mai clar faze dispersate ce cresc rezistența, dar pot reduce ușor tenacitatea. Plumbul (0.26-0.67%), deși în cantități mici, poate influența prelucrabilitatea la cald și crea puncte de inițiere a coroziunii dar este relevant pentru sănătate. Chiar la <1%, nu este recomandat pentru obiecte cu contact alimentar sau purtare prelungită pe piele, mai ales copii. Arsenicul (0.00-0.05%) practic absent indică rafinare bună sau sursă de metal fără arsen. Aliajul obținut are un aspect alb curat spre ușor cald, în funcție de cupru și tarnish moderat. Staniul tinde să încetinească înnegrirea față de Ag-Cu simplu. Are o duritate ridicată și o ductilitate bună-moderată compatibil cu piese turnate fine, bijuterii robuste, ornamentică și obiecte utilitare decorative. Plumbul și staniul pot indica reciclare (amestec cu bronzuri/aliaje de lipire) sau rețetă intenționată.

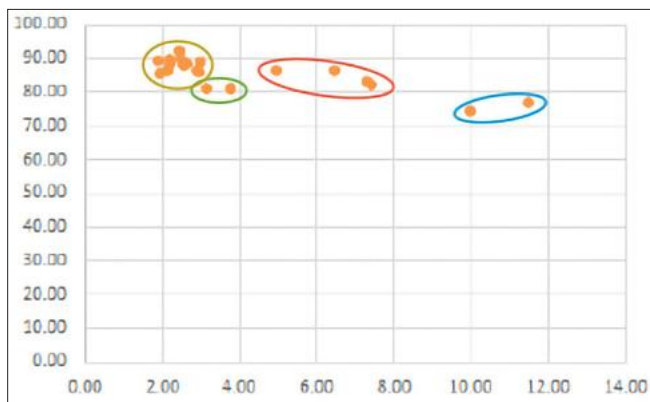
Pe lângă corpurile nasturilor, compoziția chimică a fost determinată și pentru elementul percutant al piesei ORD 08 (fig. 3,4a). Analiza a evidențiat un conținut de cupru aproape pur (98,16%), cu impurități minore și urme de alte elemente. Proporția ridicată de cupru este adecvată pentru confecționarea de clopoței sau

zurgălăi, proprietățile fizice ale acestuia favorizând obținerea unui sunet puternic și rezonant. Prezența staniului în cantitate redusă (0,93%) contribuie la creșterea durității și a rezistenței la uzură și deformare, influențând totodată și tonalitatea sunetului, prin sporirea rigidității materialului și obținerea unui timbru mai clar. Concentrația staniului, apropiată de 1%, indică un aliaj de tip cupru-staniu slab aliat, insuficient însă pentru a fi încadrat în categoria bronzurilor propriu-zise. Celelalte elemente identificate (Ag, Pb, Zn și As), prezente în proporții sub 0,3%, nu influențează semnificativ proprietățile mecanice ale elementului percutant și pot proveni fie din impurități ale materiei prime, fie din procese de reciclare sau, în cazul argintului, ca rezultat al contactului îndelungat cu corpul de argint al piesei.

Nasturi mici (ORD 14-33, 37). Lotul cuprinde aliaje Ag-Cu cu adaos de staniu (vizibil, până la 11.5%) și impurități Pb/As joase-moderate. Plaja largă a compozițiilor (în special Ag și Sn) indică probabil surse diferite de materie primă și/sau reciclare (argint + bronzuri), rețete intenționate pentru a optimiza turnabilitatea, duritatea și stabilitatea luciului. Arsenicul ($\approx 0-0.20\%$), în general scăzut, capătul superior sugerează amprentă arheometalică sau procesare tradițională (cupru arsenical, dezoxidare clasică). Plumbul (0.28-1.56%) util pentru turnare (fluiditate), relevă segregare/fragilizare la cald și restricții sanitare. Argintul (74.61-92.08%) conferă culoare alb-strălucitoare, rezistență la oxidare și ductilitate. La $>90\%$ materialul dovedește o bună formabilitate și patinare moderată; la $\sim 75-85\%$, proprietățile sunt dominate de cupru și staniu care impun o duritate mai mare, ductilitate mai mică, tarnish mai rapid decât grupa anterioară. Cupru (5.02-15.13%) întărește și rigidizează aliajul, crește rezistența la uzură, induce o nuanță caldă și accelerează patinarea. La $\geq 12-15\%$ Cu se obține o duritate crescută, dar scădere de ductilitate. Staniul (1.90-11.50%) îmbunătățește turnabilitatea și umplerea detaliilor, încetinește tarnish-ul, durifică aliajul. La $>5-6\%$ Sn crește duritatea și scade tenacitatea, păstrează luciul; la $\sim 9-11.5\%$ Sn pot apărea rețele intermetalice care cresc sensibilitatea la fisurare în deformare necontrolată. Plumbul (0.28-1.56%) sporește fluiditatea la turnare și prelucrabilitatea la așchiere, dar este aproape insolubil în Ag/Cu,

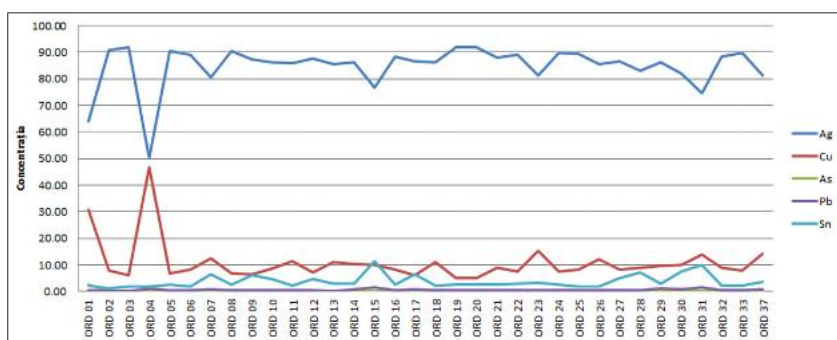
segregă la limite de granule/incluziuni, favorizează fragilizare și porozități la turnare, poate genera pete/coroziune locală în timp. Sanitar în așa cantități este nerecomandat pentru contact alimentar sau purtare prelungită pe pielea copiilor. Arsenicul (0.00-0.20%) la 0-0.05% are o influență minimă, la $\approx 0.2\%$ poate reduce ușor ductilitatea și semna o amprentă tehnologică istorică. Segmentarea celor 21 de piese după elemente permite distingerea a 4 clase funcționale: *Grupa A* – Ag înalt ($\approx 88-92\%$), Cu 5-9%, Sn 2-4% cu echilibru bun duritate/ductilitate; patinare moderată, luciu stabil. *Grupa B* – Ag mediu ($\approx 85-88\%$), Cu 8-12%, Sn 3-6% cu profil mai dur decât grupa anterioară caracterizată prin ductilitate moderată și luciu stabilizat de Sn. *Grupa C* – argint mai scăzut ($\approx 80-85\%$), cupru – 10-15%, staniu – 5-9%, cu o rigiditate/duritate ridicată, patină mai lentă și sensibilitate la fisurare la deformare mare. *Grupa D* – Sn foarte mare ($\approx 9-11.5\%$), indiferent de Ag/Cu din interval prezintă intermetalice pronunțate, durificare semnificativă, tenacitate scăzută (diagr. 1-2). Cele patru grupe prezintă un grad de turnare în general bună-foarte bună, capacitate de deformare, grupele C și mai ales D sunt sensibile la fisurare.

Analiza greutateii nasturilor întregi (ORD14-28) scoate în evidență utilizarea marjei cuprinse între 0,87 și 1,45 g fără vreo legătură cu calitatea argintului. Din rândul pieselor analizate, se evidențiază clar ORD 23, piesă care face parte



Diagr. 1. Coraportul Ag/Sn pentru nasturi (ORD 14-34, 37) cu definirea grupelor (● – grupa A; ● – grupa B; ● – grupa C; ● – grupa D).

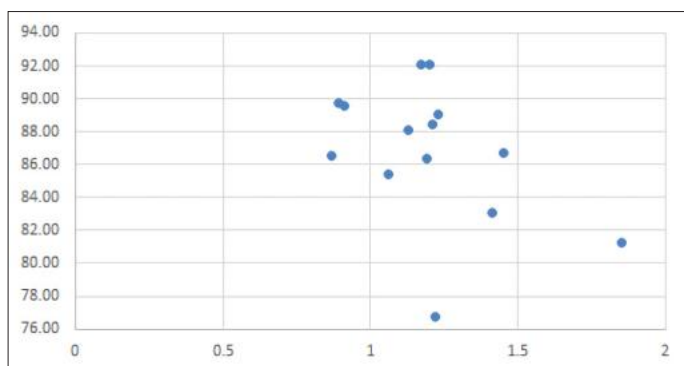
Diagr. 1. Ag/Sn ratio for the buttons (ORD 14-34, 37) with group definitions (● – Group A; ● – Group B; ● – Group C; ● – Group D).



Diagr. 2. Structura elementală a depozitului de la Ordășei, piesele de argint (ORD 1-33, 37).

Diagr. 2. Elemental composition of the Ordășei hoard, silver items (ORD 1-33, 37).

dintr-o variantă distinctă de nasturi, fiind dotată cu 4 bile așezate piramidal în partea opusă barei de prindere de unde și greutatea sporită de 1,85 g (diagr. 3).



Diagr. 3. Coraportul Ag/masa nasturilor (ORD14-28) din depozitul de la Ordășei.

Diagr. 3. Ag-to-weight ratio of the buttons (ORD14-28) from the Ordășei hoard.

Nasture (ORD 34). Compoziția acestui artefact nu mai aparține categoriei „aliaje de argint”, deoarece argintul este practic absent (0.22%). Piesa prezintă în mod clar un aliaj pe bază de cupru-staniu (bronz cu staniu ridicat de ~28%) cu impurități de plumb și arsenic. Este un aliaj tipic pentru unele artefacte arheologice, obiecte turnate, piese decorative sau componente unde se urmărește duritate ridicată. Cuprul (70.26%) constituie elementul de bază care conferă ductilitate de bază și este prezent în proporție tipică pentru bronzuri istorice. Staniul (28.25%) este un component major, care impune aliajului o duritate mai ridicată, decât bronzul obișnuit cu staniu de

8-12%, dar pierde o mare parte din ductilitate, devine fragil. Plumbul (1.05%) crește fluiditatea aliajului la turnare, reduce temperatura de topire, tinde să segregheze, având solubilitate foarte mică formează picături/zonă moi și poate induce puncte slabe și fragilizare. Arsenicul la

acest nivel (0.21%), indică fie un proces de topire tradițional, fie reciclarea unui cupru arsenical. Arsenicul acționează ca dezoxidant și durificator, dar poate crește fragilitatea, mai ales combinat cu staniul ridicat. În acest caz, argintul (0.22%) este o impuritate care nu influențează semnificativ proprietățile și poate proveni din reciclarea unor metale amestecate sau păstrarea de lungă durată într-un ambalaj comun cu piese din argint. Aliajul artefactului este foarte dur, dar fragil, tipic pentru piese turnate cu rol decorativ sau funcțiuni statice ale bronzurilor istorice turnate, nu prelucrate mecanic. Compararea microstructurii ORD 35 cu piesele din lotul anterior ORD 14-34, 37 asemănătoare ca formă denotă că piesa ORD 35 este în afara lotului, aparținând unei familii diferite de materiale sau o imitație ca formă a pieselor din metale prețioase, un fals.

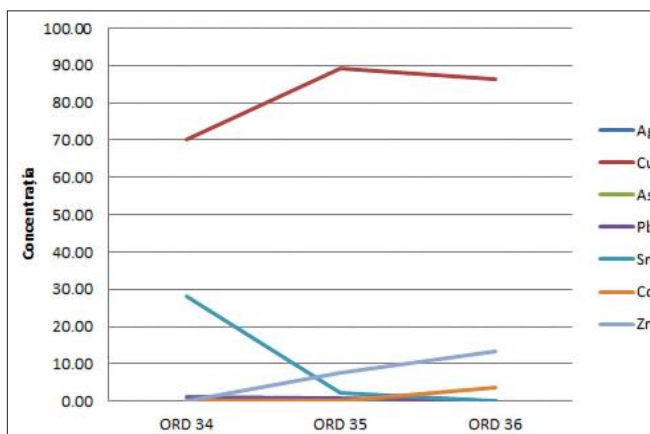
Placă rectangulară (ORD 13). Aliajul acestui artefact prezintă un argint de calitate bună (~857‰) peste nivelurile debazate (bilon). Compoziția indică un aliaj Ag-Cu cu un adaos semnificativ de staniu (~3%) și impurități joase de plumb și arsenic, ceea ce sugerează fie o rețetă intenționată pentru turnare/duritate, fie reciclare controlată din surse cu bronz. La ~857‰ Ag, proprietățile mecanice sunt mai mult influențate de cupru și staniu decât la arginturile >900‰, ceea ce duce la duritate mai mare și ductilitate moderată. Cuprul (11.16%) întărește semnificativ aliajul, crește rezistența la uzură și rigiditatea, induce o tendință mai pronunțată la patinare (sulfidare) față de 925‰, dând uneori o ușoară nuanță „caldă” suprafeței. Staniul la ~3% este aproape sigur un adaos intenționat pentru a îmbunătăți turnabilitatea, reduce viteza de tarnish și poate crește stabilitatea luciului în timp. Plumbul (0.17%) ajută la fluiditatea la turnare și prelucrabilitate, dar are solubilitate foarte mică, tinde să segregheze la limite

de granule/incluziuni și poate genera puncte locale de inițiere a coroziunii/pete. Din considerente de sănătate, nu este recomandat pentru contact alimentar sau purtare prelungită pe pielea copiilor. Arsenicul (0.05%) la acest nivel este o impuritate scăzută, compatibilă cu rafinare relativ bună și influența asupra proprietăților minimă. Aliajul obținut va avea o culoare alb-curat cu ușoară tentă caldă, cu duritate bună, ductilitate bună-moderată și rezistență bună în atmosferă uscată la coroziune, în prezența sulfului apare patina; la umiditate crescută plumbul poate genera pete în zonele segregate. Implicațiile tehnologice de producție și prelucrare presupun o turnare foarte bună datorită staniului și plumbului, posibilitate de deformare la rece, de lipire/sudură. Utilizarea tipică presupune confecționarea pieselor decorative, ornamente, bijuterii robuste sau elemente turnate cu detaliu bun. Mai puțin potrivit pentru obiecte cu contact alimentar din cauza plumbului.

Inel (ORD 35). Metalul acestui artefact se încadrează clar în categoria aliajelor de cupru (89.11%), și anume a alamei (tombac) cu Zn ~7.5% și adaosuri secundare. Argintul (0.05%) reprezintă o impuritate nefuncțională. Staniul (2.39%) indică o bronzificare ușoară, pentru duritate și anticoroziune, iar plumbul (0.95%) îmbunătățește prelucrabilitatea și indică turnare. Cuprul prezintă o ductilitate moderată și o culoare roșcată-aurie. Zincul crește rezistența mecanică și modifică culoarea spre galben auriu, îmbunătățind turnabilitatea. Aliajele Cu-Zn-Sn sunt tipice pentru bronzuri alame folosite în piese decorative care urmează a da impresia că artefactul este confecționat din aur (diagr. 4).

* * *

Rezultatele analizei XRF a celor 37 de piese care formează depozitul de la Ordășei au demonstrat diversitatea și complexitatea proceselor metalurgice reflectate în structura artefactelor. Coraportul Ag și Cu identificat în piese ne demonstrează clar existența a trei grupe valorice, și anume: Grupa I (cantitatea de argint variază între 74.61-91.92% și cupru sub 20%), Grupa II (cantitatea de argint variază între 50-64% și cupru între 30-50%) include ORD 01 și ORD 04 și Grupa III (argintul lipsește sau procentul minimal este rezultatul unei con-

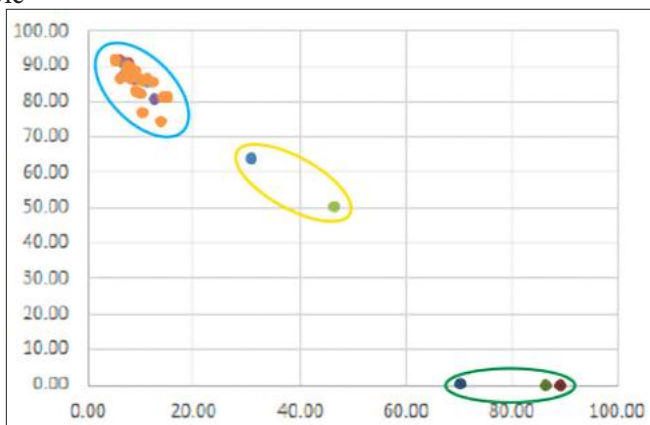


Diagr. 4. Structura elementală a depozitului de la Ordășei, piesele din metal comun (ORD 34-36).

Diagr. 4. Elemental composition of the Ordășei hoard, common-metal items (ORD 34-36).

taminări și cupru >70%) cuprinde ORD 34-36 (diagr. 5). Din rândul Grupei I se evidențiază cele două inele de tâmplă (ORD 02 și ORD 03) cu peste 91% de argint și doi nasturi (ORD 19 și ORD 20) cu peste 92%, cei din urmă fiind și unicul caz de coincidență completă a structurii, ceea ce ne sugerează că au fost confecționate din aceeași șarjă de metal.

Majoritatea obiectelor (34 din 37) sunt fabricate din aliaje pe bază de argint, cu purități variind între ~50% și peste 92%, restul componentelor fiind cupru, staniu, plumb și arsenic în cantități diferite. Altele, precum catarama (ORD 01) sau pandantivul (ORD 04), prezintă compoziții debazate (bilon) sau influențate de reciclare. Grupul clopoșeilor și al



Diagr. 5. Coraportul Ag/Cu a pieselor din depozitul de la Ordășei.

Diagr. 5. Ag/Cu ratio of the items from the Ordășei hoard.

nasturilor arată utilizarea intenționată a staniului pentru durificare și stabilitate. În contrast, piesele ORD 34-36 sunt din bronz sau alamă, unele cu cadmiu, sugerând obiecte necontemporane cu restul tezaurului. Atrage atenție prezența în diferită cantitate a plumbului, deseori în zona de risc pentru sănătatea individului.

* * *

Din prezentarea pieselor care alcătuiesc tezaurul medieval de la Ordășei, precum și din rezultatele analizei chimice, reiese că ansamblul este compus din podoabe și accesorii vestimentare, realizate din argint și bronz, la care se adaugă două fragmente ceramice, posibil aparținând vasului în care au fost depuse obiectele. Accesoriile predomină numeric în cadrul depozitului, însă este puțin probabil ca acestea să fi avut exclusiv un rol utilitar, de prindere și fixare a îmbrăcămintei. Dimensiunea lor estetică indică și o funcție decorativă, cu implicații în afirmarea statutului și identității purtătorului. În cazul nasturilor de mari dimensiuni, nu poate fi exclusă o semnificație protector-apotropaică sau simbolică, mai ales atunci când sunt depuși în complexe funerare aparținând copiilor și femeilor.

În ceea ce privește obiectele de podoabă propriu-zise, inventarul cuprinde doi cercei, numiți în literatura de specialitate mai veche și verigi de tâmplă, ornamentați în tehnica granulației și a filigranului, un alt cercel de tip diferit, un pandantiv – probabil parte a unui lanț –, toate realizate din argint, la care se adaugă un inel fragmentar din bronz, ce pare a reprezenta mai curând un semifabricat decât o piesă finalizată. Dintre piesele de podoabă, cele mai fin executate și, totodată, cele mai valoroase și luxoase sunt cei doi cercei, caracterizați printr-o verigă de prindere deschisă, pe care este fixată o montură polifațetată, decorată în filigran și cu piramide false din granulație. Pentru această categorie de piese, spre deosebire de restul podoabelor din tezaur, se cunosc cele mai numeroase analogii, unele directe sau chiar identice, descoperite în cadrul unor tezaure similare ori, mai ales, mixte, care includ și monede, oferind astfel repere cronologice și culturale mai sigure.

Dintre tezaurele descoperite pe teritoriul Republicii Moldova și publicate în literatura de specialitate, care includ cercei cu montură decorată în tehnica granulației și a filigranului, menționăm

pe cele de la Saharna (r-nul Rezina) [Levinskii, Riaboi 1992, 250-252, fig. 2, 1], Brătușeni (fost Sărata Albă, r-nul Edineț) [Butnariu 1994, 18, pl. XVIII, 1-5; Nicolae, Niculiță 1999], Onești (r-nul Hâncești) [Butnariu 1994, 21, pl. XIX, 6, 7], Musaitu (r-nul Taraclia, fost r-nul Vulcănești) [Butnariu 1994, 25-26, pl. XXI, 4; XXII, 4-9], Bălțata (r-nul Criuleni) [Byrnia *et al.* 1990, 240-247, fig. 1, 25; Butnariu 1994, 34-35, pl. XXX, 6, 8-10], Furceni (r-nul Orhei) [Dergaciova *et al.* 2011, 99-100, fig. 1], Dezghingea (mun. Comrat) [Ioniță 2001, 214, pl. 2, 14, 15; Dergaciova *et al.* 2011, 99, 101, fig. 3, 3]. și Purcari (r-nul Ștefan Vodă) [Ioniță 2001, 215, pl. III, 24, 25]. Este de precizat însă că majoritatea acestor cercei – desemnați uneori în literatura de specialitate, în special în cea publicată la Chișinău, drept verigi de tâmplă [Byrnia *et al.* 1990, 240-247; Levinskii, Riaboi 1992, 251-252; Butnariu 1994, 18, 19, 21, 25, 26, 34; Niculiță 2018, 199] – prezintă o montură de formă sferică, în timp ce doar unele piese descoperite la Musaitu, Dezghingea și, posibil, cele de la Furceni au o montură poliedrică, asemănătoare exemplarelor de la Ordășei (fig. 6). În regiunile est-carpătice ale României, cercei poliedrici decorați în tehnica filigranului și a granulației au fost descoperiți la Suceava, în morminte din necropola de pe platoul cetății, datate în secolul al XVI-lea [Mitrea *et al.* 1953, 361-362, fig. 25, 1; Ioniță 2001, 216], precum și în cuprinsul tezaurelor de podoabe și accesorii vestimentare de la Șendreni (jud. Galați) [Dragomir 1967, 193, 212, fig. 17, 1-3], Sihleanu [Neamțu, 1980, p. 342, 343, fig. 1, 2, 3; 3, 7, 12] și Olteni (jud. Vrancea) [Constantinescu, Untaru 1959, 300-503, fig. 2, 3].

Este important de menționat că, în unele dintre aceste descoperiri, precum cele de la Saharna, Dezghingea sau Furceni, podoabele la care ne referim erau suspendate de lănișoare. Acest fapt, și în primul rând descoperirea de la Saharna, datată în secolul al XVII-lea, i-a determinat pe unii cercetători să considere că aceste piese, desemnate de ei drept verigi de tâmplă, nu erau purtate ca cercei în lobii urechilor, ci suspendate exclusiv de un lănișor și lăsate să atârne liber [Levinskii, Riaboi 1992, 251-252, fig. 2, 1]. Această reconstituire a fost însă contestată de A. Niculiță, E. Nicolae, A. Ioniță L. Dergaciova și S. Reabțeva, care au susținut, pe baza unor argumente mai solide, că piesele respective reprezentau, în realitate, cer-



Fig. 6. Localizarea tezaurilor din spațiul pruto-nistrean care conțin și piese similare celor din depozitul de la Ordăsei.

Fig. 6. Location of hoards in the Prut–Dniester region that contain items similar to those from the Ordăsei deposit.

cei purtați în lobii urechilor, fiind însă, din cauza greutateii lor, susținuți suplimentar de un lănișor trecut peste cap [Niculiță, Nicolae, 1999, 301; Ioniță 200, 216; Dergaciova *et al.* 2010, 99].

În ceea ce privește datarea, pe baza monedelor descoperite în unele tezaure, s-a stabilit că existența acestor podoabe este atestată în secolul al XVI-lea și în prima jumătate a celui următor, majoritatea covârșitoare a descoperirilor încadrându-se în intervalul 1574-1601, iar prezența lor în afara acestei perioade nefiind, deocamdată, confirmată [Nicolae, Niculiță 1999; Dergaciova *et al.* 2010, 99]. Este interesant de remarcat, în acest context, că dintre cele aproximativ 50 de tezaure date în secolele XV-XVII, descoperite pe teritoriul Republicii Moldova și publicate în literatura de specialitate, din câte cunoaștem până în prezent, doar depozitul de la Ordăsei cuprinde exclusiv obiecte. Celelalte sunt fie tezaure monetare, fie

mixte, conținând atât monede, cât și diverse bijuterii și accesorii vestimentare.

Al doilea tip de cercei din tezaurul de la Ordăsei este reprezentat printr-un singur exemplar, multipartit, prevăzut cu o montură intermediară, un corp aproximativ tronconic și trei pandantive atașate. Deocamdată, nu a putut fi identificată o analogie identică pentru această podoabă. Un cercel asemănător a fost descoperit la Dezghingea, însă acesta rămâne nepublicat, aflându-se în prezent în colecțiile Muzeului de Istorie Regional din Comrat, fără a fi cunoscut contextul exact de proveniență. Podoabe similare, dar prevăzute cu monturi rectangulare sau pătrate și decorate pe suprafața exterioară cu câte o piatră încastrată, au fost descoperite la Piua Petrii (jud. Ialomița), în necropola fostului Oraș de Floci, datată în secolele XV-XVI [Chițescu *et al.* 1983, 246, 248, fig. 16/4-5; 17/8]. Deși nu dispunem de

elemente suficiente pentru a susține această ipoteză, nu poate fi exclusă posibilitatea ca și piesa de la Ordășei să fi avut, în partea centrală a monturii, o piatră încastrată.

O piesă deosebit de interesantă, executată cu finețe și probabil parte a unui lănțisor purtat ca podoabă la gât, este pandantivul de argint de formă aproximativ tronconică, realizat din sârmă și tablă subțire, prevăzut cu verigute și mici pandantive confecționate din același material. Analogiile cele mai apropiate pentru acest pandativ au fost identificate în tezaurul de podoabe și monede de la Hîjdieni (r-nul Glodeni), unde au fost descoperite două lănțisoare prevăzute cu asemenea pandantive [Butnariu 1994, 59, pl. XXXI/2-3; Niculitse 2007, 117, fig. 3/2-3; Niculiță 2018, 270-271, nr. 207]. Analiza monedelor din tezaurul de la Hîjdieni a permis încadrarea pieselor în secolul al XVII-lea și sugerează că depozitul a fost îngropat la începutul celei de-a doua jumătăți a acestui secol, fiind asociat cu evenimentele militare din anii 1648-1654, care au afectat grav Moldova în timpul domniei lui Vasile Lupu [Niculitse 2007, 119].

În sfârșit, ultima podoabă propriu-zisă din tezaurul de la Ordășei, realizată din bronz – mai exact din alamă –, este reprezentată de un inel, din care s-a păstrat doar un fragment de verigă, prevăzut cu o montură circulară, ușor înălțată, turnată odată cu aceasta. Prezentând capetele verigii rupte, dar rotunjite, și chatonul neșlefuit, cu o linie în relief deasupra, piesa pare a fi un semifabricat. După cum indică descoperirile arheologice cunoscute până în prezent, inelele de diferite tipuri, inclusiv cele cu montură circulară turnată odată cu veriga, se numără printre obiectele de podoabă și de port frecvent întâlnite în rândul vestigiilor medievale, mai ales din secolele al XVI-lea – al XVIII-lea [Matveev, Nicic 2005, 95-100]. În același timp, siturile arheologice medievale târzii din spațiul pruto-nistean, fie ele așezări sau necropole, au fost până în prezent extrem de puțin cercetate prin săpături sistematice, numeroase asemenea podoabe provenind din descoperiri întâmplătoare sau, mai ales, din activitățile detectoriștilor din ultimele decenii, care au provocat pagube considerabile patrimoniului arheologic național.

Este important însă de precizat că, în tezaurul medievale târzii cunoscute până în prezent de pe teritoriul actual al Republicii Moldova, inclusiv în unele menționate mai sus – precum cele de la

Onești, Musaitu, Bălăbănești, Hîjdieni ș.a. –, în ansamblul cărora au fost atestate și inele, acestea sunt lucrate aproape exclusiv din argint [Butnariu 1994, 22, 26, 27, 40, 59], lipsind, în general, inelele din bronz, metal care nu este considerat prețios. Acest fapt ridică întrebarea dacă piesele din bronz, precum inelul, făceau într-adevăr parte din tezaur. Pe de altă parte, amintim că printre piesele recuperate se numără și un nasture din bronz, fapt care ar putea pleda în favoarea includerii și a pieselor din bronz în componența tezaurului, acestea fiind descoperite pe aceeași suprafață, în amestec cu piesele de argint. În același context poate fi menționat și inelul de bronz, cu urme de argintare, având chatonul discoidal sudat de verigă și decorat prin incizare, provenit din depozitul de la Purcari [Ioniță 2001, 215, pl. III, 22], care ar putea susține, la rândul său, atribuirea inelului, precum și a celorlalte piese din bronz de la Ordășei, tezaurului medieval.

Dintre accesorii vestimentare din tezaurul descoperit de noi se evidențiază, în primul rând și fără îndoială, încuietoarea în formă de „S” culcat, realizată dintr-o tijă masivă de argint, prevăzută cu o nodozitate mediană și cu capetele modelate în formă de șarpe. Este de remarcat faptul că asemenea piese de port nu au mai fost atestate în cadrul tezaurilor medievale descoperite în spațiul carpato-nistean și publicate în literatura de specialitate, lipsind, după știința noastră, și din descoperirile provenite din siturile arheologice medievale cercetate sistematic prin săpături.

În ceea ce privește datarea și apartenența culturală și etnică a acestei categorii de artefacte, de-a lungul timpului au fost formulate opinii divergente. Astfel, unii cercetători le-au atribuit, fără argumente concludente, epocii romane (sec. II-IV) sau perioadei timpurii a migrațiilor (sec. V), punându-le în legătură fie cu mediul provincial roman, fie, mai ales, cu populațiile barbare, în special cu triburile germanice ale ostrogoților [Stanev 2019, 149-155, unde sunt trecute în revistă aceste interpretări].

Cercetările și descoperirile mai recente au demonstrat însă cu claritate că aceste piese metalice destinate prinderii și fixării cingătorilor, realizate preponderent din bronz și argint, au apărut în epoca medievală, mai exact în secolul al XV-lea, și au fost utilizate până în epoca modernă, chiar și la începutul secolului al XX-lea [Prokopenko 2014, 180-191; Stanev 2019, 155-161].

Potrivit lui V. Prokopenko, originea acestor piese trebuie căutată în Asia Centrală, în secolul al XV-lea, în perioada Imperiului Timurid, de unde ar fi pătruns ulterior în Europa de Est. Utilizarea lor este pusă în legătură cu „centura de paradă pentru sabie” din mediile aristocratice ale secolelor al XVI-lea – al XVIII-lea, fapt atestat atât de portrete de epocă, cât și de piese de armament alb păstrate în colecțiile mai multor muzee din Rusia, Belarus, Polonia și Uzbekistan [Prokopenko 2014, 180-191; Stanev 2019, 159, 160, fig. 7; 8].

Din punct de vedere arheologic însă, așa cum constată A. Stanev, deși numărul acestor accesorii vestimentare este relativ mare, mai ales în regiunile situate la sud de Dunărea de Jos, puține dintre ele provin din contexte sigure, bine documentate și precis datate. Dintre descoperirile relevante pot fi menționate exemplarul provenit din mormântul nr. 177 al necropolei de la Vodoča (Macedonia), pentru care a fost invocat ca analogie un ansamblu cu închizătoare în formă de „S” din Kosovo, datat în secolul al XVII-lea, piesa descoperită la cetatea Hotin (Ucraina), asociată cu material numismatic și alte artefacte încadrate în secolele al XVII-lea – al XVIII-lea, precum și închizătorea în formă de „S” provenită din mormântul nr. 440 (individ adolescent, sex nedeterminabil), descoperită împreună cu o monedă de argint emisă de Suleiman I (1520-1566), într-o necropolă din apropierea orașului Sofia (Bulgaria), datată în intervalul secolul al XV-lea – prima jumătate a secolului al XVII-lea [Stanev 2019, 155-158].

Judecând după aceste piese, provenite din diferite complexe funerare, unele atribuite unor adolescenți, se poate admite că ele nu serveau exclusiv la fixarea centurii ceremoniale de sabie, ci puteau fi utilizate și pentru prinderea unor cingători obișnuiți, aparținând inclusiv tinerilor, nu doar militarilor. Este relevant, în acest context, faptul că piese de argint în formă de „S” culcat, de dimensiuni mai reduse și realizate din sârmă, nu din tijă, au fost semnalate drept închizători și la unele lanțuri de argint din tezaurul datate în secolele al XVI-lea – al XVII-lea, precum cele de la Hîjdieni [Niculitse 2007, fig. 3, 3] și Saharna [Levinskii, Riaboi 1992, fig. 1, 2; Niculiță 2018, 275, nr. 211].

În ceea ce privește artefactul de la Ordășei, piesă masivă și atent executată, care a servit, împreună cu celelalte elemente metalice ale sistemului, la închiderea unei cingători din piele sau

țesătură, este dificil de precizat cui i-a aparținut și cine a utilizat-o. Totuși, prin dimensiuni, material și calitatea execuției, este evident că nu a aparținut unui membru obișnuit al comunității, ci unei persoane cu un statut social aparte, fie acesta boier, negustor sau reprezentant al unei alte tagme privilegiate.

Categoria pieselor de port cea mai numeroasă din inventarul tezaurului de la Ordășei este reprezentată de nasturi, care sunt, în totalitate, globulari, alcătuiți din două emisfere sudate și prevăzuți cu veriguță de prindere, dar care, prin dimensiuni, decor și, posibil, prin modul și scopul de utilizare, aparțin a două tipuri distincte.

Un număr de șapte (?) exemplare, întregi sau fragmentare, executate din argint, sunt de dimensiuni mai mari, cu un diametru de circa 2,5 cm. Acestea sunt prevăzute cu urechiușă de prindere, prezintă pe circumferință un tub din sârmă strâns răsucită, iar în partea inferioară au șase orificii și o tăietură dreaptă la bază, care unește două dintre orificii. În interior se află câte un miez de bronz, care produce sunet la scuturare. Datorită prezenței acestor elemente zornăitoare, unii cercetători au numit aceste piese pandantive-clopoței sau zurgălăi, și nu nasturi [Ioniță 2001, 214]. Este important de menționat că piese similare au fost semnalate și în cadrul altor tezaure medievale târzii, precum cele de la Onești [Butnariu 1994, 22, pl. XIX, 10-16], Musaitu [Butnariu 1994, 27, pl. XXIII, 3-8] și Dezgingea. Totuși, doar pentru exemplarul păstrat întreg din cel de-al treilea tezaur a fost atestată și consemnată explicit prezența unor elemente metalice interne destinate producerii sunetului [Ioniță 2001, 214].

Deși admitem că aceste piese, prevăzute cu miez metalic, puteau avea și un rol apotropaic, protector, este mai dificil de susținut ipoteza utilizării lor ca zurgălăi pentru hamuri. Destinația principală a acestora pare a fi, în opinia noastră, aceea de nasturi, adică de elemente de încheiere și ornamentare a îmbrăcăminte, însă nu pentru uz cotidian, ci pentru vestimentație ceremonială. În sprijinul acestei interpretări pledează și prezența, în cadrul tezaurului, a nasturilor globulari de dimensiuni mici, precum și a altor accesorii vestimentare, cum este încuietoarea de argint în formă de „S”. De altfel, majoritatea cercetătorilor desemnează aceste piese, lucrate preponderent din argint și descoperite mai frecvent în tezaure și

mai rar în alte contexte arheologice, drept nasturi [Butnariu 1994, 22, 27; Reabțeva 2015, 120].

Nasturii mici sunt mai numeroși în depozitul de la Ordășei, însumând 22 (?) de exemplare, întregi sau fragmentare. Dintre aceștia, o singură piesă a fost lucrată din bronz, toate celelalte fiind realizate din argint. Din numărul total de 22 de nasturi, doar unul singur este decorat, la polul opus tortiței, cu o piramidă de granule, compusă din patru mici perle dispuse în sistem 3+1. La celelalte piese nu s-au observat urme care să sugereze existența eventuală a unor piramide similare, desprinse și pierdute.

Nasturii metalici sferoidali, de dimensiuni variabile, își fac apariția încă din secolul al IX-lea, în contextul abandonării definitive a fibulelor ca principal sistem de încheiere a vestimentației. Răspândirea și generalizarea lor pe continentul european par însă să se fi produs abia în secolul al XIII-lea. Croiala ajustată pe corp a veșmântului medieval a favorizat consacrarea lor, întrucât noua configurație a îmbrăcămintei impunea sisteme de încheiere eficiente și funcționale [Bătrâna, Bătrâna 2012, 50-54, 57-58; Reabțeva 2015, 120]. Confeccionați din bronz, (uneori argintat), argint, argint aurit și, mai rar, din aur, acești nasturi au cunoscut o largă utilizare în evul mediu, fiind documentați în diverse contexte arheologice, de habitat și meșteșugărești, funerare, de cult și în cadrul unor tezaure.

Dintre depozitele cu piese și monede medievale târzii de pe teritoriul Republicii Moldova, în care s-au găsit nasturi globulari de argint de mici dimensiuni, menționăm în primul rând pe cel de la Bălăbănești, cu ultima emisiune monetară din 1601, de unde provin două asemenea accesorii vestimentare, dintre care unul fragmentar și altul întreg, nedecorat [Butnariu 1994, 40]. Un alt tezaur mixt, cu ultima monedă bătută în 1595, în care se atestă nasturi sferoidali de argint, șase la număr, dar ceva mai mari și decorați la polul opus urechiușei de prindere cu mici piramide din granule, este cel de la Bălțata [Butnariu 1994, 34, 35, pl. XXX, 1-6]. Este interesant de remarcat că în aceste două tezaure monedele, podoabele și piesele vestimentare au fost depuse în vase de lut, cel de la Bălțata având și capac, păstrate întregi, lucrate din pastă nisipoasă și arse la cenușiu. Fragmente provenind de la un vas ceramic, lucrat însă din caolin, au fost semnalate și pe locul descoperirii

tezaurului de la Saharna, de unde provine, printre altele, și un nasture de argint, dar, judecând după desen, de un tip puțin diferit [Levinskii, Riaboi 1992, 253, fig. 1, 4].

Așa cum am menționat deja, două fragmente provenind de la o oală lucrată din caolin și decorată cu linii roșii pictate orizontal au fost descoperite și la Ordășei, pe aceeași suprafață de teren de unde au fost recuperate și piesele de argint și bronz care alcătuiau tezaurul medieval. După cum au demonstrat cercetările arheologice, această categorie ceramică a intrat în uz la sfârșitul secolului al XVI-lea și la începutul secolului al XVII-lea [Polevoi, Byrnia 1974, 62], constituind, așadar, și un indiciu pentru datarea tezaurului analizat în paginile acestui articol.

Generalizând datele prezentate mai sus și ținând cont de cronologia tezaurilor mixte din care provin podoabe sau piese vestimentare similare celor descoperite la Ordășei (fig. 6), precum și de datarea închizătorii de argint în formă de S și a ceramicii lucrate din caolin, considerăm că tezaurul medieval descoperit pe platoul situat între satele Ordășei și Prodănești, pe malul stâng al râului Răut, poate fi încadrat cronologic în intervalul cuprins între ultimele decenii ale secolului al XVI-lea și sfârșitul secolului al XVII-lea, mai curând în prima parte a acestuia, interval căruia i-au fost atribuite și majoritatea celorlalte depozite cu piese similare în ansamblul lor [Niculiță, Nicolae 1999, 302-303].

În ceea ce privește alte chestiuni importante ridicate de această descoperire de la Ordășei, cum ar fi cele referitoare la apartenența sau la posesorul tezaurului, precum și la localizarea atelierului ori atelierelor bijutierilor care au realizat piesele, acestea sunt, în stadiul actual al cercetărilor, dificil de soluționat. Clarificarea lor rămâne condiționată de noi descoperiri și, mai ales, de desfășurarea unor cercetări arheologice sistematice în siturile medievale târzii, cercetări care, până în prezent, au fost sporadice, dar care se impun cu necesitate.

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DISCUȚII – DISCUSSIONS

Rebeka Juhászová

Literary works as a means of promoting cultural heritage, on the example of *Outlander*

Key words: cultural heritage, *Outlander*, literature, educational tool, Celts, history.

Cuvinte-cheie: patrimoniu cultural, *Outlander*, literatură, instrument educațional, celți, istorie.

Rebeka Juhászová

Literary works as a means of promoting cultural heritage, on the example of *Outlander*

Cultural heritage plays a key role in shaping the collective identity of nations while also providing an important context for language and cultural education. This paper examines literary works as an effective means of promoting cultural heritage, with a focus on *Outlander*, written by Diana Gabaldon, as the primary text for further interpretation. The main goal of the paper is to demonstrate, through the lens of a historical approach, that cultural heritage is not a static phenomenon but a living and dynamic element actively used in the creation of contemporary literary works, and to show that literary texts incorporate and reinterpret elements of heritage, making them accessible and meaningful for contemporary audiences. At the same time, the paper highlights that literature enables readers to internalise historical and cultural contexts more effectively by embedding them within engaging storylines and emotionally resonant experiences. Methodologically, the article employs close reading, textual analysis, and thematic analysis. Based on interpretation, the paper discusses the broader potential of literature as a tool for promoting cultural heritage both within formal educational settings and beyond them, contributing not only to cultural awareness but also to the development of cultural tourism and regional growth.

Rebeka Juhászová

Operele literare ca mijloc de promovare a patrimoniului cultural, pe exemplul romanului *Outlander*

Patrimoniul cultural joacă un rol esențial în formarea identității colective a națiunilor, oferind totodată un context important pentru educația lingvistică și culturală. Acest articol examinează operele literare ca mijloc eficient de promovare a patrimoniului cultural, având ca text principal pentru interpretare romanul *Outlander*, scris de Diana Gabaldon. Scopul principal al lucrării este de a demonstra, din perspectiva unei abordări istorice, că patrimoniul cultural nu reprezintă un fenomen static, ci un element viu și dinamic, utilizat activ în crearea operelor literare contemporane, precum și de a arăta că textele literare integrează și reinterpretează elemente de patrimoniu, făcându-le accesibile și relevante pentru publicul contemporan. În același timp, articolul evidențiază faptul că literatura le permite cititorilor să interiorizeze mai eficient contextele istorice și culturale prin integrarea acestora în narațiuni captivante și experiențe cu puternic impact emoțional. Din punct de vedere metodologic, articolul utilizează lectura atentă, analiza textuală și analiza tematică. Pe baza interpretării, lucrarea discută potențialul mai larg al literaturii ca instrument de promovare a patrimoniului cultural atât în cadrul educației formale, cât și în afara acesteia, contribuind nu doar la conștientizarea culturală, ci și la dezvoltarea turismului cultural și la dezvoltarea regională.

Introduction

Cultural heritage represents an important part of national identity and collective memory. Including traditions, customs, folklore, language or literary production that have been passed from generation to generation, heritage, in contemporary society, is no longer understood only as a preserved remnant of the past, but also as a dynamic phenomenon that continues to influence modern cultural production. Literature, in particular, is one

of the most effective means of preserving and promoting cultural heritage because it enables readers to engage emotionally and intellectually across different historical and cultural contexts. In this process, and in the literature, historical fiction plays a significant role. Through narrative structures, fictional characters, and reconstructed historical settings, literary works make historical periods more accessible to contemporary audiences. Readers are often introduced to traditions, social structures,

myths, and different practices that might otherwise remain distant or unfamiliar. Moreover, literature frequently inspires interest in historical locations, traditions, and communities, contributing not only to cultural awareness but also to cultural tourism and regional development.

One literary work that effectively demonstrates this phenomenon is *Outlander*, written by Diana Gabaldon [1991]. Combining elements of historical fiction, romance, fantasy and adventure, the novel presents 18th-century Scotland through detailed depictions of Scottish Highland culture, political conflicts, clan traditions, historical events and language. Through its narrative, the work reinterprets Celtic and Scottish heritage for modern readers while simultaneously increasing international interest in Scottish history and culture.

This paper examines literary works, with *Outlander* as the primary text, as a means of promoting cultural heritage. Through a historical approach, the paper seeks to demonstrate that cultural heritage is not static but rather actively incorporated into contemporary literary production. Furthermore, the paper explores how literature enables readers to internalise cultural and historical contexts through emotionally engaging storytelling. Finally, the paper discusses the broader educational and cultural potential of literature to promote heritage in formal educational settings and beyond.

Cultural Heritage and Literature

Cultural heritage could be broadly defined as the legacy of physical and intangible attributes inherited from previous generations and preserved for future ones [UNESCO 2009]. Its contemporary understandings increasingly emphasise its dynamic nature, highlighting that heritage is continuously reinterpreted and reshaped in response to the needs and perspectives of present-day societies.

Literature occupies a particularly important position in this process because literary texts function as cultural artefacts that preserve historical memory while simultaneously adapting it for contemporary audiences. Hence, they are an inseparable part of a developed, prosperous, and educated society [Bíziková 2015]. Historical novels, myths, legends, and folklore-inspired narratives often reconstruct forgotten or marginalised aspects of national history and identity. Through

storytelling, literature transforms historical facts into emotionally meaningful experiences, allowing readers to connect with distant historical periods in a more personal and accessible manner.

In addition, literature contributes to intercultural understanding and cultural education. Literary texts provide readers with insights into the values, traditions, and beliefs of particular communities. They can therefore serve as educational tools not only in literature classes but also in cultural studies, history or foreign language education. By engaging with literary representations of heritage, readers develop cultural awareness and empathy while strengthening their understanding of historical continuity. Moreover, education should respond to the changing cultural and social conditions of contemporary society. As V. Bíziková suggests, the dynamic nature of sociocultural processes in the twenty-first century leads to constant changes in the requirements for cultural competence, making cultural education an integral part of both general and professional education [Bíziková 2015].

The relationship between literature and heritage becomes especially visible in historical fiction. This genre frequently reconstructs real historical events while combining them with fictional characters and personal narratives. Such an approach allows authors to humanise history and present cultural heritage as lived experience rather than abstract historical information. As a result, readers often become more emotionally invested in historical and cultural contexts than they would through purely academic or factual texts.

Heritage in *Outlander*

The contemporary phenomenon created by Diana Gabaldon, *Outlander* [Gabaldon 1991], is deeply rooted in Scottish and Celtic cultural heritage through its plot, characters, historical background, and setting. This historical dimension is closely connected to Diana Gabaldon's own approach to writing historical fiction, as she herself admitted that she decided to use her academic research skills in the creative process and, as she claims, *if I turned out not to have an imagination, I could steal things from the historical record* [Flood 2021]. As a result, the novel combines historical research with fictional storytelling, allowing cultural heritage and historical events to be

reinterpreted and experienced through an engaging narrative.

The narrative follows Claire Randall, a twentieth-century former military nurse who is mysteriously transported to 18th-century Scotland shortly before the Jacobite uprising of 1745. “People disappear all the time. Ask any policeman. Better yet, ask a journalist. [...] Disappearances after all, have explanations. Usually” [Gabaldon 1991, 9]. With such an introduction, Gabaldon creates an atmosphere of suspense and mystery, foreshadowing Claire’s unexpected journey through time, which introduces readers to the social, political, and cultural realities of Highland Scotland and the gradual disappearance of the Highlander way of life. The narrative gradually reveals whether her disappearance can truly be rationally explained, and the motive of time travel serves as a getaway into the past.

One of the most significant aspects of the novel is its representation of Scottish clan culture. Clan loyalty, kinship, honour, and communal identity are central themes throughout the narrative. “There was a thunder of hooves, and several ponies came charging in my direction, kilted Scots atop them, yodelling in Gaelic” [Gabaldon 1991, 61].

The Highland clan system is portrayed not merely as a historical backdrop but as a living social structure that shapes interpersonal relationships and political alliances. Through detailed descriptions of clan gatherings, customs, and social obligations, the novel familiarises contemporary readers with aspects of Scottish heritage that remain culturally significant today.

The novel also incorporates elements of Celtic heritage, particularly through folklore, mythology, and spiritual beliefs. Standing stones¹, prophecies, folk healing, and supernatural motifs connect the narrative to Celtic traditions and reinforce the mystical atmosphere associated with Scottish cultural identity. Today’s countries, rooted in Celtic heritage, are rich in oral traditions, which served as a solid basis for valid and reliable sources for Gabaldon [MacDonald 1994]. The previously mentioned circle stones play an impor-

tant role throughout the whole plot as they are the main “means of transport” for the protagonist to travel between times. Deriving from the past, the shape of a circle alongside solid rock is attributed with magical powers, which again reflects Celtic culture and belief in the supernatural [Zaczek 1997]. Besides fairies, circles, and marriage, other strong aspects of heritage were represented in the novel. Here, the bond of marriage is depicted not only as a social union but also as a sacred, almost mystical connection between two individuals. The marriage ceremony includes the exchange of rings as well as the symbolic joining through blood, reflecting upon older Celtic pagan traditions in which blood symbolises loyalty, spiritual connection and unity [Walter 2014]. At the same time, this ritual overlaps with Christian understandings of marriage, as the vow is made before God and represents fidelity.

“Ye are Blood of my Blood, and Bone of my Bone,
I give ye my Body, that we Two might be One.

I give ye my Spirit, ’til our Life shall be Done”
[Gabaldon 1991, 195].

Language represents another important aspect of heritage within the novel. The use of Scottish Gaelic expressions and dialectal forms strengthens the narrative’s authenticity while introducing readers to linguistic aspects of Celtic identity. “The words were not English, and yet not quite not English, either. It was a strange tongue, but one I felt that I should know, as though the words were spoken just below the level of my hearing. I felt my hands begin to go numb, and I wanted to move them from their folded position in my lap, but they wouldn’t move. Her even voice went on, soft and persuading. Now I knew that I understood what was being said, but still could not summon the words to the surface of my mind” [Gabaldon 1991, 515]. Even though the text remains accessible to international audiences, the integration of Gaelic vocabulary preserves the cultural specificity of the setting and highlights the relationship between language and heritage. At the same time, the use of Gaelic immerses readers in the cultural environment of eighteenth-century Scotland and enhances the narrative’s authenticity. “I know it does, *mo duinne*. And that’s why you’ll go now. He drew me close again, kissed me gently and whispered in Gaelic” [Gabaldon 1991, 533]. For Claire, who initially does not fully un-

1. Monuments, also known as stone circles that can be found mostly in the Western part of Europe known to be used for various pagan rituals often performed by Druids for different purposes such as giving thanks, praising, cherishing nature, etc. [Lucas 2007].

derstand the language, Gaelic symbolises both her outsider position and her gradual integration into Highland culture.

Among the most visible and strongest elements of the novel, real historical events also play probably the most important role in the novel, namely the Jacobite uprising and the Battle of Culloden, where a Scottish Jacobite army stood against a professional British army nearly twice their size and within an hour laid dead on the field, dooming Bonnie Prince Charlie's campaign to reclaim the British crown for the Stuarts [McGarry 2021] form a major historical framework of the story. Through both fictional and non-fictional characters and personal relationships, readers encounter the political tensions between the Scottish Highlands and the British Crown. At the same time, the novel offers detailed insights into other aspects of 18th-century life, including clan meetings, social hierarchies, and customs. Such a narrative approach not only interprets and revitalises cultural heritage for contemporary audiences but also highlights the educational potential of literature. Several studies have demonstrated the educational potential of integrating literature into language teaching and cultural education. For instance, J. Łękańska in her study "Elements of Western Culture and History in Neil Gaiman's *Neverwhere*: A Possible Resource for Teaching English as a Foreign Language", analyses how Neil Gaiman incorporates elements of Western culture and London's history into the novel *Neverwhere* [Gaiman 2017]. Her study highlights that literary texts can simultaneously support linguistic skills and cultural awareness through engaging narratives and metaphorical language. Similarly, A. Dewhurst points out that Tolkien's *The Lord of the Rings* may serve as an effective tool for teaching cultural and historical topics due to its strong connection to Anglo-Saxon traditions [Dewhurst 2017]. Last but not least, comparable conclusions were drawn by A. Ounissa, whose research on teaching American history through African American poetry demonstrates that literature may function as a "cultural archive" while encouraging critical thinking, empathy, and a deeper understanding of stereotypes [Ounissa 2024]. Similarly, *Outlander* does not simply reproduce historical reality. Instead, the novel reinterprets cultural heritage through the lens of contempo-

rary storytelling. Modern themes are integrated into the historical setting, making the narrative relevant for present-day readers. In this sense, the novel demonstrates that cultural heritage remains dynamic and continuously reconstructed within modern literary production.

Cultural Tourism and Regional Development

Beyond educational contexts, literature can significantly influence cultural tourism and regional identity, as seen in Scotland and *Outlander*. The popularity of *Outlander* has contributed substantially to tourism in Scotland. Numerous historical sites connected with the narrative, including castles, battlefields, and Highland locations, have become popular tourist destinations. Readers and viewers seek authentic experiences related to the fictional world, thereby increasing international interest in Scottish history, traditions, and landscapes. Among the most famous sights which have been mentioned in the original books are the Culloden battlefield, which is also historically the most significant; Inverness, Fort William, an important military location connected with the British occupation and conflict with the Highlanders; Glencoe Natural Reserve, and last, but not least, although it is a fictional place, Craigh na Dun [National Trust for Scotland 2026], the place where Claire – the protagonist travels through time. Even though the standing stones are inspired by real prehistoric stone circles found throughout Scotland, they don't really exist, not the ones mentioned in the book; they are connecting the story with Celtic spirituality and folklore, and people are visiting the place in the hope of "miracles".

Today, festivals, guided tours, museums, and cultural events are happening all around Scotland thanks to Diana Gabaldon and her phenomenon, creating opportunities for cultural exchange and public engagement with history. Among the many, for example, there is The Land Con [2026], one of the biggest fan meetings dedicated to *Outlander* and its TV adaptation. The event brings together fans, actors, organisers, and Scotts over a few days. Secondly, the Jacobite Festival [2026] is held annually across Scotland and focuses on preserving and presenting Jacobite history and heritage. The programme includes various exhibitions, historical talks, guided tours, storytelling

and family activities connected with the Jacobite era. Last but not least, there are a large number of guided tours, for example, those organised by Visit Scotland, which actively promote *Outlander*-inspired tourism through themed walks around castles, Highland landscapes, ruins, and more. Many tours intentionally incorporate visible markers of Scottish heritage, including guides dressed in traditional kilts, storytelling, music, and presentations on clan history [2026].

Conclusion

Cultural heritage represents an essential component of collective identity and cultural continuity. In contemporary society, literature serves as one of the most effective means of preserving, reinterpreting, and promoting heritage for modern audiences. Through emotionally engaging narratives and accessible historical representation, literary works enable readers to connect with cultural and historical contexts in meaningful ways.

Outlander by Diana Gabaldon demonstrates how historical fiction can successfully integrate elements of Scottish and Celtic heritage into

contemporary storytelling. Through depictions of clan culture, folklore, language, and historical conflict, the novel presents cultural heritage as a living and dynamic phenomenon rather than a static remnant of the past. This particular example is only one of many, since such a demonstration is visible throughout other literary works, focusing on other cultures.

The analysis also highlights the broader educational potential of literature. Literary texts contribute to cultural awareness and intercultural competence while providing emotionally engaging learning experiences. Moreover, literature extends its influence beyond formal education by contributing to cultural tourism, regional development, and public interest in history and heritage. Ultimately, literary works have the unique ability to bridge the past with the present, transforming cultural heritage into an accessible and meaningful experience for readers. Through this process, literature not only preserves cultural memory but also actively shapes modern cultural identity.

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Об изучении этнической идентичности как фактора междисциплинарного исследования

Key words: belonging, age groups, ethnic identity, intercultural communication, social distance.

Cuvinte-cheie: apartenență, grupe de vârstă, identitate etnică, comunicare interculturală, distanță socială.

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On study of ethnic identity as the factor of interdisciplinary research

The aim of this study is to examine the content of the structural components of ethnic identity as a factor of interdisciplinary research among youth and to identify their sociological characteristics. The article presents a scientific-theoretical analysis of the phenomenon of “ethnic identity” and similar concepts, defining the mechanisms and factors of psychological development of ethnic identity. Based on the analysis of data from researchers on ethnic identity, the author identifies issues in psychological development. The study examines the commitment of youth to their ethnic identity in an intercultural society through a self-report questionnaire. Respondents were divided into three age groups: 17-22 years – “students”; 23-28 years – “family formation age”; 29-35 years – “age of certainty”. The results showed that the level of commitment to ethnic identity was moderate. Additionally, there was a significant difference in the commitment to ethnic identity between age groups. To study and confirm the factor structure of ethnic identity, the principal component method was used. Three factors were identified: 1. Emotional connection with the ethnic group; 2. Understanding and knowledge about the ethnic group; 3. Active social involvement. The study presented the factor of knowledge of the individual's ethnic origin, as well as an understanding of the significance of ethnic affiliation. Active involvement reflects activity in social groups. These results are significant for the development of youth who may experience difficulties in forming a sense of self-worth, beliefs, values, and a strong sense of self. Future research is needed to further explore this topic.

Elnur Latif oglu Hasanov

Despre studiul identității etnice ca factor al cercetării interdisciplinare

Scopul acestui studiu este de a examina conținutul componentelor structurale ale identității etnice ca factor al cercetării interdisciplinare în rândul tinerilor și de a identifica caracteristicile sociologice ale acestora. Articolul prezintă o analiză științifico-teoretică a fenomenului „identității etnice” și a conceptelor similare, definind mecanismele și factorii dezvoltării psihologice a identității etnice. Pe baza analizei datelor furnizate de cercetători cu privire la identitatea etnică, autorul identifică aspecte legate de dezvoltarea psihologică. Studiul examinează angajamentul tinerilor față de identitatea lor etnică într-o societate interculturală prin intermediul unui chestionar de autoevaluare. Respondenții au fost împărțiți în trei grupe de vârstă: 17-22 ani – „studenți”; 23-28 ani – „vârsta formării familiei”; 29-35 ani – „vârsta certitudinii”. Rezultatele au arătat că nivelul de angajament față de identitatea etnică a fost moderat. În plus, a existat o diferență semnificativă în ceea ce privește angajamentul față de identitatea etnică între grupele de vârstă. Pentru a studia și a confirma structura factorială a identității etnice, a fost utilizată metoda componentelor principale. Au fost identificați trei factori: 1. Legătura emoțională cu grupul etnic; 2. Înțelegerea și cunoașterea grupului etnic; 3. Implicarea socială activă. Studiul a evidențiat importanța cunoașterii originii etnice a individului, precum și a înțelegerii semnificației apartenenței etnice. Implicarea activă se reflectă în activitatea din cadrul grupurilor sociale. Aceste rezultate sunt semnificative pentru dezvoltarea tinerilor care pot întâmpina dificultăți în formarea stimei de sine, a convingerilor, a valorilor și a unui puternic simț al identității. Sunt necesare cercetări viitoare pentru a aprofunda această temă.

Введение

В эпоху глобализации актуальность изучения этнической идентичности приобретает все большую степень. Современное общество характеризуется своей транзитивностью. Транзитивное общество диктует свои правила социализации. Население отдельных городов

постоянно находится в потоке движения миграционных слоев, также постепенно меняется этнический состав [Hasanov 2025]. Данные существующих исследований указывают на то, что этническая идентичность имеет значение в современном обществе от психического здоровья граждан на индивидуальном уровне до

разнообразия на уровне организаций [Phinney 1990, Toosi 2002; Stewart, Garcia-Prieto 2008].

Ученые подтверждают, что наиболее сенситивным, с точки зрения активного формирования системы субъективных значений этнической идентичности, является период с 17 до 25 лет. Решающее значение для развития личности имеет этническая идентичность. Это, среди прочего, устанавливает чувство собственного достоинства, веру, ценности. На ранней стадии подросткового возраста люди озабочены адаптацией к нескольким изменениям, начиная от биологических и заканчивая когнитивными, эмоциональными, физическими и социальными изменениями [Erikson 1950; Pearson 2008; Harris, Mylroie 2016]. Следовательно, исследование для раскрытия истинного «Я», которое включает в себя идентификацию с этническим наследием, становится важным для индивидов [Steinberg *et all.* 2001; Lawrence 2020].

Кроме того, исследование идентичности включает в себя процесс активной оценки и рассмотрения различных вариантов идентичности человека, чтобы в конечном итоге определить, какие ценности, убеждения и цели он хочет преследовать [Pinquart *et all.* 2013]. Так, исследователи утверждают, что процесс развития чувства этнической идентичности является решающим шагом, особенно для молодых людей из разных слоев общества, поскольку идентичность является одним из важных средств, с помощью которых этническая принадлежность способствует позитивной адаптации к молодости и влияет на нормативное развитие [Neblett *et all.* 2012].

Изучив литературу по теме исследования, ученые и исследователи выделяют следующие виды определения «этнической идентичности»: результативное, атрибутивное, функциональное, процессуальное и субъективно-символическое.

Среди ученых, дающих результативное определение этнической идентичности, можно назвать Т.Г. Стефаненко, В.Ю. Захарова. Хотинец, Г.Ю. Солдатова, А.Н. Татарко, М. Чибисов. Для них ЭИ отражает результат самоопределения человека в этнокультурном пространстве.

В.С. Мухина, А. Сахаров, М.А. Лобас, Ф. Барт, М. Бернель рассматривают ЭИ на основе

различий и дают атрибутивные определения. Для индивидов этнос – это психологическая общность, и этническая идентичность представляет собой одну из ее характеристик. Ф. Барт рассматривает этничность как «форму социальной организации культурных различий». Этничность в социобиологии Пьера ван ден Берге понимается как всеобъемлющая форма естественного отбора и родственных связей, сохраняющих свое значение в развитых обществах. Таким образом, согласно Ван ден Берге, эволюционное происхождение этничности представляет собой протяженную родственную группу.

Ю.В. Бромлей, Н. Покровский, В. Едов, Т. Данилова, Л.М. Дробижева, М.В. Верещагина, Т. Парсонс, Э. Хобсбаум дают функциональное определение этнической идентичности. Отдельная группа ученых исследует феномен ЭИ как процесс. Так, А. Кочен дает процессуальное определение: «этничность – это, по сути, форма взаимодействия между культурными группами, действующими в рамках общего социального контекста (то есть в рамках большей общности)». Этничность понимается прежде всего как основа идентичности «национального меньшинства» в противовес «национальному большинству». ЭИ – социокультурный и социально-психологический феномен, объединяющий когнитивные и аффективные представления и переживания личности об этнических группах, возникающие в реальных актах взаимодействия со своими и с другими этносами (Б.Ф. Поршнев) и проявляющийся в реальном этническом поведении, в рамках «Я-концепции».

Концептуально достижение четкого и универсального определения этнической идентичности оказалось сложной задачей [Rivas-Drake *et all.* 2014]. Однако некоторые авторы высказывают свои взгляды на понятие этнической идентичности. Например, Финни рассматривал этническую идентичность как прогрессивное исследование, которое включает в себя изучение ранее существовавших этнических установок и изучение прошлого и настоящего группового опыта и ассоциаций с другими группами. В том же духе Коэн утверждает, что этническая идентичность является непрерывным процессом, на который влияют изменения внутри этнической группы и взаимодействия с

другими группами. По мнению Ивенса, Форни, Гвидо, Паттона и Ренна, этническую идентичность можно разделить на два компонента в зависимости от разной степени индивидуальной идентификации с приписываемой группой. Во-первых, это внешняя этническая идентичность, которая включает в себя социальное и культурное поведение, а во-вторых, внутренняя этническая идентичность, которая включает когнитивные, моральные и аффективные измерения этнической идентичности. Кроме того, Ивенс и его коллеги определили важную роль семейного, общинного и общественного опыта в формировании индивидуальной этнической идентичности. Тем не менее, в данном исследовании используется определение Макмэхона и Уоттса, которые описали этническую идентичность как психологическую связь индивида с группой людей, разделяющих общее культурное наследие, включая их обычаи, верования, язык и поведенческую динамику.

Важным фактором формирования этнической идентичности в полиэтнической среде является язык. Взаимосвязь компетенции в языках своего и чужого этносов, реального и предпочтительного языкового поведения и этнической идентичности представляет собой сложное комплексное образование в единстве когнитивного, аффективного и поведенческого аспектов (В. Вундт, Л.Н. Гумилев, Т.Г. Стефаненко).

Л.С. Выготский выделял окружающее общество как механизм психологического развития ЭИ. Ученый выделял личность как социальное понятие, в котором представлено историческое в человеке.

В исследованиях В.В. Романовой важными детерминантами формирования этнической идентичности в детском и подростковом возрасте являются опыт межэтнического взаимодействия и особенности этнической контактной среды, степень вовлеченности подростков в процесс межэтнического взаимодействия.

Существенное влияние на формирование этнической идентичности оказывает статус этноса /большинства или меньшинства/, культурные традиции групп, особенности их исторического развития (Г.У. Солдатова).

Формирование идентичности включает в себя процесс одновременной рефлексии

и наблюдения, процесс, происходящий на всех уровнях психической деятельности, посредством которого индивид оценивает себя с точки зрения того, как другие оценивают его в сравнении с ним самим в рамках значимой для них типологии (Э. Эриксон). В межрасовых, межэтнических, межгрупповых отношениях важное значение имеют этнические стереотипы. Этнические установки – это тип социальных установок, согласно которым индивид воспринимает и оценивает явления межэтнических взаимодействий, а также представителей той или иной национальности с точки зрения традиций и норм своего народа, своей этнической идентичности [Hasanov 2024]. Установки, проявляющиеся в толерантности, чаще всего положительные, а установки, основанные на стереотипах и предрассудках, могут быть негативными (Т.А. Золотарева, Дробизева).

Одним из механизмов психологического развития ЭИ является менталитет. Выявлению сущности менталитета посвящены исследования Н.А. Бердяева, Л.Н. Гумилева, И.В. Грошева, К.А. Касьяновой, Д.С. Лихачева. В исследованиях ученых менталитет выступает как целостный набор мыслей, убеждений, создающих картину мира и скрепляющих воедино единство культурной традиции и любой общности.

Исторические факторы: ход исторических событий, влияющий на построение отношений между народами; исторические события, выступающие в качестве своеобразного символа в условиях межнациональных отношений; особенности исторического и социального развития народов, включенных в межнациональные контакты [McMahon, Watts 2002].

Политические факторы: политические кризисы, переживаемые кризисы власти, опасность утраты территориальной целостности и т.д., когда государство как главный институт не может обеспечить своим гражданам чувство социальной защищенности. Политические факторы, вызванные борьбой за власть, связаны с использованием этнического ярлыка и этничности, рассматриваемых в рамках идеологии как средства достижения собственных интересов (Е.А. Маркова, В.С. Полянский, В. Малахов).

К социальным факторам относятся межэтнические контакты, этнический статус, эт-

ническая однородность среды и др. (Л.С. Выготский, В.С. Агеев, Дж. Берри, У. Самнер).

Ситуативные факторы, влияющие на формирование этнической идентичности, отражают события, выступающие в качестве своеобразного символа и способные способствовать ее усилению как в отдельном человеке, так и в целых этнических общностях (Дж. Берри, Р. Линтон, Р. Редфилд, Ф. Барт). На примере пастухов племени Богара и крестьян племени фур на севере Пакистана Ф. Барт убедительно представил картину перехода людей из одной этнической группы в другую, что говорит о мобильности этнических границ и ситуативности этничности.

Исследователи связывают культурные факторы с процессами утраты или восстановления этнической культуры, которые сопровождаются трансформациями этнической идентичности (Л.М. Дробижева, А.А. Сусоколов).

Анализируя литературу, можно сделать вывод, что факторы психологического развития ЭИ делятся на 2 группы: внутренние и внешние.

К внутренним факторам можно отнести язык (В. Вундт, Л.Н. Гумилев, Т.Г. Стефаненко) и этнические интересы (Ю.В. Бромлей «рассмотрение объектно-субъектного характера этнической идентификации, преломленного сквозь призму индивидуальных характеристик человека»), к внешним – этнический статус (К. Оффе, Р. Льюис, Р. Клем, М.В. Савва «главные субъективные элементы этнического статуса: внутреннюю сплоченность этнической группы и уровень сохранения ее этнической культуры»), этнические границы (Ф. Барт, Н.М. Лебедева, А.Н. Татарко, А.О. Бороноев, Ю.В. Бромлей, П. Бурдые, М.Н. Губогло, Л.М. Дробижевой, Н.Л. Жуковская, З.В. Сикевич, Н.Г. Скворцов, Г.У. Э. Хобсбаума, «члены этнической группы в условиях полиэтнического общества действуют во имя поддержки и сохранения культурных различий»), социальная и культурная дистанция (Э. Берджесс, С. Бочнер, О.И. Дреев, Г. Зиммель, Л.Г. Почебут «социальная дистанция определяет социальные позиции этнических групп в ситуации межэтнического взаимодействия») и этнический социум (Л.С. Выготский, С.А. Арутюнов, Д.Г. Мид).

«Я» в концепции Д.Г. Мида есть действительно личностная интернализация «обобщенного другого» – социальных привычек широкого сообщества людей. Объем того или другого индивидуального «Я» зависит от количества, разнообразия и широты взаимодействий, в которых участвует данный индивид. Потому структура сформировавшегося «Я» может трактоваться как слепок структуры социального мира. Такое прочтение индивидуального «Я» приводит к необходимости рассматривать поведение индивида как полностью стандартизированное, являющееся выбором между данными «образцами действий».

Этническая идентичность имеет свою структуру, в которую, по мнению многих ученых (Ю.В. Бромлей, А.М. Грачева, Л.М. Дробижева, В.С. Собкина, Т.Г. Стефаненко и др.), входят следующие основные компоненты: – когнитивный (осознание себя представителем этноса, знание языка своего народа, этнокультурные знания (знания о своей и чужих этнических группах, истории, территории, религии, обычаях, ценностях, особенностях культуры), – аффективный (чувство принадлежности к этносу, оценка качеств своего народа, переживание своего отношения к членству в этнической группе), – поведенческий (действия, основанные на нормах, ценностях, правилах поведения своего народа, соблюдение традиций, обычаев, ритуалов, активное использование языка, песен, танцев и других компонентов культуры своей этнической группы).

Этническая идентичность не исключительна. Люди могут идентифицировать себя в разных условиях обстановки по-разному, кроме того, идентичность как социокультурный фактор может меняться в зависимости от ситуации или в течение определенного времени.

В то время как многие исследователи проводили исследования этнической идентичности среди учеников средних и старших классов, меньше исследований было посвящено этнической идентичности молодых взрослых, таких как студенты университетов [Lee *et al.* 2004]. Phinney и Ong предложили, что требуется больше исследований для определения, как социодемографические факторы, такие как пол или возраст, формируют этническую идентичность. Всеобщего исследования, ис-

следующего изменение этнической идентичности студентов колледжа со временем [Tsai *et al.* 2012], вариация этнической идентичности и возраста не исследована существующими исследованиями. В целом, связь между этнической идентичностью и возрастом остается пробелом в существующих исследованиях этнической идентичности [Hasanov 2024].

Совсем недавно согласно исследованиям этнического и расового формирования в ранние годы было обнаружено, что этническая и расовая идентичность играет важную роль в когнитивном и социально-эмоциональном развитии молодых людей, их вовлеченности в школу и успехе. Кроме того, исследование, проведенное Topps and Jiang, было направлено на изучение того, может ли наличие сильной этнической идентичности служить защитным фактором от негативного влияния стресса со стороны сверстников на общую удовлетворенность жизнью подростков.

Другие исследования показали положительную связь между этнической идентичностью и субъективным благополучием в разных этнических группах [Herrington *et al.* 2016; Syed *et al.* 2013]. Elshad рассмотрел особенности этнической идентичности студентов, получивших образование на азербайджанском языке. Результаты исследования показали, что студенты, обучающиеся на азербайджанском языке, демонстрируют более выраженные признаки аффективного компонента этнической идентичности по сравнению с учащимися, обучающимися на русском языке [Hasanov 2023].

Было разработано множество шкал для измерения развития этнической идентичности. Большинство из них специфичны для определенной этнической группы. Например, Пархам и Хелмс разработали Шкалу отношения к расовой идентичности (RIAS) для измерения отношения афроамериканцев к своей группе и к доминирующей культуре. Другие шкалы этнической идентичности, такие как Опрос осознания чернокожей личности, Вопросник черной идентичности и Инвентарь этнической идентификации, оценивают природу и силу принятия и приверженности индивида его или ее этнической принадлежности.

Финни и Алипурия разработали шкалу этнической идентичности, специально пред-

назначенную для использования с людьми различных этнических групп. Эта шкала была основана на элементах этнической идентичности, которые общие для всех групп, таким образом, результаты могли сравниваться независимо от расы или этничности. В более позднем исследовании эта шкала была уточнена и протестирована на представителях различных расовых групп и возрастных категорий (старшеклассники и студенты колледжей), что подтвердило ее надежность и валидность. В этом последующем исследовании была представлена шкала MEIM как инструмент, предоставляющий возможность исследования этнической идентичности как общего явления, независимо от уникальных характеристик группы. Были проанализированы показатели чернокожих, азиатов, испанцев, белых и мультиэтнических студентов. В выборке старшей школы студенты белой расы показали значительно более низкие результаты по сравнению с четырьмя расовыми/этническими группами, но четыре группы не отличались результатами друг от друга [Tabeikyna *et al.* 2021]. Используя методы исследовательского факторного анализа, для 14 пунктов шкалы MEIM было найдено однофакторное решение как для старшей школы, так и для студентов колледжей. Однако структура факторов сравнения между расовыми/этническими группами не была исследована. Надежность шкалы и корреляции между компонентами этнической идентичности были выше для выборки колледжа (альфа Кронбаха = 0,90), чем для выборки старшей школы (альфа Кронбаха = 0,81), что указывает на то, что этническая идентичность может укрепляться с возрастом. Также средние показатели по подшкале достижения этнической идентичности были выше среди студентов колледжей, чем среди старшеклассников, что также указывает на прогресс в достижении этнической идентичности с возрастом.

Кроме того, Финни и Алипурия применили MEIM к выборке старшей школы моно- и мультиэтнических студентов. В этом исследовании было сосредоточено внимание на использовании самоидентификации для описания этнической принадлежности респондентов и связи между этнической идентичностью и самооценкой. Структура компонентов этни-

ческой идентичности в том исследовании не исследовалась Финни. Однако были отмечены коэффициенты альфа Кронбаха 0,85 для мультиэтнических студентов и 0,83 для моноэтнических студентов. Различия в средних значениях по оценкам этнической идентичности между мультиэтническими и моноэтническими черными и азиатскими подростками не были обнаружены. Однако мультиэтнические латиноамериканцы имели более низкие показатели этнической идентичности по сравнению с моноэтническими латиноамериканцами.

Межкультурная коммуникация характеризуется социальной дистанцией, устанавливающей положение социальных групп и индивидов в социальном пространстве, их взаимосвязь, то есть уровень их близости или удаленности, отчуждения друг от друга, степень их взаимосвязанности. Эмпирические исследования социальной дистанции были проведены Богардусом в 1926 году. Богардус проанализировал ответы 1725 американцев о наиболее приемлемой для них дистанции по отношению к 40 расовым и этническим группам. Среди наиболее предпочтительных американских групп были британцы, белые американцы, канадцы и жители Центральной и Северной Европы [Bogardus 1958].

В 1940-х гг. Э. Хартли провел исследование установок студентов колледжа по отношению к 32 национальностям и расам. Он использовал шкалу социальной дистанции Богардуса, добавив 3 вымышленных к списку реально существующих этнических групп (даньерцы, пиренейцы, валлоны). Эта методика в литературе получила название «методологическая методика Хартли».

Этническая идентичность является одним из смысловых факторов в жизни человека, включенного в полиэтническое пространство [Hasanov 2023].

Постановка задачи

Существует три подхода к пониманию этничности: примордиализм, инструментализм, конструктивизм. В исследовании мы используем конструктивистский подход к этничности.

В то время как многие исследователи проводили исследования этнической идентичности среди учеников средних и старших

классов, меньше исследований было посвящено этнической идентичности молодых взрослых, таких как студенты университетов [Lee *et all.* 2004]. Phinney и Ong предложили, что требуется больше исследований для определения, как социодемографические факторы, такие как пол или возраст, формируют этническую идентичность. Всеобщего исследования, исследующего изменение этнической идентичности студентов колледжа со временем, вариация этнической идентичности и возраста не исследована существующими исследованиями. В целом, связь между этнической идентичностью и возрастом остается пробелом в существующих исследованиях этнической идентичности.

Теория развития этнической идентичности Эриксона предполагает, что самопонимание этнической идентичности людьми может развиваться с течением времени [Roberts *et all.* 1999, Spencer *et all.* 2000, Parham 1989, Phinney 1996].

Цели исследования – выявление особенностей этнической идентичности молодых людей с учетом их ранжирования по возрастным группам (17-22 года – «студенты»; 23-28 лет – «возраст создания семьи»; 29-35 лет – «возраст определенности»).

Задачи исследования:

1. Теоретический анализ источников, исследование которых является этнической идентичностью;
2. Выявить факторы развития ЭИ молодежи;
3. Выявлять проблемы развития ЭИ молодежи;
4. Рассмотреть содержание структурных компонентов ЭИ молодежи;
5. Выявить социально-психологические особенности этнической идентичности молодежи (по трем возрастным группам);
6. Проанализировать результаты исследования.

Эти результаты имеют значение для развития подростков, которые могут испытывать трудности с формированием чувства собственного достоинства, убеждений, ценностей и сильного чувства собственного достоинства. Для дальнейшего изучения этой темы необходимы дальнейшие исследования.

Для сбора и анализа данных был использован подход качественного исследования на основе опроса. Этот метод позволил собрать данные, которые можно было подвергнуть статистическому анализу, что дало более точное понимание целевой группы населения. В исследование были включены 336 молодых людей, которые были либо действующими студентами, либо выпускниками университетов. Выборка была отобрана случайным образом, с 51,2% женщин и 48,8% мужчин, используя метод удобной выборки. Удобная выборка – это метод не вероятностной выборки, который предполагает отбор выборки из легкодоступной популяции [Elfil *et al.* 2017; Jager *et al.* 2017]. Респонденты были разделены на 3 группы в зависимости от возраста: 17-22 года – «студенты»; 23-28 лет – «возраст создания семьи»; 29-35 лет – это «возраст уверенности».

Для проведения исследования была составлена анкета для уточнения пола, возраста, места жительства, этнической принадлежности, национальности родителей, места работы.

Для решения исследовательской задачи были использованы пять методик: Первый – опросник «Типы этнической идентичности» Г.У. Солдатовой. Анкета содержит 30 утверждений и 4 варианта ответа, соответствующих баллам: «согласен» – 4 балла; «скорее согласен» – 3 балла; «Я с чем-то согласен, я не согласен» – 2 балла; «скорее не согласен» – 1 балл; «не согласен» – 0 баллов. Всего представлено 6 типов этнической идентичности от этнонигилизма (отход от своей этнической группы) до этнофанатизма (превосходство своей этнической группы, неприятие других этносов). Максимальное количество баллов за тип 20 баллов, минимальное – 0 баллов.

Вторым инструментом стала Шкала Финни, которая измеряет интенсивность этнической идентичности. 12-балльная шкала была разработана для оценки двух компонентов этнической идентичности: 1. Когнитивный компонент; 2. Аффективный компонент. Когнитивный компонент – это знание и достижение этнической идентичности, знание своего этноса, истории, традиций, обычаев; интерес к истории и культуре своего народа; стремление повысить личную активность в социальных группах, включающих в себя представителей

своего этноса, общаться с другими с целью узнать больше о своем этносе. Аффективный компонент включает эмоциональную оценку своей этнической группы, чувство радости от принадлежности к своей этнической группе; чувство принадлежности к своей этнической группе; чувство гордости за свой народ. Участники оценивают каждый пункт по 4-балльной шкале от категорического согласия до категорического несогласия. Баллы по шкале варьируются от 1 (низкая приверженность этнической идентичности) до 5 (высокая приверженность этнической идентичности), при этом более высокие баллы указывают на более сильную этническую идентичность. Примеры предметов: «Я посвятил время изучению истории, традиций и обычаев моей этнической группы, я четко понимаю свое этническое наследие и его значение для меня, и я активно участвую в культурных практиках, уникальных для моей этнической группы, таких как еда, музыка и обычаи». Третьим инструментом выступила Методика диагностики уровня развития этнического самосознания (В.Ю. Хотинец). методика направлена на выявление уровня этнического самосознания: гипоиентичности, позитивной идентичности и гиперидентичности.

Опросник состоит из 5 шкал (всего 32 вопроса): двух этнодифференцирующих (В какой степени отличается Ваш этнос от других по перечисленным ниже признакам) – на культурном и психологическом (индивидуальном) уровнях; двух этноинтегрирующих (какие из указанных признаков и в какой степени сближают (роднят) Вас с людьми Вашей национальности) – на культурном и психологическом (индивидуальном) уровнях; по графической шкале осознание себя представителем своей этнической группы. Ответы респонденты определяли по следующим признакам: Национальный характер (совокупность типичных психологических черт); Национальный темперамент; Специфические особенности направленности личности (моральные убеждения, взгляды, жизненные позиции, ценностные ориентации, идеалы и т.п.); Специфические для этноса способности (народные умения); Национальные настроения, чувства (чувство национального достоинства, чув-

ство национальной гордости); Национальные интересы (развитие национальной культуры, оптимизация межнациональных отношений, экономический прогресс нации). Показателем развития этнического самосознания респондентов служил интегральный показатель этнической самоопределенности.

Четвертая методика направлена на исследования этнической идентичности и стереотипов. Этнические стереотипы являются индикатором межэтнических отношений. Этнические стереотипы – это упрощенные, схематизированные, эмоционально окрашенные и чрезвычайно устойчивые образы этноса, легко распространяемые на всех ее представителей. Этнический стереотип является формой более широкого феномена социальных представлений, такого как социальный стереотип.

По методике «Атрибуция качеств» (Д. Кац, К. Брейли) из предложенного перечня качеств испытуемым необходимо было отобрать 15 качеств, наиболее характерных для той или иной национальности.

Для исследования социальной дистанции мы доработали шкалу Э. Богардуса категориями ответов, которые больше подходят для молодежи.

Категории выбирались от максимального расстояния «До гражданства в моей стране» до минимального расстояния «До родства посредством брака».

Каждому из предложенных критериев присваивается балл. Первый критерий (принятие как близких родственников посредством брака) оценивается как плюс 3 балла. Второй критерий (принятие как личных друзей) оценивается как плюс 2 балла. Третий критерий (принятие как соседей, проживающих на моей улице) оценивается как плюс 1 балл. Четвертый критерий (принятие как коллег по работе, имеющих ту же профессию, что и я) оценивается как 0 баллов. Пятый критерий (принятие как граждан моей страны) оценивается как минус 1 балл. Шестой критерий (принятие только как туристов в моей стране) оценивается как минус 2 балла. Седьмой критерий (предпочел бы не видеть в моей стране) оценивается как минус 3 балла. Шкала социальной дистанции дает возможность определить шесть показателей: возможную и

реальную социальную приемлемость; возможную и реальную социальную экспансивность; коэффициент изменчивости; коэффициент толерантности.

Процесс сбора данных проводился в соответствии с этическими протоколами и процедурами. Участникам была предоставлена форма информированного согласия, на ознакомление с которой им была дана неделя. Те, кто решил добровольно участвовать в исследовании, подписали форму и вернули ее. Конфиденциальность их ответов была обеспечена, а собранная информация использовалась исключительно в исследовательских целях. Участники были проинформированы о том, что нет правильных или неправильных ответов, и они могут отказаться от участия в исследовании в любое время без каких-либо штрафных санкций. Исследование длилось четыре недели, в течение которых было распространено 400 экземпляров анкеты, и было возвращено 336 полностью заполненных анкет, что составило 84%. Собранные данные были закодированы и проанализированы с помощью программного обеспечения SPSS версии 26 в соответствии с международной исследовательской этикой.

Результаты

С целью выявления особенностей этнической идентичности молодежи, а также определения уровня выраженности уровней когнитивного и аффективного компонентов в опросе приняли участие 336 респондентов в возрасте от 17 до 35 лет, в том числе 174 женщин, 164 мужчин.

На первом этапе был использован опросник «Типы этнической идентичности» Солдаговой Г.У. Данная методика позволила установить, что преобладающим типом этнической идентичности у молодежи является нормальная этническая идентичность (составляет 17,7 балла из 20). Это свидетельствует о высоком уровне этнической толерантности во всех группах респондентов. В группе «студенты» этот показатель составил 18 баллов, в группе «возраст создания семьи» – 17,2 балла, в группе «возраст определенности» – 17,5 балла. Сумма показателей этнической индифферентности была равна 9 в первой группе, 11 – во второй, 13 – в

третьей. При этом сумма гиперидентичности составила 8, 6, 6 соответственно. Данный факт подтверждает наличие межкультурной компетентности у респондентов. При этом в группе в возрасте от 17 до 22 лет показатели гиперидентичности выше, хотя и находятся в пределах нормы. Самый низкий уровень выраженности нормальной этнической идентичности среди респондентов составил 10. Самый высокий показатель в группах – 20, что свидетельствует о неоднородности выборки.

Исследовательский вопрос 2. Определить уровень выраженности когнитивного и аффективного компонентов. Различаются ли выборки по уровню выраженности когнитивных и аффективных компонентов? В результате опроса по методике Финни, измеряющей выраженность этнической идентичности, были получены данные по двум шкалам выраженности когнитивного и аффективного компонентов. Средний показатель аффективного компонента у респондентов составляет $3,06 \pm 0,667$. Когнитивный компонент соответствует $2,68 \pm 0,726$. Среднее значение общего показателя этнической идентичности соответствует $2,86 \pm 0,682$. Максимальное значение составляет 4.

В группе от 17 до 22 лет было получено 2,6 балла по шкале «когнитивный компонент», при минимальном балле 1 балл, максимальном балле 4 балла. Шкала «аффективный компонент» составила 3,3 балла. В группе от 23 до 28 лет баллы распределились следующим образом: когнитивный компонент – 3,4 балла, аффективный – 3,5. В группе от 29 до 35 лет – 3,1 и 3,7 соответственно. Результаты опроса позволяют сделать вывод о том, что молодые люди обладают знаниями и представлениями об особенностях собственной группы на высоком уровне.

Высказывания отмечались группами в той или иной степени. Так, 61% молодежи в возрасте от 17 до 22 лет, 78% молодежи от 23 до 28 лет, 83% опрошенных от 29 до 35 лет следуют традициям своей этнической группы. Они пытаются узнать о своей этнической группе – 39%, 62% и 64% соответственно. Такие результаты связаны с тем, что молодежь от 17 до 22 лет больше интересуется социальной идентичностью, выбором профессии, обществом в целом. В то время как молодые люди от 23 лет

уделяют больше внимания своей этнической группе, стараются следовать традициям.

Исследовательский вопрос 3. Каков уровень развития этнического самосознания у молодежи?

Была использована методика диагностики уровня развития этнического самосознания В.Ю. Хотинец, которая направлена на выявление уровня этнического самосознания.

Респондентам предлагалось определить степень различия или сходства своего этноса от других по признакам. В качестве признаков выступили: происхождение, территория, национальный язык, религия, одежда, пища, устное народное творчество, литература, антропологические признаки, характер, нравственные свойства, способности. Так, на вопрос в какой степени ваш этнос отличается от других, в первой группе высокие баллы были получены по признакам язык, литература, антропологические особенности. Считаем, что такой выбор продиктован обучением в университете, общением с ровесниками разных культур и национальностей. В результате обработки опросника получили 35,9 баллов, что находится в верхней границе нормы среднего уровня (35-50 баллов). На основе данного исследования, пришли к выводу, что студенты не сильно обращают внимание на различие этносов, обладают межкультурной компетенцией для осуществления межкультурного диалога и достижения позитивного результата общения.

Во второй группе наивысшие балы отличия своего этноса от других получили такие признаки, как язык, национальная одежда и пища, характер и нравственные свойства. Данные результаты связываем с тем, что в возрасте создания семьи респонденты придают большее значение этнопсихологическим особенностям. Результат по данной шкале показал 40,6 баллов.

В третьей группе респонденты считают, что их этнос отличается по религии, происхождению, национальным традициям, территории. Общий бал по этнодифференцирующей шкале составил 43,2, что является средним уровнем. Представители «возраста осознанности и сформированности» имеют четкое представление о своей этничности и

различают по всем признакам выше, чем другие группы респондентов.

Этноинтегрирующая шкала показывает насколько выражены этнопсихологические способности у респондентов, а также какие признаки сближают респондентов с их этносом. По данной шкале были получены высокие баллы со средним показателем 37 баллов у всех трех возрастных групп, что соответствует высокому уровню (первая группа – 36,7; вторая группа – 36,9; третья – 37,3). Респонденты отмечают схожесть себя и своего этноса по следующим признакам: национальный характер, темперамент, настроения, национальные интересы, развитие национальной культуры.

На вопрос насколько вы считаете себя представителем своего этноса, группы респондентов дали высокие показатели с небольшим различием. В группе от 17 до 22 лет данный показатель составил 85%. Связываем это с важностью для респондентов не только осознания этнической идентичности, но и наличия других общечеловеческих качеств и особенностей. Однако студенты, обучающиеся на своем родном языке показали 92%, что говорит о важности такого фактора осознания этнической идентичности, как язык.

В группах от 23 до 28 лет и от 29 до 35 лет, респонденты осознают себя представителем своего этноса на 93% и 95% соответственно. В старшем возрасте у респондентов более четко сформированы знания о своем этносе, придают важное значение своей национальности и этносу.

Результаты исследования подтверждают теорию Эриксона о том, что с возрастом увеличивается когнитивный компонент, увеличиваются знания о своей этнической группе. Молодежь после 29 лет достигает осознания этнической идентичности, в отличие от молодых людей, которые имеют более высокую эмоциональную оценку и понимание этнической идентичности [Erikson 1968]. Этнодифференцирующая шкала у сельских жителей выше, чем у городских. В сельских местностях воспитывают в духе традиций и обычаев своего народа. Тогда как городские жители показали низкие результаты на вопрос: «Насколько этнопсихологические особенности вашего этноса выражены у Вас?»

Исследовательский вопрос 4. Какие факторы в структуре этнической идентичности молодежи?

Для оценки этнической идентичности использовалась многогрупповая мера этнической идентичности (MEIM) [Phinney 1992]. Инструмент был разработан для измерения этнической идентичности как общего явления, которое можно сравнивать и противопоставлять различным группам людей. Первоначальный MEIM, использованный Финни, содержал четыре категории ответов и варьировался от 1 = полностью согласен до 4 = полностью не согласен. Категории ответов в настоящем исследовании не были изменены.

Для проведения факторного анализа был выбран метод главных компонент при вращении Варимакс с нормализацией Кайзера. Были выделены три фактора. Трехфакторная модель может объяснить 66,2% дисперсии. При этом первый множитель имеет собственное значение 4,299 и объясняет 35,8% дисперсии; второй множитель имеет значение 2,138 и определяет 17,8% дисперсии; третий множитель составляет 1,509 – 12,6% дисперсии. Из таблицы убрали значения коэффициентов корреляции меньше 0,5.

Частотный анализ фактора 1 выявил, что эмоциональная связь со своей этнической группой у респондентов на высоком уровне. Не выявлено ответа «абсолютно не согласен» ни на одно суждение данного фактора. 94,1% респондентов согласны с суждением о том, что они четко чувствуют связь со своей этнической группой. 91,4% опрошенных гордятся своей этнической группой. 75,3% респондентов соблюдают традиции своей этнической группы, при этом остальные ответили «скорее не согласны, чем согласны». Только 16,1% опрошенных скорее не согласны с тем, что чувствуют сильную привязанность к своей этнической группе. 100% респондентов хорошо относятся к своему этническому происхождению, при этом 85,4% – «абсолютно согласны», 14,6% – «скорее согласны, чем не согласны».

Частотный анализ фактора 2 показал, что были даны ответы от 1 до 4, то есть от «абсолютно согласен» до «абсолютно несогласен». 24,4% респондентов «не согласны» с суждением «Я провел много времени, стараясь узнать

как можно больше о своей этнической группе, о ее истории, традициях, обычаях». При этом 29,5% – «совершенно согласны». Половина опрошенных (54,7%) отрицают, что «активны в организациях или социальных группах, которые включают преимущественно членов моей этнической группы», однако 18,8% – абсолютно согласны с данным суждением. Можно сделать вывод о достаточно высоком уровне межкультурной компетенции молодежи. Влияние этнической принадлежности на жизнь волнует 27,7% респондентов, при этом 45% опрошенных не думают об этом. Для того, чтобы узнать о своей этнической группе 50,6% респондентов говорили о ней со многими людьми, 49,4% – дали отрицательный ответ.

Частотный анализ фактора 3 показал, что понимание и знание о своей этнической групп-

пе у молодежи достаточно хорошо сформированы. Однако, 7,7% молодежи не согласны с суждением «Я очень хорошо знаю свое этническое происхождение и понимаю, что оно значит для меня». При этом 70,5% – абсолютно согласны. 5,7% представителей молодежи не рады, что принадлежат к своей этнической группе, но 67,6% – совершенно рады. 44,6% опрошенных не понимают, что значит для них их этническая принадлежность. У молодежи недостаточно сформировано понимание роли этнической принадлежности в их жизни.

Знания об этнической группе дали ниже результаты, чем эмоциональная связь со своей этнической группой. Аффективный компонент в структуре этнической идентичности молодежи преобладает над когнитивным.

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CERCETĂRI INTERDISCIPLINARE – INTERDISCIPLINARY SURVEYS

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Preliminary results of an integrated Petrographic, Chemical and Organic Residue Analysis of Neolithic pottery from Makhvilauri

Key words: Makhvilauri, Neolithic, Ceramic, Petrography, Lipid analysis.

Cuvinte cheie: Makhvilauri, neolitic, ceramică, petrografie, analiza lipidelor.

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Preliminary results of an integrated Petrographic, Chemical and Organic Residue Analysis of Neolithic pottery from Makhvilauri

In recent years, extensive archaeological and laboratory investigations have been conducted at prehistoric sites in south-western Georgia. The integrated analysis of data obtained through interdisciplinary research has made it possible to develop a clearer understanding of ancient human activities, stone-processing technologies, climatic conditions, mobility patterns, chronology, and other aspects of prehistoric life.

Within the assemblage from the Neolithic settlement of Makhvilauri, pottery occupies a prominent place. From a typological perspective, vessel bases are particularly informative, as they clearly preserve traces of use. The present study provides the first comprehensive analysis of the Neolithic ceramic assemblage from Makhvilauri, carried out in laboratories in Georgia and abroad. For this research, two ceramic fragments dated to the 7th-6th millennia BCE were selected.

The investigations have made it possible to draw several important preliminary conclusions, which lay the foundation for future research involving a larger number of ceramic samples.

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Rezultate preliminare ale unei analize integrate petrografice, chimice și a reziduurilor organice a ceramicii neolitice din Makhvilauri

În ultimii ani, s-au desfășurat cercetări arheologice și de laborator ample la siturile preistorice din sud-vestul Georgiei. Analiza integrată a datelor obținute prin cercetarea interdisciplinară a permis o înțelegere mai clară a activităților umane din antichitate, a tehnologiilor de prelucrare a pietrei, a condițiilor climatice, a modelelor de mobilitate, a cronologiei și a altor aspecte ale vieții preistorice.

În cadrul ansamblului provenit din așezarea neolitică de la Makhvilauri, ceramica ocupă un loc important. Din perspectivă tipologică, bazele vaselor sunt deosebit de informative, deoarece păstrează în mod clar urme de utilizare. Prezentul studiu oferă prima analiză cuprinzătoare a ansamblului ceramic neolitic de la Makhvilauri, realizată în laboratoare din Georgia și din străinătate. Pentru această cercetare, au fost selectate două fragmente ceramice datate în mileniile VII-VI a.Chr.

Cercetările au permis formularea mai multor concluzii preliminare importante, ce pun bazele unor cercetări viitoare care vor implica un număr mai mare de eșantioane ceramice.

Introduction

The Neolithic period represents one of the most significant stages in human history, marked by fundamental transformations in lifeways. During this period, societies transitioned from a nomadic hunter-gatherer mode of subsistence to a

productive economy, laying the foundations for agriculture and animal husbandry. At the same time, the Neolithic witnessed major innovations in lithic technology, including the refinement of stone-working techniques, the expansion and diversification of tool assemblages, the emer-

gence of ceramic vessels, and the development of weaving. One of the most distinctive innovations of this period, however, was the production, processing, and preparation of food resources in ceramic containers. Culinary practices, as an integral component of everyday life, provide valuable insights into the adaptive strategies, technological knowledge, and social interactions of Neolithic communities.

Two main phases are generally distinguished within the Neolithic: the Pre-Pottery Neolithic and the Pottery Neolithic. According to the periodization of prehistoric Georgia, the Pottery Neolithic is dated to the 7th-6th millennia BCE.

Numerous important Pottery Neolithic sites have been identified and systematically investigated in Georgia [Nebieridze 1972; Gogitidze 1978; Chikovani *et al.* 2015; Japaridze, Javakhishvili 1971; Hamon *et al.* 2016; Kiguradze 1976]. Some of these sites, such as Gadachrili Gora and Shulaveri Gora, have attracted global attention following the identification of the putative earliest evidence for wine production in Europe [McGovern *et al.* 2017]. However, analyses of lipid residues preserved in Neolithic ceramic vessels have not yet been undertaken. Moreover, petrographic and chemical analyses of Neolithic ceramics have been conducted only sporadically [Kiguradze 1986; Kohl, Harbottle 1984; Badalyan *et al.* 2010] and lack an integrated analytical framework.

The present study provides a comprehensive analysis of Neolithic ceramic vessels from the

site of Makhvilauri. This approach aims to reconstruct aspects of pottery production technology, mineralogical composition, and food preparation practices, thereby contributing to a better understanding of culinary traditions in Neolithic communities.

The Makhvilauri Site

The Makhvilauri settlement is located 8 km southeast of Batumi, in Khelvachauri Municipality, in the village of the same name (fig. 1-2). The site occupies a moderately elevated hill which, according to ethnographic accounts, was formerly bordered by the Chorokhi River. At present, the river flows approximately 1.5-2 km south of the site. The hill is also flanked on two sides by small streams, the Makhvilauristskali and the Mejinisistskali.

Makhvilauri is an open-air settlement situated in the southern part of the Colchian Lowland, a region characterized by a humid subtropical climate. High precipitation and persistently moist soils have adversely affected the preservation of organic remains at the site. Consequently, the principal sources of information on prehistoric activity at Makhvilauri are lithic artifacts and ceramic assemblages.

Palynological research conducted in 2025 did not reveal plant species characteristic of cold climates. The presence of pollen from thermophilic taxa – including fir, alder, hornbeam, willow, hazel, and elm – as well as spores of fern species



Fig. 1. Map showing the Makhvilauri site.

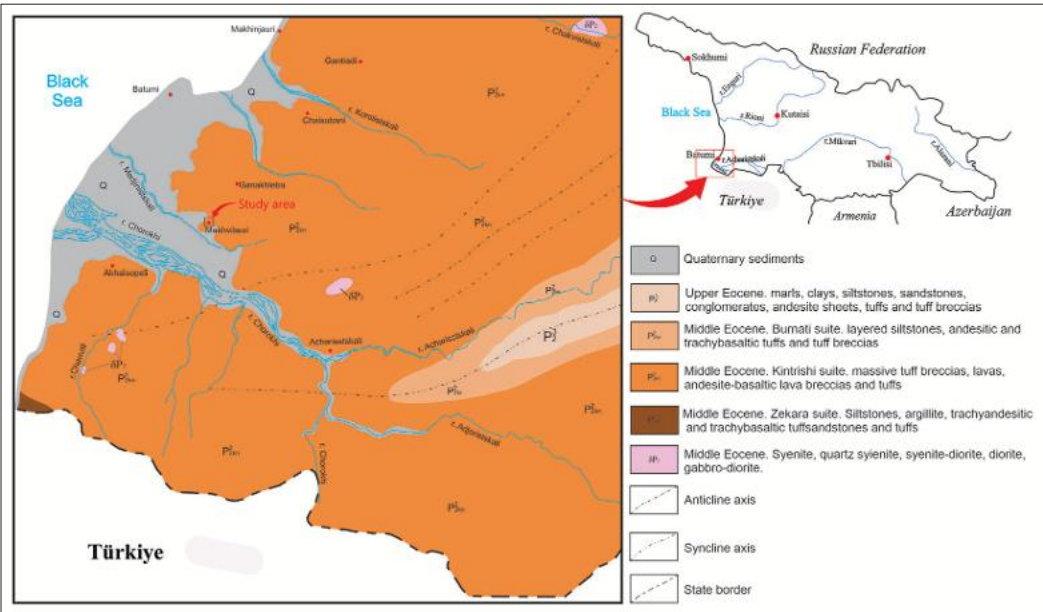


Fig. 2. Geological map of Chorokhi basin.

typical of broadleaf forests on lower mountain slopes, supports this observation [Chkhatarashvili *et al.* 2026]. The occurrence of freshwater algae in the spectra also indicates warm climatic conditions [Scott 1992]. These data suggest that Holocene warming began approximately 8,000 years ago in the environs of Makhvilauri and more broadly across Georgia [Kvavadze, Connor 2005; Connor 2011].

The settlement was discovered in 1968 during the construction of a residential building, when earthworks exposed numerous stone artifacts, including flint and obsidian tools, polished stone axes, sling stones, and hoe-like implements. Systematic archaeological investigations began in 1969. It was later established that during the Late Bronze – Early Iron Age the area was reused as a burial ground, severely disturbing the underlying Neolithic cultural layer [Gogitidze 1978].

Excavations resumed in 2001 and again in 2014-2015. Intensive agricultural activity has significantly damaged the cultural deposits. Work during these campaigns focused primarily on the southern sector of the previously investigated area, mainly in connection with the study of Late Bronze – Early Iron Age burials [Kakhidze *et al.* 2012].

Reconnaissance and exploratory investigations continued during the 2022-2025 field seasons. An area of approximately 48 m² was examined, revealing the following stratigraphic sequence:

1. Topsoil (0-5 cm)
2. Humus (5-15 cm)
3. Black layer (15-25 cm)
4. Light-brown layer (25-40 cm)
5. Yellow clay layer (below 40 cm)

The light-brown layer corresponds to the Neolithic cultural horizon and yielded a substantial assemblage of flint and obsidian tools and debitage, pebble and basalt implements, ceramic fragments, and other materials. Charred wood and charcoal samples were collected in situ for laboratory analysis.

As a result of investigations conducted between 1968 and 2025, approximately 2,500 artifacts have been recovered, including 552 flint and obsidian items (fig. 3), 643 pebble stone artifacts, 714 ceramic fragments, and other finds. Based on relative dating, the first investigator of the site, Sergo Gogitidze, attributed the assemblage to the Late Neolithic [Gogitidze 1978], corresponding to the 7th-6th millennia BCE in the archaeological periodization of Georgia. This chronology has since been confirmed by AMS radiocarbon dating (*see* Table 1) [Chkhatarashvili *et al.* 2024].

The ceramic assemblage from Makhvilauri is diverse and abundant. Particularly noteworthy are fragments of vessel bases and rim sherds with portions of the vessel wall still attached. Complete vessel reconstruction was not possible; however, the bases allowed estimation of vessel diameters.

Nº	Sample	Lab. Index	Location	Dates (BP)	Dates (BC) 68.3 %	Dates (BC) 95.4 %	Reference
1.	Charcoal	FTMC-JU83-2	Depth 38 cm.	7070±32	5993-5901	6018-5851	Chkhatarashvili et. all. 2024
2.	Ceramic	FTMC-JU83-3	Depth 34 cm.	6802±39	5725-5661	5744-5627	Chkhatarashvili et. all. 2024

Table 1. Absolute dates from the Neolithic layers of the Makhvilauri site.

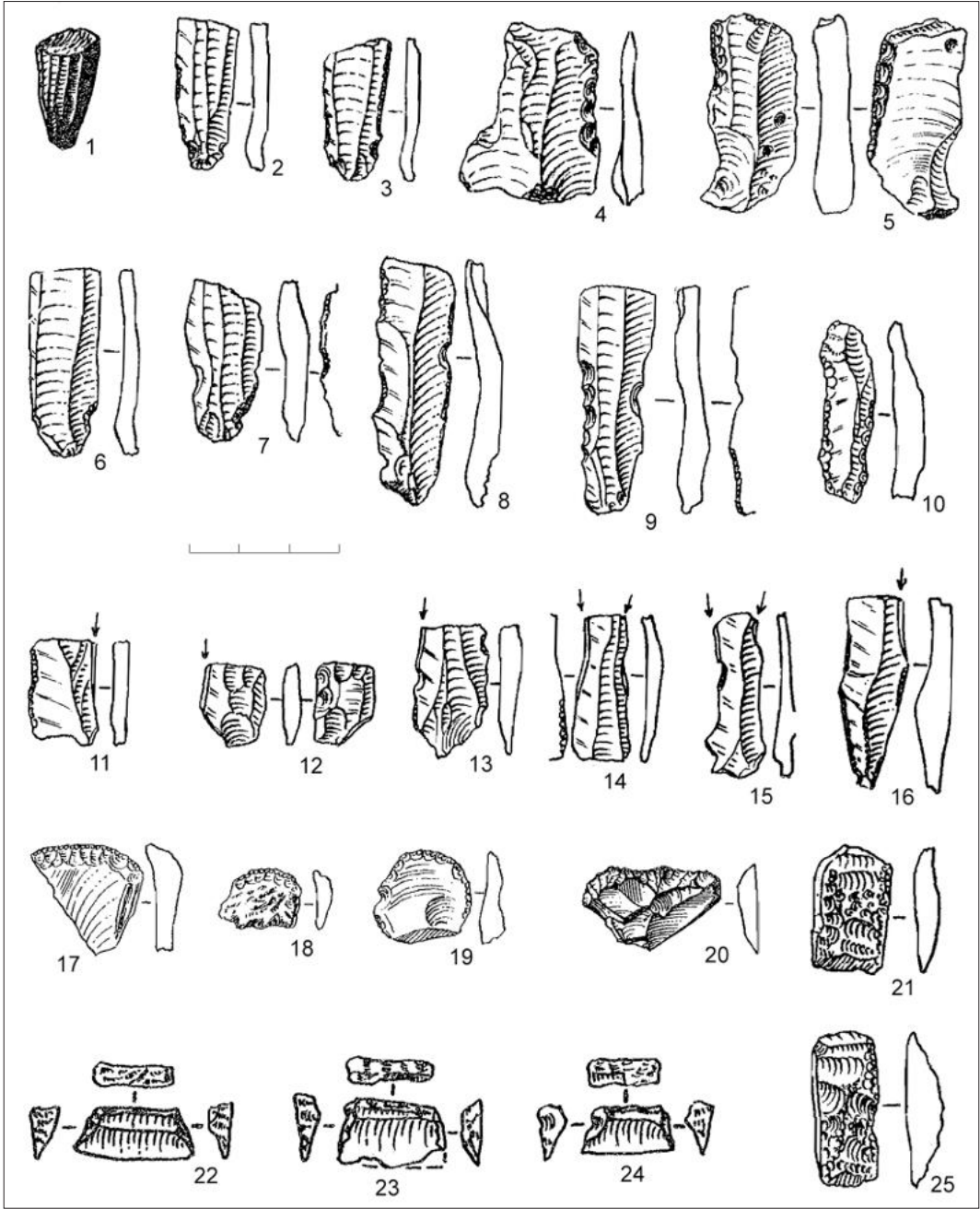


Fig. 3. Makhvilauri site. Flint and obsidian tools [Gogitidze, 1978, Fig. XLIV, XLV, XLVII].

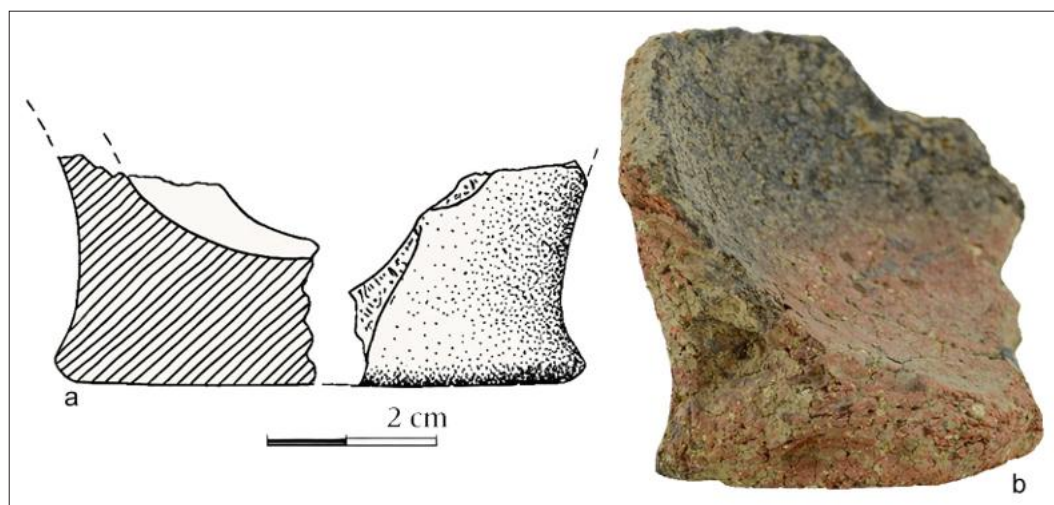


Fig. 4. Neolithic ceramic vessel from Makhvilauri site.

The assemblage appears to be dominated by medium-sized vessels with diameters exceeding 15–20 cm (fig. 4). Vessel bases were selected for detailed analysis, as the rim sherds are highly fragmented and less informative.

The vessel bases are coarse-grained and poorly fired, with inclusions visible macroscopically. To obtain more detailed information on their composition and use, a series of integrated analytical methods was applied.

Materials and methods

Petrographic Analysis. For the petrographic analysis of Neolithic ceramics (fig. 5–6), two base samples were selected and examined using a transmitted light microscope. The aim of the study was to determine the mineralogical composition, texture, porosity, and technological characteristics of the ceramic fabric from the Makhvilauri Neolithic settlement.

Chemical analysis of the ceramics was conducted in order to identify the elemental composition of the ceramic samples, employing non-destructive analytical methods (XRF). The objective of this analysis was to determine trace element concentrations (see Table 2), which enables the identification of raw material sources, technological variations, and ceramic production practices¹.

1. X-ray fluorescence analyses were performed at the Al. Janelidze Institute of Geology, Complex Laboratory of Geological Research, using a portable SPECTROSCOUT Geo XRF spectrometer.

Organic Residue Analysis. Lipid residue analyses and interpretations were based on established protocols [Evershed *et al.* 1990; Correa-Ascencio, Evershed 2014]. Approximately 2 g of ceramic fabric samples were taken from the same two base samples and their surfaces cleaned using a solvent-cleaned modelling drill to remove any exogenous lipids (e.g. soil or finger lipids due to handling). The samples were then ground to a fine powder using a solvent-cleaned glass mortar and pestle.

The powdered ceramic was transferred to a glass culture tube and an internal standard was added for quantification (*n*-tetratriacontane, 20 µg) before extraction, using an acidified methanol solution (H₂SO₄/MeOH, 4% v/v, 5 mL, 70 °C, 1 h) [Correa-Ascencio, Evershed 2014]. Lipids were then extracted from the H₂SO₄/MeOH portion with *n*-hexane (2×3 mL and 2×2 mL). The solvent was evaporated under a gentle stream of nitrogen to obtain the total lipid extract (TLE). Aliquots of the TLE (generally one quarter aliquots) were trimethylsilylated using *N,O*-bis(trimethylsilyl) trifluoroacetamide containing 1% trimethylsilyl chloride (20 µL, 70 °C, 1 h) and re-dissolved into *n*-hexane for analysis by gas chromatography (GC-FID). GC-FID analysis was undertaken on an Agilent 7890A using an HP-1 column (50 m × 0.32 mm, film thickness: 0.17 µm, coated with 100% dimethylpolysiloxane). Helium was used as a carrier gas (constant flow: 2 mL min⁻¹). The method comprised a 2 min isothermal at 50°C followed by a ramp to 300°C (10°C min⁻¹) and a 15 min isothermal

№	Symbol	Concentrate		Error		Unit	
		Sample 1	Sample 2	Sample 1	Sample 2	Sample 1	Sample 2
1	SiO ₂	41.6	34.14	0.05	0.05	%	%
2	Al ₂ O ₃	20.49	18.25	0.04	0.04	%	%
3	Fe ₂ O ₃	7.423	10.17	0.007	0.01	%	%
4	P ₂ O ₅	1.474	1.016	0.005	0.005	%	%
5	K ₂ O	1.245	1.071	0.009	0.009	%	%
6	TiO ₂	1.179	1.158	0.005	0.005	%	%
7	CaO	0.7681	0.7479	0.0061	0.006	%	%
8	MgO	0.5656	0.5094	0.026	0.028	%	%
9	SO ₃	0.06026	0.09599	0.00063	0.05	%	%
10	Cl	594.8	527.8	2.9	2.9	ppm	ppm
11	Ba	369.1	317.6	4.4	4.5	ppm	ppm
12	MnO	0.02266	0.02236	0.00042	0.00046	%	%
13	V	199.2	217.1	7.4	7.3	ppm	ppm
14	Zr	161.7	105.7	0.4	0.4	ppm	ppm
15	Cr	149.7	189.5	2.8	3	ppm	ppm
16	Sr	112.8	125.3	0.4	0.4	ppm	ppm
17	Cu	68.25	82.27	0.86	1	ppm	ppm
18	Zn	63.87	61.19	0.65	0.71	ppm	ppm
19	Nd	55.19	62.69	3.8	4.2	ppm	ppm
20	Ni	50.43	69.58	0.8	0.98	ppm	ppm
21	Rb	47.64	43.89	0.28	0.29	ppm	ppm
22	Y	23.3	19.09	0.24	0.23	ppm	ppm
23	Co	21.84	34.37	1.4	1.9	ppm	ppm
24	Ce	19.5	33.69	3.7	4.9	ppm	ppm
25	Ga	18.89	14.15	0.91	0.98	ppm	ppm
26	Pb	18.58	15.74	0.55	0.55	ppm	ppm
27	As	15.07	11.94	0.46	0.46	ppm	ppm
28	Br	11.15	10.46	0.24	0.25	ppm	ppm
29	Th	10.05	7.107	0.33	0.32	ppm	ppm
30	La	10.04	10.64	0	0	ppm	ppm
31	Nb	9.854	6.262	0.27	0.26	ppm	ppm
32	Cs	5.387	5.619	0	0	ppm	ppm
33	U	3.238	2.641	0.51	0.49	ppm	ppm
34	Hf	2.649	3.898	0.23	0.34	ppm	ppm
35	Ta	2.487	2.785	0	0	ppm	ppm
36	Hg	1.881	1.947	0	0	ppm	ppm
37	Sn	1.615	1.729	0	0	ppm	ppm
38	Sb	1.506	3.915	0.65	0.96	ppm	ppm
39	W	1.432	1.604	0	0	ppm	ppm
40	Bi	0.7274	0.7654	0	0	ppm	ppm

41	Ge	0.7005	0.74	0	0	ppm	ppm
42	Tl	0.6365	0.6548	0	0	ppm	ppm
43	Mo	0.5854	0.6126	0	0	ppm	ppm
44	Se	0.4536	0.4712	0.11	0.11	ppm	ppm
45	Na ₂ O	0.1353	0.1353	0	0	%	%
	Σ=	75		%			
	Σ=	67.4		%			

Table 2. Results of Chemical analysis of two ceramic samples.

[Correa-Ascencio, Evershed 2014]. Combined GC/MS analyses were performed on a Thermo Trace 1300 GC with a non-polar capillary column (HP-1; 50 m × 0.32 mm × 0.17 μm, 100% dimethylpolysiloxane; helium as carrier gas at 2 mL min⁻¹ constant flow; 34 min run) coupled to an ISQ LT single-quadrupole MS (transfer line at 300°C) operating in EI mode (70 eV) and (acquiring *m/z* 50-650 with 2 scans per second A selected ion monitoring mode) was used to detect dihydroxy-FAMES (*m/z* 215, 243, 259, 443, 459, 471, 487, 499, 515), some of which are diagnostic of aquatic resources [Cramp, Evershed 2014].

The samples containing saturated fatty acids characteristic of degraded animal fats were then submitted to GC-combustion-isotope ratio mass spectrometry (GC-C-IRMS) in order to distinguish between non-ruminant and ruminant fats, and dairy from adipose fats [Copley *et al.* 2003].

Table 3 lists the pottery details and the results of the lipid residue analyses.

Results and discussion

The ceramic vessels exhibit high porosity. The fabric of both samples is similar and consists primarily of a brown-colored matrix containing inclusions and lithic fragments of various sizes and shapes. Among the granular components, quartz fragments are the most common, generally not exceeding 1 mm in size. In addition to quartz, fragments of plagioclase and microcline crystals were identified. Notably, both rounded and angular rock fragments occur within the fabric. The distribution of inclusions is heterogeneous; some are oriented parallel to one another, indicating directed mechanical stress during the forming process. A significant quantity of grog (chamotte) fragments was also observed among the inclusions. Besides, biotite is also encountered, while amphibole and

pyroxene occur more rarely. The clay matrix also contains iron oxides and some chlorite.

Overall, the petrographic data indicate the use of a naturally multi-component clay raw material. This approach is generally considered to reduce shrinkage and increase the durability of ceramic products. The orientation of inclusions further suggests a hand-forming technique.

The high porosity and the presence of iron oxides may be associated with firing at relatively low to moderate temperatures. The occurrence of amphibole and pyroxene may reflect the use of local raw materials linked to volcanic or metamorphic rocks present in the surroundings of Makhvilauri site.

The results of the chemical analysis of the ceramics indicate a raw material based on an aluminosilicate matrix, typical of clayey sedimentary materials. Both samples show high contents of SiO₂ (34.14-41.6%) and Al₂O₃ (18.25-20.49%), pointing to a significant proportion of quartz and clay minerals (e.g., illite, kaolinite). Variations in the SiO₂/Al₂O₃ ratio between the samples may reflect raw material heterogeneity, intentional mixing, or the addition of grog and/or quartz.

Relatively high concentrations of Fe₂O₃ (7.42-10.17%) suggest iron-rich clays and may also account for the reddish-brown coloration of the vessels. Stable TiO₂ values (~1.16-1.18%) and the correlation between Al₂O₃ and TiO₂ indicate geological consistency of the raw material and reduce the likelihood of clay procurement from distant sources.

Low concentrations of alkali oxides (Na₂O = 0.13%; K₂O = 1.07-1.25%), as well as low CaO (=0.74-0.77 %) and MgO values, indicate that the clay is not enriched in carbonates

Elevated concentrations of certain elements (V, Cr, Ni, Co; e.g., V: 199-217 ppm; Cr: 149-189

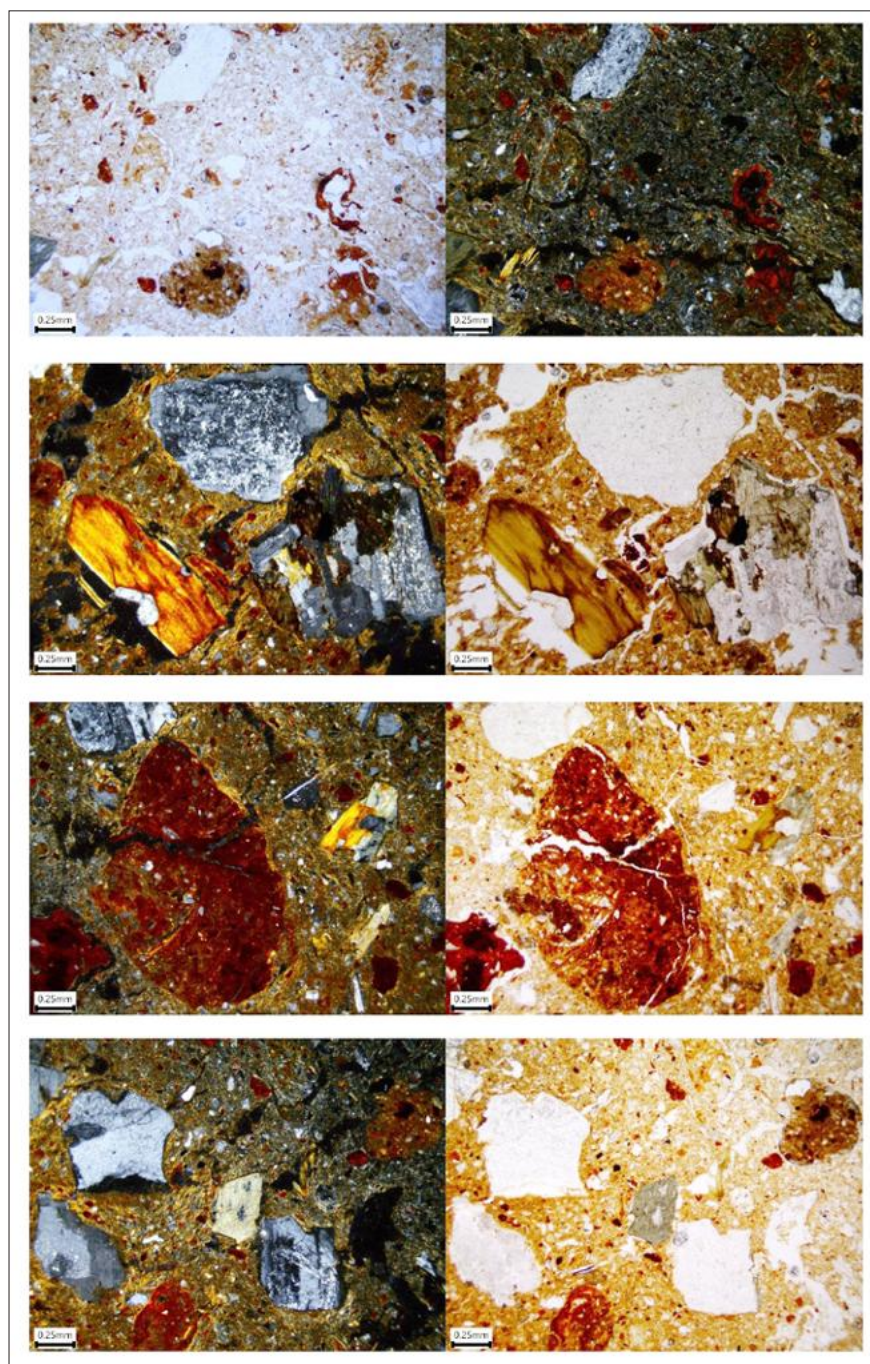


Fig. 5. Petrographic analysis of Makhvilauri ceramic (*Sample 1*).

ppm; Ni: 50-70 ppm) suggest the presence of mafic components or heavy minerals, which may be related to the natural sedimentary environment or to the natural admixture of sand within the clay. The presence of Zr (105-162 ppm) and Hf confirms the occurrence of a zircon mineral phase, which is commonly used as a stable geochemical indicator of raw material provenance.

The concentrations of Ba, Rb, and Sr reflect a feldspathic component and may be useful for grouping the samples. The relatively similar values of these elements in both samples indicate a shared technological tradition and, most likely, a common raw material base.

Notably, elevated P_2O_5 contents (1.02-1.47%) may be associated with the infiltration of

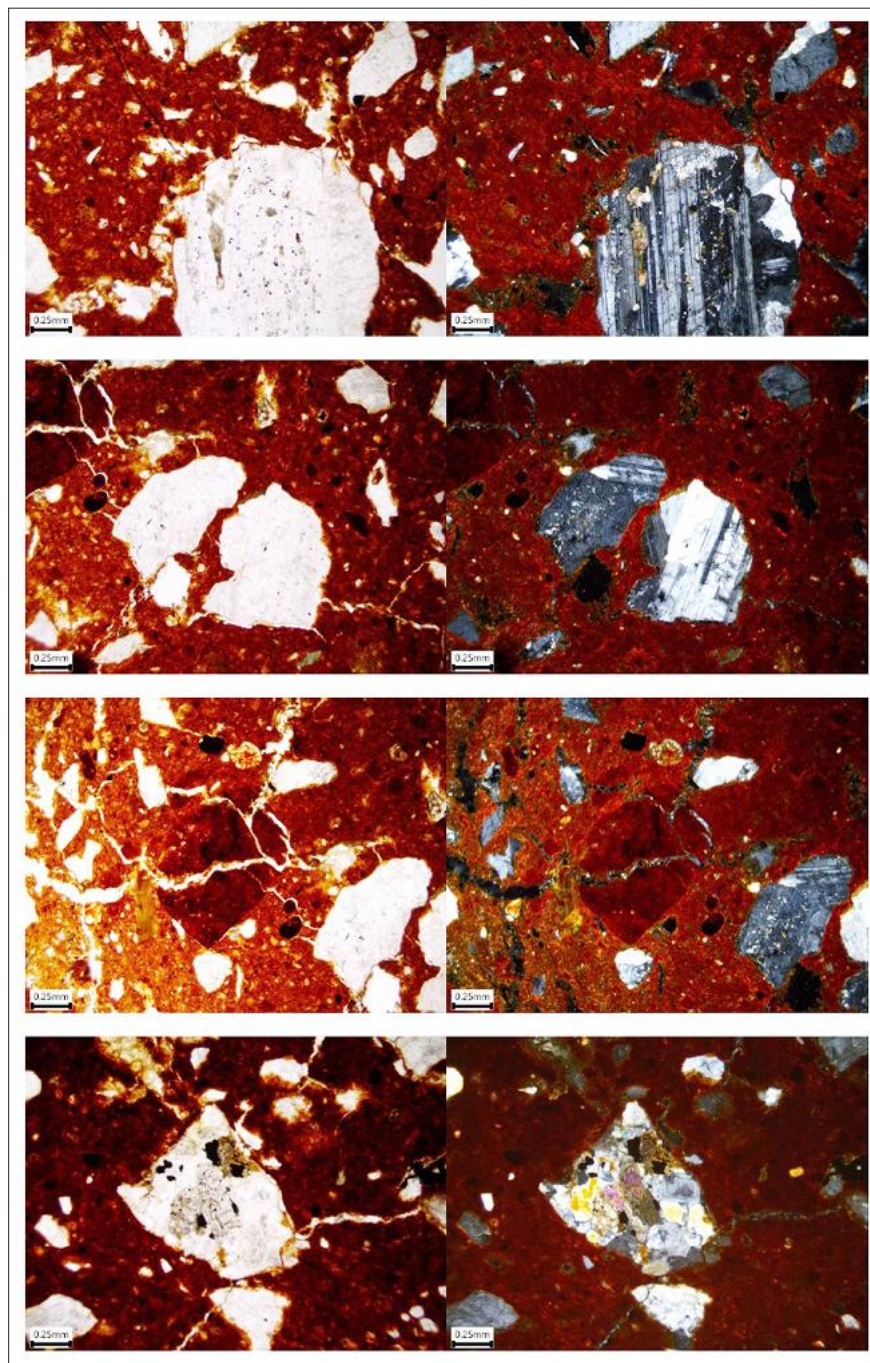


Fig. 6. Petrographic analysis of Makhvilauri ceramic (*Sample 2*).

organic substances into the ceramic pores during use or with naturally occurring phosphate inclusions in the raw material. This indicator is particularly relevant in the context of organic residue analysis and may point to the culinary function of the vessels.

The extract (GEO 1029; № 1) contained substantial amounts of phthalate contamination

(widely used as plasticisers). The lipid extract was not investigated further.

Ceramic vessel sample GEO 1030; № 2 contained archaeological lipids, with lipid concentrations of 36 µg/g. The lipid profile of this sample was dominated by free fatty acids (principally C_{16:0} and C_{18:0}) characteristic of degraded animal fats (fig. 7).

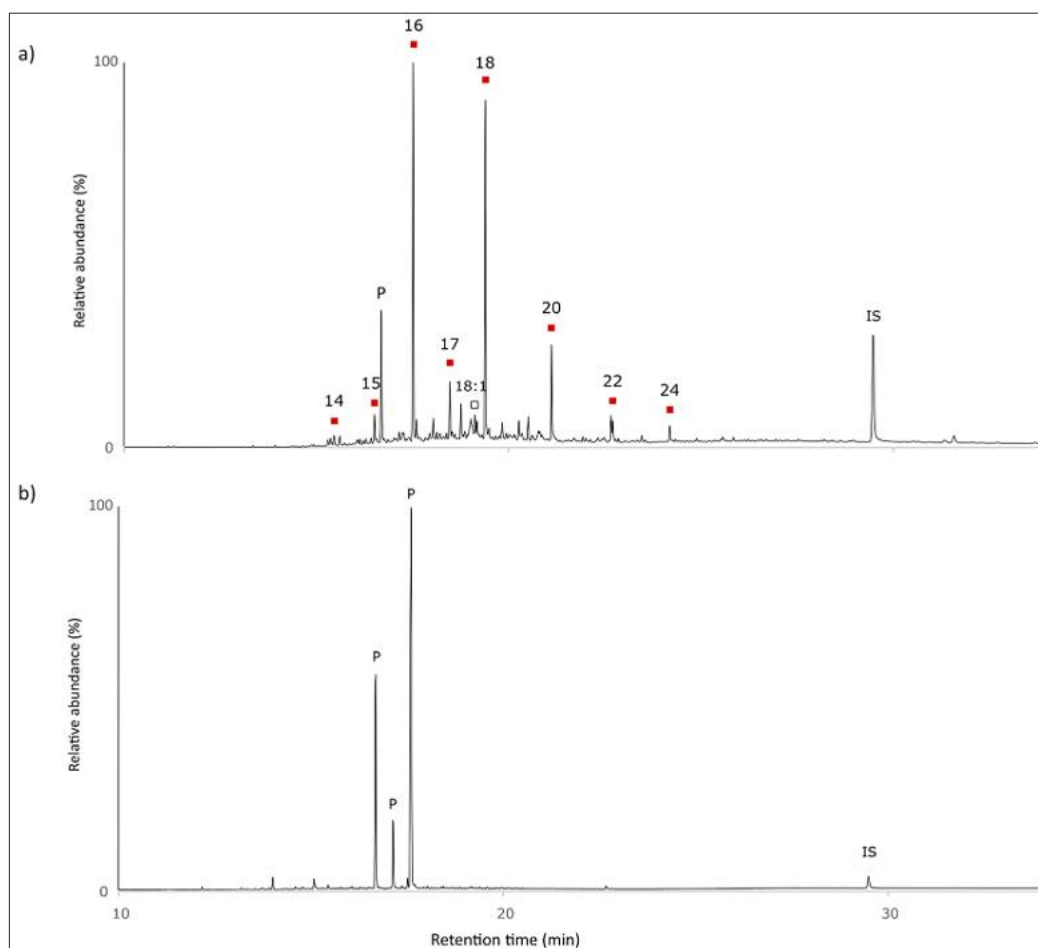


Fig. 7. Partial gas chromatogram of total lipid extracts from a) GEO 1030 (№ 2), characteristic of degraded animal fats and b) GEO 1029 (№ 1), showing plasticiser contamination. Squares: *n*-alkanoic acids (red for saturated fatty acids, unfilled/white for unsaturated fatty acids); IS: internal standard (*n*-tetratriacontane); P: phthalates; number *n* and *n*:i: acyl carbon number with zero or *i* degrees of unsaturation.

Monounsaturated fatty acids ($C_{18:1}$) were present in low abundance in this extract. These are the main fatty acids present in fresh animal fats, but they are prone to oxidation and their low abundance suggests that the lipids extracted are indeed archaeological. Oxidation products of unsaturated fatty acids (hydroxy fatty acids, dihydroxy fatty acids) and alcohols (C_{16} , C_{18}) were also identified in this lipid extract (*see* Table 3). Oxidation products can form naturally through degradation processes or under elevated temperatures during vessel use [Regert *et al.* 1998; Evershed 2008].

Extract GEO 1030 further included a series of long-chain fatty acids (LCFAs), ranging from C_{20} to C_{24} carbon atoms, and are present in lower abundance than palmitic acid ($C_{16:0}$) and stearic acid ($C_{18:0}$). The distribution suggests that these

LCFAs may originate from animal fats, incorporated into animal tissues via routing from the ruminant animals' plant diet [Halmemies-Beauchet-Filleau *et al.* 2013; Halmemies-Beauchet-Filleau *et al.* 2014; Whelton *et al.* 2018]. LCFAs can also originate directly from leaf or stem epicuticular waxes [Kolattukudy *et al.* 1976; Kolattukudy 1980; Jetter *et al.* 2006] although typically with a differing relative distribution and often accompanying compound classes such as *n*-alkanes and alkanols.

The extract did not contain dihydroxy fatty acids with a carbon chain length of $>C_{18}$, which are indicative of aquatic resource processing [Hansel, Evershed 2009; Cramp, Evershed 2014]. Dihydroxy fatty acids originate from oxidation of long-chain monounsaturated fatty acids, which occur widely in fats and oils. Terrestrial fats con-

Sample name	Sample №	Context/ Feature	Lipid concentration (µg/g)	Compounds	$\delta^{13}\text{C}_{16:0}$ (‰)	$\delta^{13}\text{C}_{18:0}$ (‰)	$\Delta^{13}\text{C}$ (‰)	Interpretation (molecular and isotopic compositions)
GEO 1030	N2	Neolithic layer	36	FAs, $n = 14, 15, 16, 17, 17 \text{ br}, 18, 18:1, 19, 20, 21, 22, 23, 24$; n -Alcohols (TMS), $n = 16, 18$; Hydroxy FAs, $n = 16, 18$; Dihydroxy FAs, $n = 18$	-26.7	-26.1	0.7	Non-ruminant fats

Table 3. Sample details and results of lipid residue analysis. FA – fatty acid; br – branched fatty acids; number n and $n:i$ acyl carbon number with zero or i degrees of unsaturation.

tain long-chain monounsaturated fatty acids that are usually $\leq \text{C}_{20}$ while aquatic fats also contain monounsaturated fatty acids with carbon chain lengths $> \text{C}_{20}$ [Cramp, Evershed 2014; Bondetti *et al.* 2021]. The samples were not screened for further aquatic biomarkers (such as isoprenoid fatty acids or APAAs).

The $\delta^{13}\text{C}$ values of the individual $\text{C}_{16:0}$ and $\text{C}_{18:0}$ fatty acids were determined by GC-C-IRMS to characterise the sources of the animal fats extracted from vessel № 2 (GEO 1030; fig. 8). The $\delta^{13}\text{C}$ values of the archaeological fats were plotted against the $\delta^{13}\text{C}$ values of modern reference fats from animals raised on a pure C_3 diet (fig. 8a) [Copley *et al.* 2003].

The extract GEO 1030 showed $\delta^{13}\text{C}$ values consistent with a non-ruminant (e.g. pig, wild boar) origin. Using the $\Delta^{13}\text{C}$ proxy ($\Delta^{13}\text{C} = \delta^{13}\text{C}_{18:0} - \delta^{13}\text{C}_{16:0}$; fig. 8b) reduces localised environmental effects on the absolute $\delta^{13}\text{C}$ values of fatty acids and emphasises their metabolic origins [Copley *et al.* 2003; Dunne *et al.* 2012]. Given the different climate of the archaeological site (Western Georgia) and the area where the modern reference animals were raised (Southern Britain), this is the more robust approach to characterise the origin of animal fats.

Using this proxy, it is also suggested that GEO 1030 was predominantly used to process non-ruminant resources.

The lipid residue analysis of the Makhvilauri Neolithic ceramics shows close similarities to Neolithic sites in northern Greece [Whelton *et al.* 2018], Anatolia [Gregg *et al.* 2009; Evershed 2008], and southeastern Europe [Spangenberg *et*

all. 2006], where ceramic vessels were predominantly used for the processing of non-ruminant animal resources.

Conclusion

The results of the petrographic and chemical analyses of the ceramics are fully consistent with one another and clearly reflect a coherent technological knowledge of raw material selection and processing.

The petrographically described aluminosilicate clay matrix, characterized by a brown coloration and high porosity, corresponds closely with the chemically recorded high contents of SiO_2 (34-42%) and Al_2O_3 (18-20%), indicating the dominance of quartz and clay minerals. The presence of clay minerals, occasionally including chlorite, is consistent with the low concentrations of alkali oxides (Na_2O , K_2O) and carbonates (CaO , MgO), confirming the use of non-carbonate clays.

The petrographically identified quartz inclusions (commonly up to 1 mm in size and occasionally larger) are clearly reflected in the elevated SiO_2 values observed in the chemical analysis. Variations in the size and shape of quartz grains, as well as their heterogeneous distribution, suggest both a natural sedimentary component and the intentional addition of mineral temper.

The presence of plagioclase and microcline corresponds well with the low but stable concentrations of K_2O and Na_2O , indicating a moderate contribution of feldspathic components. In addition, the elemental concentrations of Rb, Ba, and Sr further support a geochemical association with feldspar minerals.

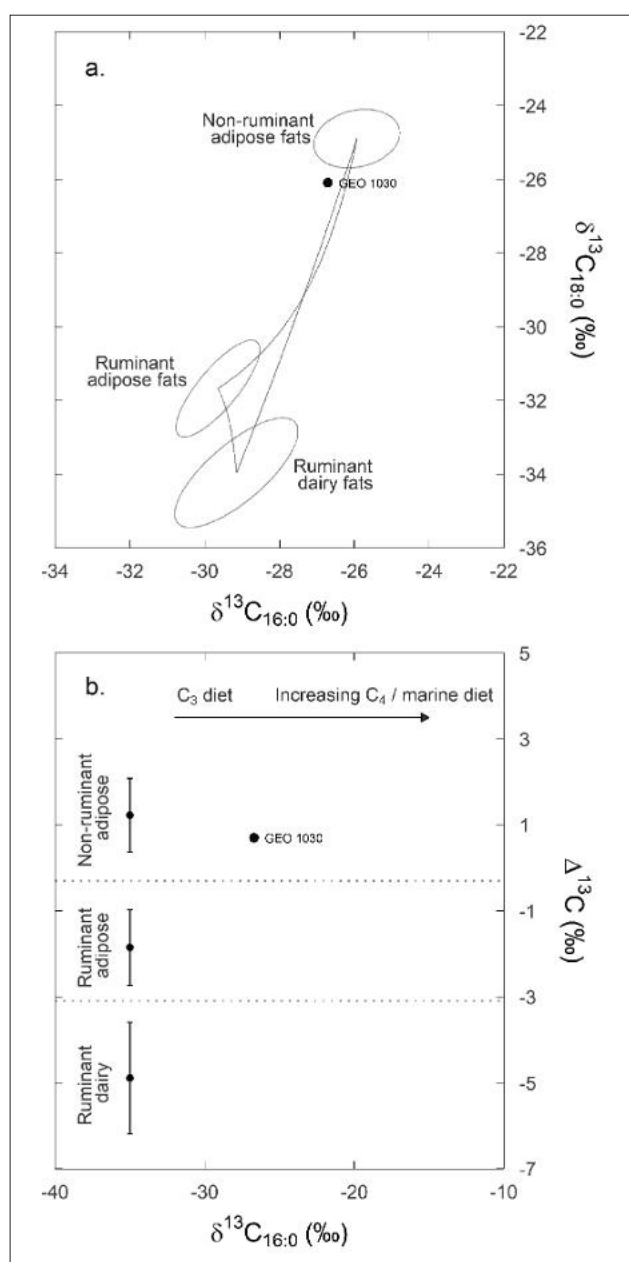


Fig. 8. (a) $\delta^{13}\text{C}$ values for the $\text{C}_{16:0}$ and $\text{C}_{18:0}$ n -alkanoic acids prepared from Neolithic pottery from Western Georgia. The three fields correspond to the $P = 0.684$ confidence ellipses for animals raised on a strict C_3 diet in Britain [Copley *et al.* 2003]. The $\delta^{13}\text{C}$ values obtained for the modern reference fats were adjusted for post-Industrial Revolution effects of fossil fuel burning by the addition of 1.2‰ (Friedli *et al.* 1986). (b) Difference in the $\delta^{13}\text{C}$ values of the $\text{C}_{18:0}$ and $\text{C}_{16:0}$ fatty acids ($\Delta^{13}\text{C} = \delta^{13}\text{C}_{18:0} - \delta^{13}\text{C}_{16:0}$) obtained for the same archaeological fats. The ranges represent the mean ± 1 standard deviation of the $\Delta^{13}\text{C}$ values for the global database comprising modern animal fats from different locations including: Britain [Copley *et al.* 2003], Switzerland [Spangenberg *et al.* 2005], Kazakhstan [Outram *et al.* 2009], the Near East [Gregg *et al.* 2009], and Kenya and Libya [Dunne *et al.* 2012]. Analytical precision is $\pm 0.3\text{‰}$.

Petrographically observed biotite, and the rarer occurrences of amphibole and pyroxene, are in full agreement with the chemically detected concentrations of Fe_2O_3 (7.4–10.2%), TiO_2 (~1.16%), and relatively elevated levels of elements such as V, Cr, Ni, and Co, which are typical of mafic and ferromagnesian minerals. These data point to a geological environment of the raw materials in which ferromagnesian components are naturally present.

Of particular importance is the petrographically inferred presence of grog (chamotte) fragments, which corresponds well with the relative dispersion of elemental values in the chemical dataset and with minor but noticeable inter-sample variations (e.g., SiO_2 , Fe_2O_3). The use of grog indicates an advanced level of technological knowledge aimed at enhancing the mechanical strength and thermal stability of the ceramics.

The high porosity of the ceramics, in combination with a low proportion of fluxing phases, suggests firing at relatively low temperatures. Together with the presence of iron oxides, this is consistent with firing under oxidizing conditions, which is also reflected in the coloration of the ceramics. Moreover, high porosity facilitates the deep penetration of organic residues (lipids) into the ceramic matrix, increasing their likelihood of preservation. This assumption is confirmed by the detection of lipid residues in one of the Makhvilauri ceramic samples (GEO 1030; № 2).

The organic residue analysis indicates that the non-ruminant animal fats identified in the ceramics most closely correspond to the processing of pork or wild boar. The use of products from other non-ruminant animals, including bear, cannot be entirely excluded; however, based on the currently available data, no alternative interpretation can be reliably supported. Although the Makhvilauri settlement is located near a water source and net sinkers associated with fishing activities have been identified within the lithic assemblage, there is, as yet, no evidence for the processing of aquatic resources in the ceramic vessels.

As demonstrated by the study, the subtropical environment and high soil moisture characteristic of the Colchian Lowland did not result in the complete destruction of organic residues.

Consequently, future research is expected to yield more extensive data and provide deeper insights into the dietary practices and culinary traditions of prehistoric populations.

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Tumulul 10 de la Burlăceni (r-nul Cahul)*

Keywords: Burlăceni, barrow, stratigraphy, Bronze Age burials, paleoanthropological data, dental wear analysis.

Cuvinte-cheie: Burlăceni, tumul, stratigrafie, morminte din epoca bronzului, date paleoantropologice, analiza uzurii dentare.

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The tumulus 10 from Burlăceni (Cahul District)

In 2022, the National Archaeological Agency conducted preventive archaeological investigations at barrow no. 10 in Burlăceni. The barrow had a diameter of approximately 40 m and a height of 0.7 m. During the excavations, 17 graves were discovered. The barrow is characterized by a simple stratigraphic structure, consisting of a single mound raised above grave no. 17 of the Yamnaya culture. Subsequently, graves no. 2, 4, 5, 7, 13, 14, and 15, also attributed to the Yamnaya culture, were constructed. These were mainly dug as rectangular pits, some with steps, arranged around the primary grave. Grave no. 12, probably dating to a later horizon of the Yamnaya culture, partially disturbed the step of grave no. 13. The next cultural and chronological horizon is represented by graves no. 3 and 10, belonging to the Mnogovalikovaia culture of the Middle Bronze Age. Grave no. 3 contained a jar-type vessel specific to this culture, while grave no. 10 yielded a fragment of a bone buckle, also characteristic of this cultural group. Graves no. 8, 9, and 16 can likewise be attributed to the Middle Bronze Age. The ditch and the feature excavated within it, identified near graves no. 6 and 10, can be dated to the Middle or Late Bronze Age, but are later than the aforementioned burials. Grave no. 6, which contained two ceramic vessels, can be attributed to the Sabatinovka culture. The most recent graves in the barrow, numbered 1 and 11, contained individuals laid supine, oriented with the skull to the southwest, and are attributed to a medieval Turanic population.

The paleoanthropological analysis of the osteological material was carried out using established specialized methodologies. The biological age at death for individuals under 20 years old was estimated based on dental eruption, skeletal development, and bone dimensions. For adults, age estimation relied on a combination of morphological and degenerative criteria. Sex determination was based on cranial and pelvic features, while stature was reconstructed using long bones, revealing differences between male and female individuals.

In addition to the paleoanthropological data, the study also presents information on dental wear and non-metric dental traits. Dental wear was assessed using standardized methods and classified into three main stages. The results indicate predominantly moderate to advanced wear, especially on molars and incisors. Differences in wear patterns reflect the influence of diet and behavioral activities. Among Yamnaya individuals, dental fractures occur more frequently on anterior teeth, suggesting non-masticatory uses. In contrast, individuals of the Mnogovalikovaia culture show more pronounced wear associated with a highly abrasive diet. Medieval Turanic individuals display variability in dental wear mainly related to age at death. Non-metric dental traits were analyzed using the ASUDAS system, identifying features such as Carabelli's cusp, the protostylid, and various cusp and groove patterns.

Sergiu Popovici, Mariana Popovici, Vasilica-Monica Groza, Ozana-Maria Ciorpac-Petraru

Tumulul 10 de la Burlăceni (r-nul Cahul)

În anul 2022, Agenția Națională Arheologică a efectuat investigații arheologice preventive la tumulul nr. 10 de la Burlăceni. Tumulul avea un diametru de aproximativ 40 m și o înălțime de 0,7 m. În cadrul cercetărilor, au fost descoperite 17 morminte. Tumulul se distinge printr-o structură stratigrafică simplă, având o singură manta ridicată deasupra mormântului nr. 17 al culturii Yamnaia. Ulterior, au fost realizate mormintele nr. 2, 4, 5, 7, 13, 14 și 15, atribuite tot culturii Yamnaia. Acestea au fost realizate în principal în gropi dreptunghiulare, unele prevăzute cu trepte, în jurul mormântului primar. Mormântul nr. 12, care datează probabil dintr-un orizont târziu al culturii Yamnaia, a afectat o parte din treapta mormântului nr. 13. Următorul orizont cultural și cronologic este asociat cu mormintele nr. 3 și 10, care aparțin culturii Mnogovalikovaia din perioada mijlocie a epocii bronzului. Mormântul nr. 3 conținea un vas de tip borcan specific acestei culturi, iar în mormântul nr. 10 a fost identificat un fragment de cataramă de os, tot caracteristic acestei culturi. Mormintele nr. 8, 9 și 16 pot fi, de asemenea, atribuite perioadei mijlocii a epocii bronzului. Șanțul și complexul șanț în interiorul acestuia, identificate în apropierea mormintelor nr. 6 și 10, pot fi datate în perioada mijlocie sau târzie a epocii bronzului, dar ulterior acestora. Mormântul nr. 6, care conține două vase ceramice, poate fi atribuit culturii Sabatinovka. Cele mai recente morminte descoperite în tumul, marcate cu nr. 1 și 11, conțin defuncți depuși în poziție întinsă pe spate, orientați cu craniul spre sud-vest. Acestea sunt atribuite populației turanice medievale.

Analiza paleoantropologică a materialului osteologic a fost realizată pe baza metodologiilor de specialitate consacrate. Vârsta biologică la deces pentru indivizii sub 20 de ani a fost estimată pe baza erupției dentare, a dezvoltării osoase și a dimensiunilor scheletice. Pentru adulți, estimarea vârstei s-a realizat prin combinarea mai multor criterii morfologice și degenerative. Determinarea sexului s-a bazat pe caracteristicile craniene și pelviene. Statura a fost calculată pe baza oaselor lungi, evidențiindu-se diferențe între indivizii de sex masculin și feminin.

Pe lângă datele obținute din analiza paleoantropologică, în articol sunt prezentate și informații privind gradul de uzură și trăsăturile dentare nonmetrice. Uzura dentară a fost evaluată prin metode standardizate, fiind clasificată în trei stadii principale. Rezultatele indică o uzură predominant moderată și avansată, mai ales la molari și incisivi. Diferențele de uzură între tipurile de dinți reflectă influența dietei și a activităților comportamentale. În cazul indivizilor culturii Iamnaia, fracturile dentare apar mai frecvent la dinții anteriori, sugerând utilizări non-masticatorii. La indivizii culturii Mnogovalikovaia, uzura este mai accentuată și asociată unui regim alimentar mai abraziv. Subiecții medievali turanici prezintă variații ale uzurii dentare determinate în principal de vârsta la deces. Analiza trăsăturilor dentare non-metrice a fost realizată utilizând sistemul ASUDAS. Au fost identificate caracteristici precum cuspidul lui Carabelli, protostilidul și diverse modele cuspidale și de șanțuri.

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În anul 2022, Agenția Națională Arheologică a efectuat săpături arheologice preventive ale sitului Burlăceni tumulul 10, din r-nul Cahul, situat pe traseul proiectului de construire a liniei electrice aeriene de transport al energiei electrice Vulcănești-Chișinău. Un rezumat al cercetării acestui tumul a fost prezentat la *Sesiunea Națională de Rapoarte arheologice, Campania 2022*, din 16 mai 2023 [Popovici *et al.* 2023a, 24-26]. De asemenea, mormintele medievale nr. 1 și 11 au fost reflectate într-un studiu monografic dedicat mormintelor medievale și premoderne din sudul Moldovei [Popovici *et al.* 2023b, 18].

Tumulul se afla la 2,8 km nord-nord-est de extremitatea nordică a localității, pe terasa superioară a malului drept al râului Salcia Mare, în zona care figurează pe hărțile topografice din a doua jumătate a sec. XX cu toponimul *Clun* (fig. 1). Diametrul tumulului constituia cca 40 m, având o înălțime de 0,7 m. Situl se evidențiază pe suprafața solului printr-o pată de culoare brun-deschisă, care contrasta cu fundalul solului cenușiu-închis al terenului din preajmă.

Cercetarea tumulului s-a executat cu utilizarea tehnicii de buldo-excavare, prin trasarea și excavarea a patru secțiuni orientate pe direcția nord-sud, având câte 40 m lungime. Prin două secțiuni late de 14 m au fost excavate sectoarele de est și vest ale tumulului. Zona centrală a fost excavată prin alte două secțiuni, late de 5,5 m, despărțite de un martor stratigrafic lat de 1 m. Astfel, au fost obținute două profile stratigrafice în peretele ves-

tic al secțiunii estice și în peretele estic al secțiunii vestice. Al treilea profil stratigrafic a fost reprezentat de peretele estic al martorului stratigrafic care separa cele două secțiuni centrale. Distanța și adâncimea complexelor identificate s-au măsurat de la un reper (R0) amplasat în centrul tumulului. În urma cercetărilor au fost descoperite 17 morminte, o groapă probabil de cult, două șanțuri și două vetre (fig. 2).

Descrierea mormintelor

Mormântul 1 (turanic medieval). A fost identificat la 10 m sud-est de reperul central la adâncimea 1 m (fig. 3,1). Groapa mormântului de formă ovală alungită a fost orientată pe axa nord-est – sud-vest. Umplutura gropii consta din sol cenușiu. Dimensiuni: 1,7×0,6 m, adâncimea de la nivelul depistării 0,12 m.

Defunctul se afla în poziție întinsă pe spate, orientat cu craniul spre sud-vest. Măinile au fost întinse de-a lungul corpului, picioarele – drepte.

Inventar. Deasupra vertebrelor cervicale se afla un nasture confecționat probabil din bronz (fig. 3,2). Piesa a fost realizată prin turnare, are formă globulară, ușor turtită, cu o verigă lipită la un pol. Dimensiuni: diametrul 0,8 cm, înălțimea totală 1,2 cm, diametrul orificiului verigii 0,3 cm.

Date paleoantropologice. Mormântul a conținut resturi osteologice bine conservate care au aparținut unei femei cu vârsta biologică la deces de circa 20-25 de ani (adult tânăr). Scheletul este reprezentat atât prin fragmente craniene, cât și postcraniene. Vârsta

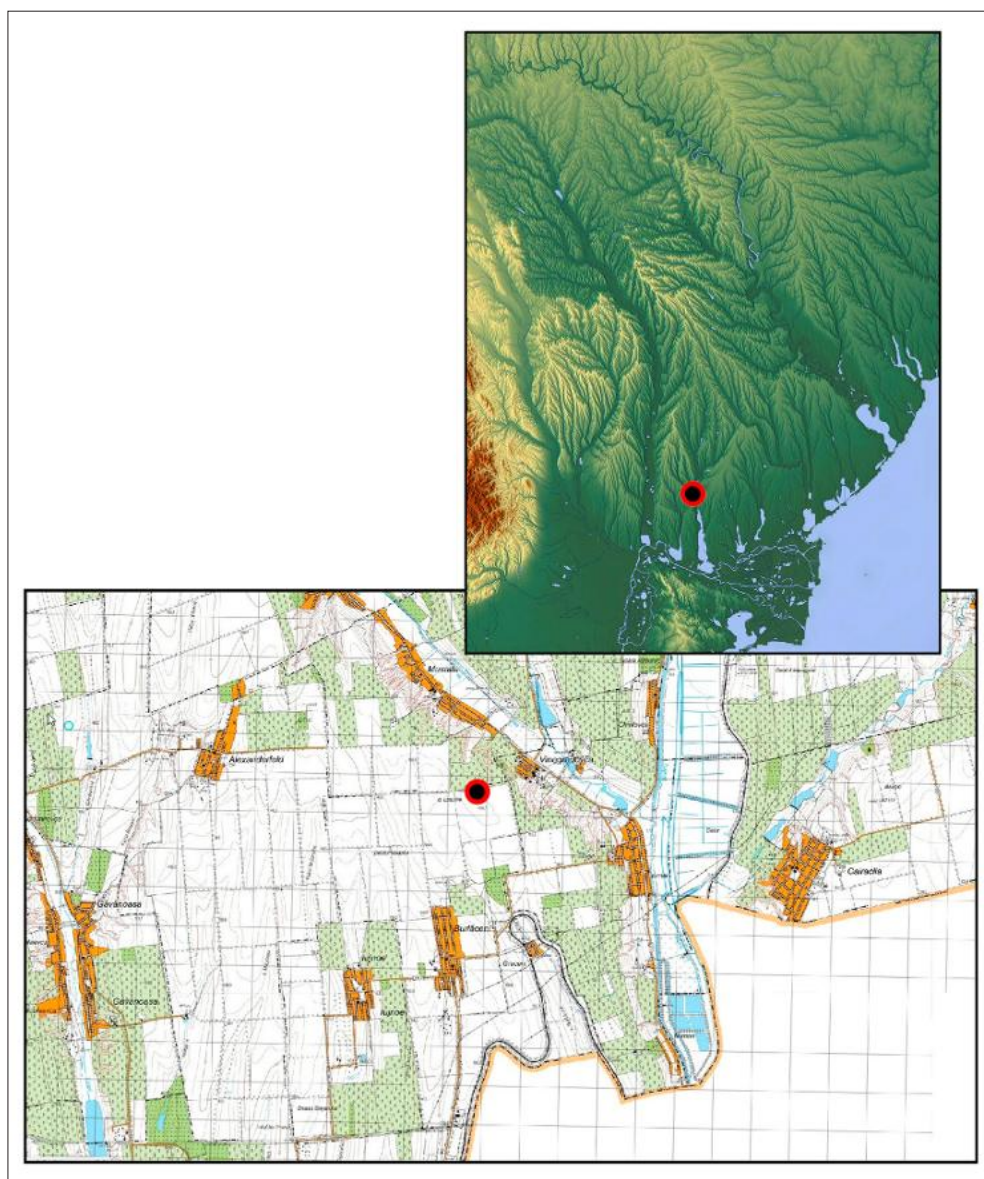


Fig. 1. Burlăceni, tumulul 10. Amplasarea sitului.

Fig. 1. Burlăceni, barrow 10. Location of the site.

subiectului a fost stabilită pe baza abraziunii dentare și a sinostozării suturilor craniene. Sexul a fost estimat pe baza caracterelor morfoscopice observate la nivelul oaselor craniului și bazinului, care prezintă trăsături tipic feminine. Indicele de robusticitate al mandibulei este moderat (41 unități de index) iar uzura dentară este redusă. Statura subiectului a fost stabilită ca supramijlocie, măsurând 159,12 cm. Această estimare a fost realizată pe baza lungimii mai multor oase: radius, cubitus, femur și tibie. La nivelul oaselor postcraniene, a fost semnalată sacralizarea parțială a ultimei vertebre lombare (L5). Aceasta re-

prezintă o anomalie în care ultima vertebră lombară este parțial sau total fuzionată cu osul sacrum.

Mormântul 2 (*cultura Iamnaia*). A fost identificat la 9 m vest-nord-vest de reperul central la adâncimea 1,08 m (fig. 3,4). Groapa mormântului de formă dreptunghiulară a fost orientată pe axa nord-nord-est – sud-sud-vest. Umplutura gropii mormântului consta din sol brun închis în amestec cu concreții argiloase. Din straturile superioare a umpluturii mormântului provine o piesă din fier, probabil un cuțit (fig. 9,2). Dimensiuni: lungime 10,2 cm, lățimea lamei 2 cm, lățimea mâ-

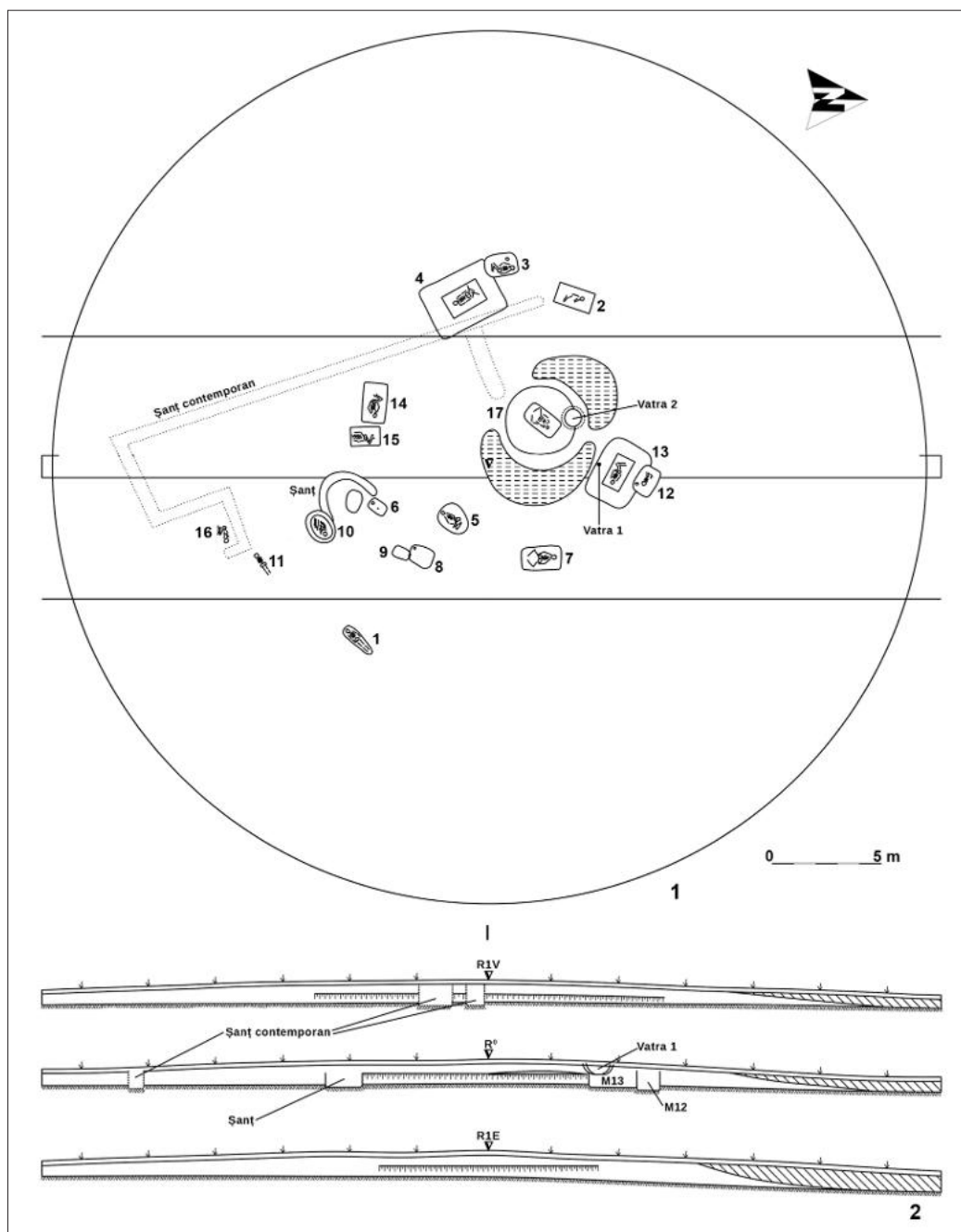


Fig. 2. Burlăceni, tumulul 10. 1 – planul general și profilele tumulului.

Fig. 2. Burlăceni, barrow 10. 1 – general plan and profiles of the barrow.

nerului 1,5 cm. Piesa respectivă nu poate fi pusă în legătură cu atribuirea cultural-cronologică a complexului, fiind adusă aici probabil de animalele rozătoare. La nivelul depistării mormântului, lângă peretele estic se aflau urme ale unei bârne de lemn de la acoperământul camerei funerare. Dimensiunile gropii: 1,45×0,84 m, adâncimea de la nivelul depistării 1,20 m.

Starea de conservare a scheletului este una precară. Însă luând în considerație oasele păstrate *in situ*, putem presupune că defunctul a fost depus în poziție chircită pe spate cu o ușoară înclinare spre partea stângă. Picioarele îndoite inițial din genunchi în sus, au căzut spre stânga. Oasele defunctului purtau urme de ocră de nuanță vișinie. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Date paleoantropologice. Din acest mormânt au fost recuperate resturi osteologice precar conservate care au aparținut unui bărbat cu vârsta biologică la deces de circa 30-35 de ani (adult mijlociu). Estimarea vârstei biologice la deces, s-a bazat pe caracteristicile dentare și gradul de închidere a suturilor craniene, iar pe baza trăsăturilor morfologice craniene s-a putut stabili sexul antropologic al acestui subiect. Oasele craniene prezintă exfoliere și striuri, posibil datorită unui sol acid. La nivelul oaselor lungi, se observă prezența de sol pietrificat, iar pe diafiza femurului stâng sunt vizibile striuri. De la nivel dentar sunt prezenți doar câțiva dinți izolați care prezintă gradul II de abraziune.

Mormântul 3 (*cultura Mnogovalikovaia*). A fost identificat în sectorul vestic al tumulului la 9 m vest de reperul central la adâncimea de 1,05 m (fig. 3,3). Groapa de formă dreptunghiulară avea colțurile puternic rotunjite și a fost orientată pe axa nord-sud. Dimensiuni: 1,37×0,95 m, adâncimea de la nivelul depistării 0,3 m. Umplutura consta din sol granulat de culoare brună închisă cu mici fragmente de lemn.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre nord. Picioarele îndoite din genunchi spre dreapta. Mâinile au fost întinse de-a lungul corpului.

Inventar. La egală distanță între peretele vestic și humerusul stâng al scheletului se afla un vas ceramic. Recipientul are forma unui borcan și a fost lucrat din pastă de lut în amestec cu cioburi pisate, arderea fiind incompletă și neuniformă. Culoarea suprafeței vasului variază de la cenușiu închis la brun-deschis. Dimensiuni: înălțime 9 cm, diametrul buzei 10 cm, diametrul fundului 7 cm (fig. 3,5).

Date paleoantropologice. Scheletul (incomplet și fragmentat), descoperit în mormântul 3 a aparținut unui bărbat cu o vârstă estimată la deces între 50-55 de ani (adult bătrân). Estimarea vârstei la deces s-a bazat pe gradul de abraziune a dentiției și sinostozarea suturilor craniene iar sexul masculin a fost determinat pe baza caracteristicilor morfologice de la nivelul craniului și ale bazinului. Uzura dentară este accentuată (gradul III→IV).

Mormântul 4 (*cultura Iamnaia*). A fost identificat în sectorul vestic al tumulului la 6,8 m vest-sud-vest de reperul central, la adâncimea de 1 m (fig. 4,1). Groapa de formă dreptunghiulară

era prevăzută în vechime cu treaptă, fiind orientată pe axa nord-nord-vest – sud-sud-est. Treapta a fost surprinsă doar parțial în partea sa inferioară. Dimensiunile treptei: 2,50×1,37 m, adâncimea de la nivelul depistării 0,1 m. Dimensiunile camerei funerare: 1,45×0,95 m, adâncimea de la nivelul treptei 1,05 m. Umplutura consta din sol de culoare brună închisă în amestec cu sol argilos.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre sud-sud-est. Picioarele îndoite din genunchi au căzut spre stânga. Mâinile au fost întinse de-a lungul corpului. Oasele defunctului purtau urme de ocră de nuanță vișinie. Pe fundul gropii au fost observate urme de așternut vegetal.

Date paleoantropologice. Mormântul conținea scheletul robust (precar conservat și incomplet) al unui subiect masculin, cu o vârstă de circa 50 de ani (adult bătrân). Dentiția este erodată (gradul III) și indicele de robusticitate al mandibulei este mic (32 unități de index). Vârsta la deces a fost estimată prin analiza dentiției și a suturilor craniene. Sexul antropologic a fost determinat ca fiind masculin, pe baza caracteristicilor morfologice craniene și ale bazinului. Statura nu a putut fi determinată din cauza stării fragmentare a oaselor. La nivelul oaselor membrelor inferioare au fost semnalate inserții musculare accentuate.

Mormântul 5 (*cultura Iamnaia*). A fost identificat în sectorul central al tumulului la 2,3 m est-sud-est de reperul central la adâncimea de 1,3 m (fig. 4,1). Groapa de formă trapezoidală neregulată având colțurile puternic rotunjite a fost orientată pe axa nord-est – sud-vest. Dimensiuni: 1,47×1,24 m, adâncimea de la nivelul depistării 0,1 m. Umplutura consta din sol granulat de culoare cenușie.

Defunctul a fost depus în poziție chircită pe spate cu înclinare pe partea stângă, orientat cu craniul spre sud-vest. Picioarele îndoite din genunchi spre stânga. Mâna dreaptă a fost întinsă, mâna stângă îndoită din cot depusă pe bazin. Oasele defunctului purtau urme de ocră de nuanță vișinie. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Inventar. Fragment de silex se afla la 10 cm distanță de humerusului drept. Piesa reprezintă o așchie de silex de culoare brună deschisă. Dimensiuni: lungime 2,3 cm, lățime 1,6 cm, grosime 0,8 cm (fig. 4,2).

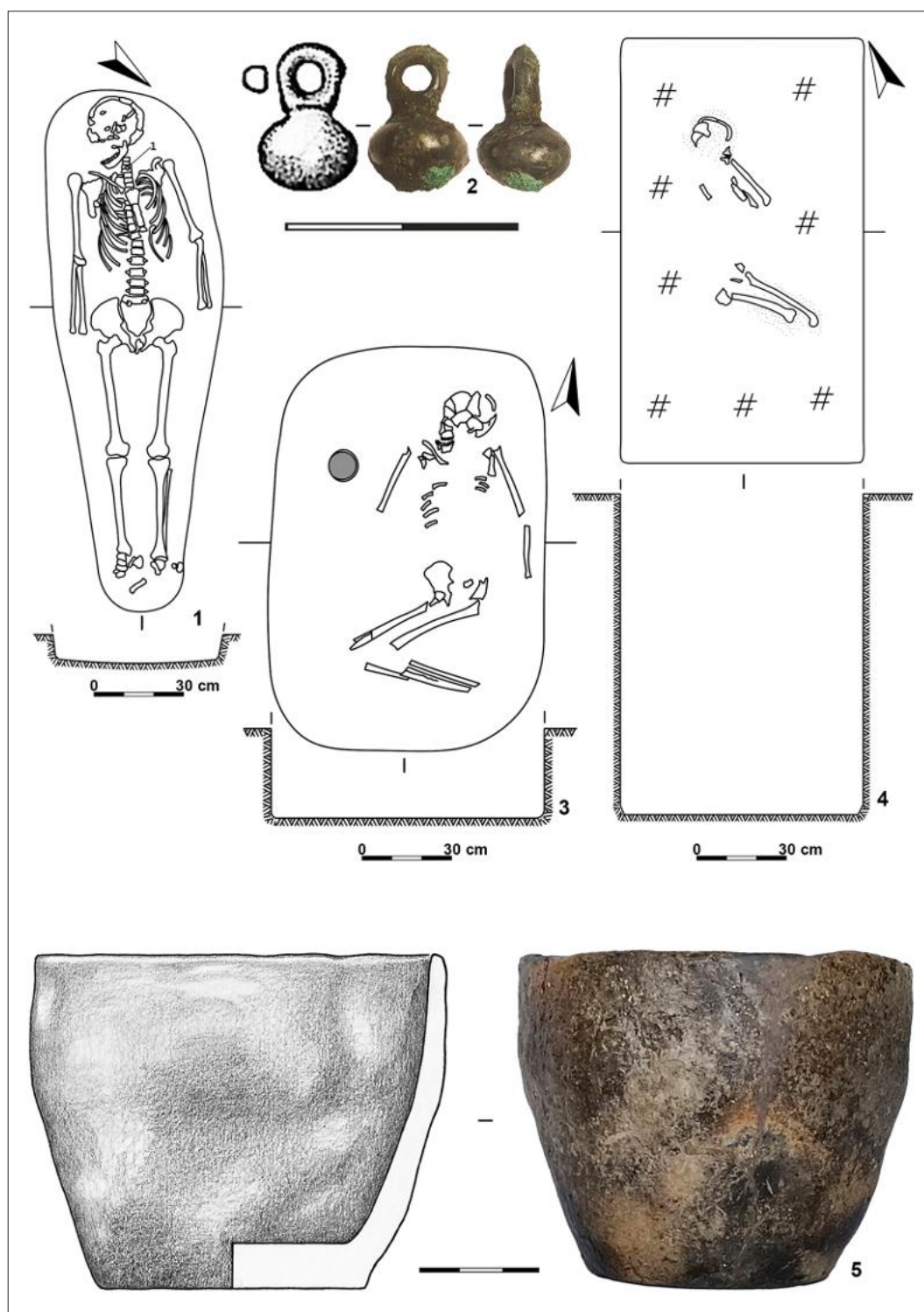


Fig. 3. Burlăceni, tumulul 10. 1-2 – mormântul 1; 3, 5 – mormântul 3; 4 – mormântul 2.

Fig. 3. Burlăceni, barrow 10. 1-2 – grave 1; 3, 5 – grave 3; 4 – grave 2.

Date paleoantropologice. Scheletul, incomplet și precar conservat, a aparținut unei femei, cu o vârstă la deces estimată la apro-

ximativ 35-40 de ani (adult mijlociu). Vârsta a fost estimată pe baza uzurii dentiției și a sinostozării suturilor craniene. Sexul antropologic

a fost determinat ca fiind feminin, prin analiza detaliilor morfologice ale oaselor craniene.

Robustitatea mandibulei este mică cu o valoare de 37,04 u.i. (unități de index), iar dentiția prezintă o ușoară abraziie (gradul II). Statura nu a putut fi determinată din cauza stării fragmentare a oaselor. În ceea ce privește evaluarea patologică, s-a identificat hipoplazia emailului dentar la nivelul caninului (C) și premolarului 1 superior dreapta (P1).

Mormântul 6 (*cultura Sabatinovka*). A fost identificat la 5,8 m sud-sud-est de reperul central la adâncimea de 1,15 m (fig. 4,3). Groapa de formă dreptunghiulară neregulată având colțurile puternic rotunjite a fost orientată pe axa nord-nord-est – sud-sud-vest. Peretele vestic – ușor arcuit. Dimensiuni: 0,9×0,6 m, adâncimea de la nivelul depistării 0,2 m. Umplutura consta din sol de culoare brună în amestec cu argilă gălbuie.

Scheletul lipsea. Pe fundul gropii se afla un fragment de cărbune.

Inventar. Alături de peretele sudic al gropii se afla un vas ceramic. Recipientul are formă tronconică de borcan și a fost lucrat din pastă de lut în amestec cu cioburi pisate, arderea fiind incompletă și neuniformă. Culoarea suprafeței vasului variază de la gălbui spre cenușiu închis. Culoarea suprafeței interioare – cenușie închisă. Peretele în ruptură este cenușiu-închis. Trecerea dintre gât și corpul vasului este marcată printr-un prag. Pe centrul gâtului se află un brâu/bandă în relief, marcată printr-un șir de creștături verticale. Dimensiuni: înălțime 9,7 cm, diametrul buzei 13 cm, diametrul maxim al corpului 13,5 cm, diametrul fundului 7 cm (fig. 4,6).

În partea central-nordică a gropii se afla un recipient miniatural. Văsciorul are formă tronconică și a fost lucrat din pastă de lut în amestec cu nisip. Vasul are culoare brună deschisă, în ruptură – negru. Dimensiuni: înălțimea reconstituită 3,7 cm, diametrul reconstituit al buzei 4,9 cm, diametrul fundului 3,6 cm (fig. 4,5).

Mormântul 7 (*cultura Iamnaia*). Se afla la 4 m est-nord-est de reperul central la adâncimea de 1,2 m (fig. 5,1). Groapa de formă ușor trapezoidală a fost orientată pe axa nord – sud. Dimensiuni: 2×1,1 m, adâncimea de la nivelul depistării 0,48 m. Umplutura consta din sol de culoare brună închisă cu mici concreții argiloase. Din partea superioară a umpluturii mormântului provine un vârf de săgeată din bronz (fig. 9,4). Piesa are formă triunghiulară,

prevăzută cu trei aripioare și tub de înmănușare conic. Piesa respectivă nu poate fi pusă în legătură cu atribuirea cultural-cronologică a complexului, fiind adusă aici probabil de animalele rozătoare.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre nord. Picioarele îndoite inițial din genunchi în sus au căzut în formă de romb. Măinile defunctului au fost întinse de-a lungul corpului. Oasele defunctului purtau urme de ocră de nuanță vișinie. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Date paleoantropologice. Mormântul conținea resturile scheletice (precum conservate din punct de vedere structural și foarte fragmentare) ale unei femei cu o vârstă estimată la deces de aproximativ 40-45 de ani (adult mijlociu). Sunt prezente elemente anatomice din aproape toate regiunile scheletului. Estimarea vârstei la deces a fost realizată luând în considerare gradul de închidere a suturilor craniene, morfologia simfizei pubiene, precum și abraziunea dentară.

Sexul antropologic feminin a fost determinat pe baza caracterelor morfologice de la nivelul oaselor craniene și pe baza oaselor coxale. Din cauza stării fragmentare a oaselor statura nu a putut fi determinată. Dentiția, reprezentată doar de câțiva dinți izolați, este erodată (gradul II→III). În ceea ce privește evaluarea paleopatologică, s-a semnalat sutura metopică la nivelul osului frontal.

Mormântul 8 (*epoca bronzului*). A fost identificat la 5 m est-sud-est de reperul central la adâncimea de 1,3 m (fig. 5,2). Groapa de formă dreptunghiulară avea colțurile puternic rotunjite și era orientată pe axa nord-nord-est – sud-sud-vest. Dimensiuni: 1,1×0,9 m, adâncimea de la nivelul depistării 0,4 m. Umplutura consta din sol de culoare brună în amestec cu mici concreții argiloase.

Scheletul lipsea. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Inventar. Fragment ceramic din peretele unui vas lucrat cu mâna din pastă de lut în amestec cu cioburi pisate. Culoarea suprafeței exterioare al fragmentului ceramic variază de la cenușiu la brun deschis. Suprafața interioară de culoare brună deschisă (fig. 5,5).

Mormântul 9 (*epoca bronzului*). A fost identificat la 5,8 m sud-est de reperul central la adâncimea de 1,3 m (fig. 5,3). Complexul în cauză a suprapus parțial partea sudică a mormântului 8. Groapa de formă dreptunghiulară avea colțurile puternic ro-

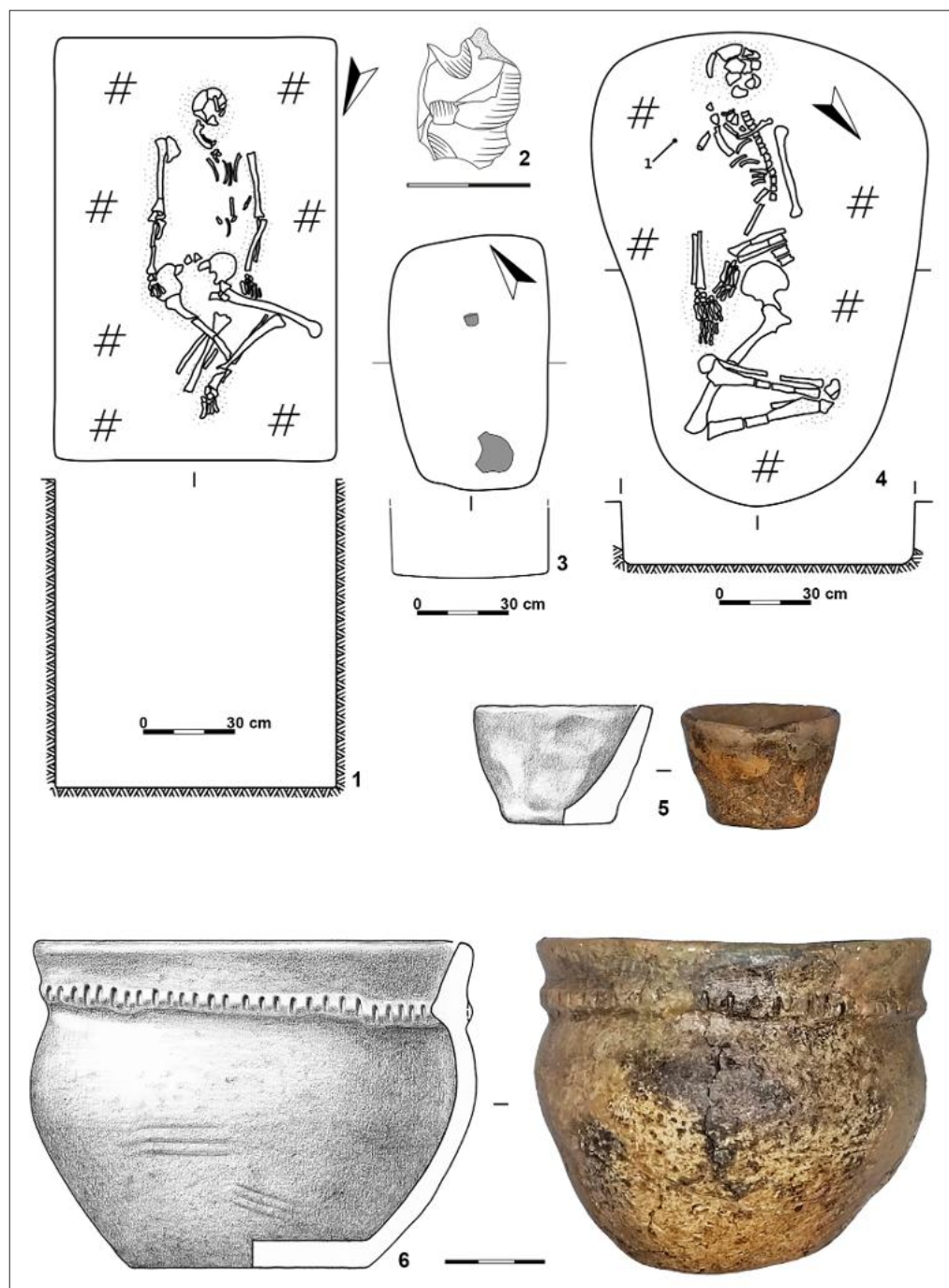


Fig. 4. Burlăceni, tumulul 10. 1 – mormântul 4; 2, 4 – mormântul 5; 3, 5-6 – mormântul 6.

Fig. 4. Burlăceni, barrow 10. 1 – grave 4; 2, 4 – grave 5; 3, 5-6 – grave 6.

tunjite și era orientată pe axa nord-nord-est – sud-sud-vest. Dimensiuni: 0,8×0,5 m, adâncimea de la nivelul depistării 0,07 m. Umplutura consta din sol de culoare brună în amestec cu sol argilos gălbui.

Din scheletul unui copil s-au păstrat doar câteva fragmente de craniu și dinți de lapte. Oasele

se aflau în partea nordică a gropii. Putem presupune că defunctul a fost orientat cu craniul spre nord-nord-est. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Date paleoantropologice. Mormântul conține resturile unui copil de aproximativ 3 ani

(*infans I*), ceea ce reiese din analiza gradului de erupție a dinților. Din acest schelet au fost păstrate doar cinci fragmente din neurocraniu (oase parietale), doi dinți din dentiția temporară (un incisiv și un canin) și trei muguri neerupți – molari definitivi.

Mormântul 10 (*cultura Mnogovalikovaia*). A fost identificat la 8 m est-sud-est de reperul central la adâncimea de 1,35 m (fig. 5,4). Groapa de formă ovală prevăzută cu prag a fost orientată pe axa nord-est – sud-vest. Dimensiunile gropii în partea superioară: 1,5×1,25 m, adâncimea până la

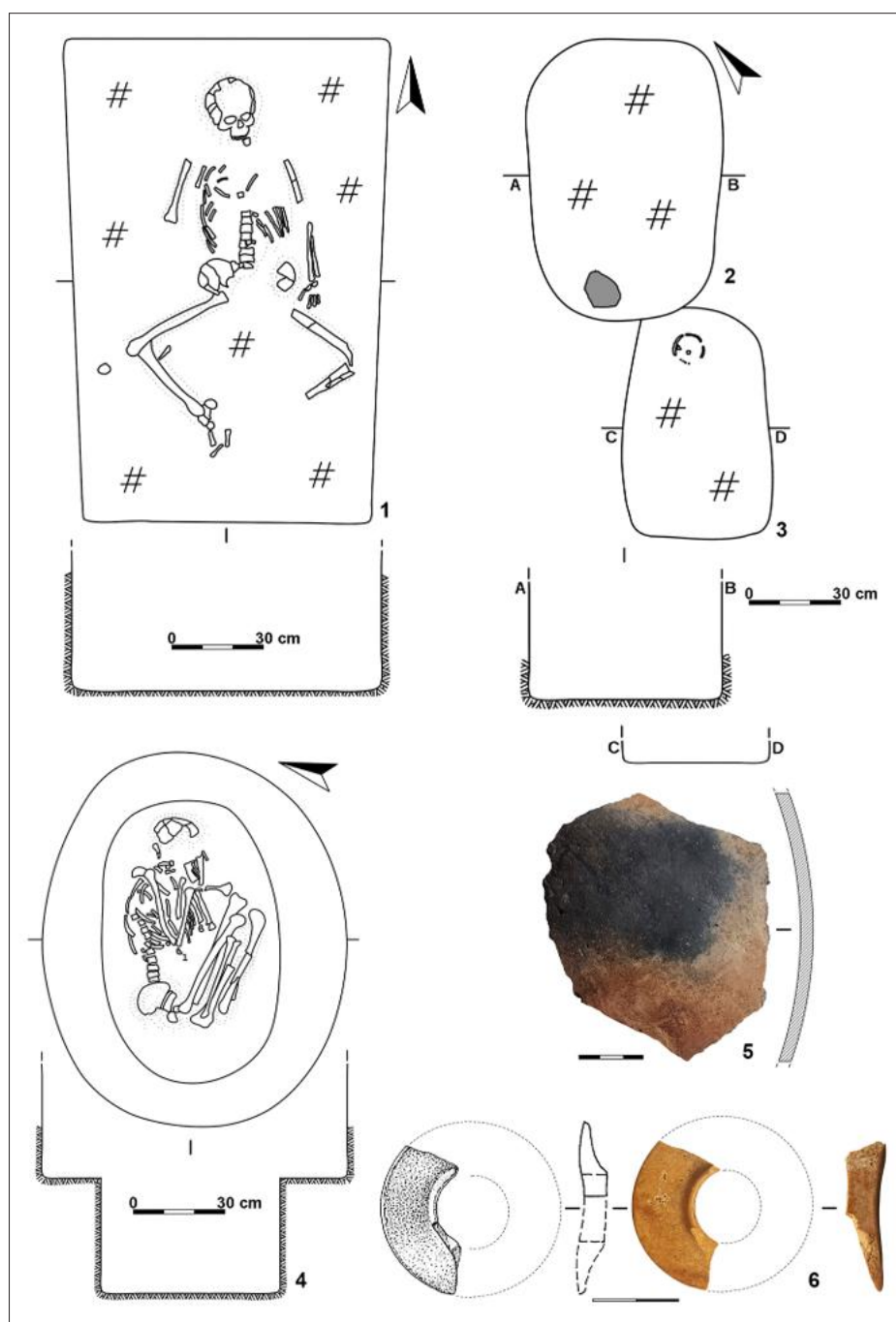


Fig. 5. Burlăceni, tumulul 10. 1 – mormântul 7; 2, 5 – mormântul 8; 3 – mormântul 9; 4, 6 – mormântul 10.

Fig. 5. Burlăceni, barrow 10. 1 – grave 7; 2, 5 – grave 8; 3 – grave 9; 4, 6 – grave 10.

nivelul treptei 0,3 m. Treapta are o lățime de 0,2 m. Dimensiunile camerei funerare: 1,3×1,05 m, adâncimea de la nivelul treptei 0,4 m. Umplutura consta din sol de culoare brună în amestec cu sol gălbui argilos. În partea superioară a complexului, în zona nord-nord-vestică, groapa a fost suprapusă de un șanț mai târziu în raport cu mormântul.

Defunctul a fost depus în poziție chir-cită pe partea stângă, orientat cu craniul spre nord-est. Măinile defunctului, îndoite din coate, au fost aduse spre craniu. Craniul, bazinul și membrele inferioare ale defunctului purtau urme de ocră de nuanță vișinie închisă.

În mormânt au fost găsite și trei oase de animale.

Inventar. Cataramă de os în stare fragmentară. Piesa se afla alăturat cotului mâinii drepte a defunctului pe fundul gropii. Piesa avea formă discoidală, cu o față ușor arcuită și una tronconică; orificiul central prevăzut cu gardină. Diametrul reconstituit al piesei 4,2 cm, diametrul orificiului 1,4 cm. Grosimea gardinii orificiului central 0,6 cm (fig. 5,6).

Date paleoantropologice. Resturile osteologice descoperite în mormântul 10 provin de la un bărbat cu vârsta de aproximativ 40-45 de ani (adult mijlociu). Scheletul (incomplet și foarte fragmentat) este foarte robust și prezintă inserții musculare accentuate la nivelul oaselor lungi. Femurele sunt aplatizate în proximitatea epifizelor superioare.

Vârsta biologică la deces a fost estimată pe baza abraziunii dentare și gradul de sinostozare a suturilor craniene. Sexul antropologic masculin a fost determinat pe baza aspectelor morfoscopice de la nivelul craniului și a robusteții scheletului postcranian. Mandibula este gracilă (36,12 unități de index) iar dentiția este erodată (gradul II→III). Statura se încadrează în categoria mare (177 cm). În ceea ce privește aspectele patologice, s-au observat două vertebre lombare sudate, cunoscute și sub denumirea de vertebre "block".

Mormântul 11 (*turanic medieval*). A fost identificat la 11,3 m est-sud-est de reperul central la adâncimea de 1,1 m. Conturul gropii nu a fost surprins (fig. 6,1).

Defunctul se afla în poziție întinsă pe spate pe partea dreaptă, orientat cu craniul spre sud-vest. Măinile au fost ușor îndoite din coate.

Date paleoantropologice. Scheletul fragmentat și incomplet a aparținut unei femei cu vârsta la

deces de 60-65 de ani (adult bătrân). Vârsta a fost estimată după abraziunea dentară, sinostozarea suturilor craniene și morfologia simfizei pubiene. Caracterele morfologice ale craniului și bazinului au indicat sexul feminin. Mandibula este gracilă (34 unități de index) iar dentiția este erodată (gradul IV). Statura mijlocie (153,37 cm) a fost stabilită după lungimea mai multor oase lungi (femur, tibie, peroneu, humerus, radius și ulnă). Analiza patologică a relevat semne de osteoartrită la nivelul oaselor coxale, clavicule, majoritatea vertebrelor, stern, epifiza superioară a humerusului drept și epifiza femurului drept. De asemenea, a fost identificată și o anomalie: sacralizarea ultimei vertebre lombare (L5), indicând sudarea acesteia la nivelul osului sacrum.

Mormântul 12 (*cultura Iamnaia, etapa târzie*). A fost identificat la 7 m nord de reperul central la adâncimea de 1 m (fig. 6,2). Groapa de formă dreptunghiulară a fost orientată pe axa vest-nord-vest – est-sud-est. Dimensiuni: 1,4×0,8 m, adâncimea de la nivelul depistării 0,4 m. Umplutura consta din sol compact de culoare cenușie în amestec cu sol gălbui argilos.

Scheletul unui copil se afla în poziție chir-cită pe spate orientat cu craniul spre est-sud-est. Picioarele îndoite din genunchi spre stânga. Craniul, bazinul și membrele inferioare ale defunctului purtau urme de ocră de nuanță vișinie.

Inventar. În colțul sudic al gropii se afla un vas ceramic. Recipientul a fost lucrat cu mâna din pastă de lut în amestec cu cioburi pisate. Arderea vasului era neuniformă și incompletă. Culoarea suprafeței vasului variază de la cenușiu închis la cărămiziu, în ruptură – negru. Dimensiuni: înălțime 13 cm, diametrul buzei 11 cm, diametrul maxim al corpului 12,5 cm, diametrul fundului 7 cm (fig. 6,4).

Date paleoantropologice. Scheletul precar conservat, descoperit în acest mormânt a aparținut unui copil cu vârsta de aproximativ 7 ani (*infans I*). Vârsta la deces a fost estimată pe baza gradului de erupție a dinților temporari și a celor definitivi.

Mormântul 13 (*cultura Iamnaia*). A fost identificat la 5 m nord de reperul central la adâncimea de 1 m (fig. 6,3). Groapa mormântului prevăzută cu treaptă a fost orientată pe axa vest-nord-vest – est-sud-est. Conturul treptei a fost surprins doar parțial în partea sa estică având formă ovală în plan și dimensiunile reconstituite de: 2,53×1,55 m, adâncimea până la nivelul treptei 0,2 m. Latura

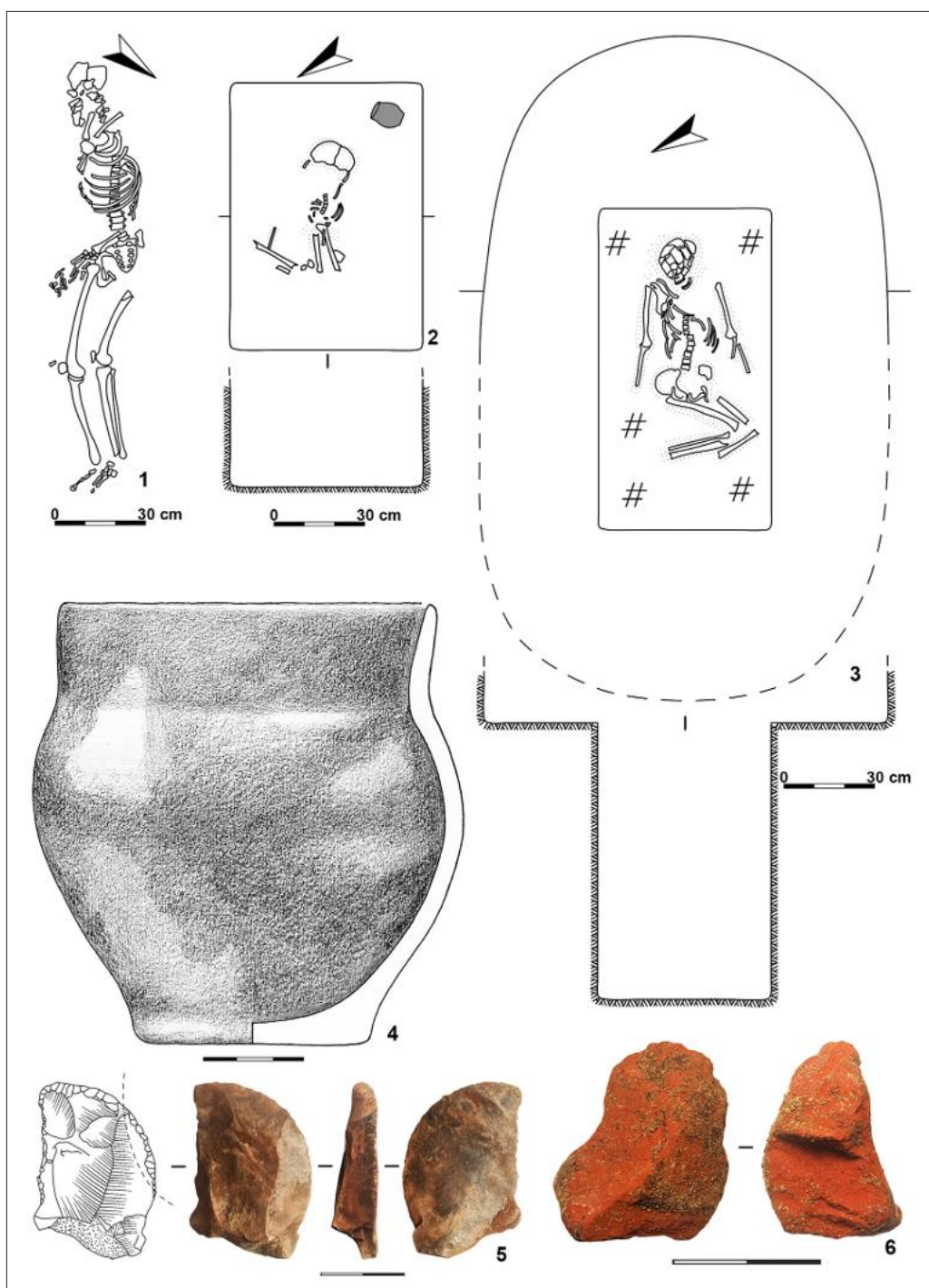


Fig. 6. Burlăceni, tumulul 10. 1 – mormântul 11; 2, 4 – mormântul 12; 3, 5-6 – mormântul 13.

Fig. 6. Burlăceni, barrow 10. 1 – grave 11; 2, 4 – grave 12; 3, 5-6 – grave 13.

nordică și sudică a treptei avea lățimea de 0,45 m, laturile estică și vestică – 0,65 m. Dimensiunile camerei funerare: 1,8×0,9 m, adâncimea de la nivelul treptei 1,05 m. Umplutura consta din sol de culoare brună închisă în amestec cu granule de argilă.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre est-sud-est. Picioarele îndoite inițial din genunchi în sus au căzut spre stânga. Măinile defunctului au fost întinse de-a lungul corpului. Oasele defunctului purtau

urme de ocră de nuanță vișinie. Un bulgăre de ocră de nuanță vișinie se afla între bazin și radiusul mâinii drepte având dimensiunile: 2,8×1,6 cm (fig. 6,5). Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Inventar. Piesă de silex se afla între bazin și radiusul mâinii drepte alăturat bulgărilor de ocră. Piesa poartă urme de ocră de nuanță vișinie. Dimensiuni: lungime 4 cm, lățime 2,6 cm, grosime 1 cm (fig. 6,5).

Date paleoantropologice. Acest schelet relativ bine conservat, dar incomplet, a aparținut unui bărbat, cu vârsta biologică la deces cuprinsă între 20-25 de ani (adult tânăr). Vârsta la deces a fost estimată pe baza erupției dentiției definitive (în special a molarului 3), gradul de abraziere a dentiției, sinostozării suturilor craniene și a morfologiei simfiziei pubiene. Sexul antropologic s-a determinat pe baza caracterelor morfoscopice de la nivelul craniului și a oaselor coxale. Dentiția subiectului prezintă abraziere redusă (gradul I), iar indicele de robusticitate al mandibulei este foarte mare (47,00 unități de index). Statura subiectului era supramijlocie (167,13 cm). Sub aspect patologic, s-au observat câte un molar temporar alături de molarii definitivi pe ambele maxilare și hipoplazia emailului dentar la nivelul caninilor inferiori (dinți izolați).

Mormântul 14 (*cultura Iamnaia*). A fost descoperit la 4,6 m sud-sud-vest de reperul central la adâncimea de 1,3 m (fig. 7,1). Groapa mormântului de formă dreptunghiulară a fost orientată pe axa est – vest. Dimensiunile camerei funerare: 1,9×1,2 m, adâncimea de la nivelul surprinderii 0,55 m. Umplutura consta din sol de culoare brună închisă în amestec cu granule de argilă și lemn de la acoperământul gropii. Acoperământul consta din cca cinci bârne de lemn dispuse longitudinal, una dintre care a fost surprinsă pe fundul gropii alăturat scheletului.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre est. Picioarele îndoite inițial din genunchi în sus au căzut spre dreapta. Măinile defunctului au fost ușor îndoite în coate. Oasele defunctului purtau urme de ocră de nuanță vișinie. Pe fundul gropii au fost surprinse resturile unui așternut de origine vegetală.

Date paleoantropologice. Scheletul, deși este incomplet și fragmentat, se afla într-o stare bună de conservare. Se estimează că aparținea unei fe-

mei, cu vârsta între 25 și 30 de ani (adult tânăr). Vârsta biologică la deces a fost estimată pe baza caracteristicilor dentiției (în special gradul de erodare al molarilor) și a gradului de sinostozare a suturilor craniene. Sexul antropologic feminin a fost determinat pe baza caracterelor morfoscopice identificate la nivelul craniului. Dentiția prezintă gradul I de abraziere, iar indicele de robusticitate al mandibulei este moderat (38 unități de index). În ceea ce privește patologiile, anomaliile și caracterelor non-metrice craniene, s-a observat prezența suturii metopice la nivelul osului frontal.

Mormântul 15 (*cultura Iamnaia*). A fost descoperit la 4,5 m sud de reperul central la adâncimea de 1,3 m (fig. 7,2). Groapa mormântului de formă dreptunghiulară a fost orientată pe axa nord – sud. Dimensiunile camerei funerare: 1,35×0,85 m, adâncimea de la nivelul surprinderii 0,10 m. Umplutura consta din sol de culoare brună închisă în amestec cu granule de argilă.

Defunctul a fost depus în poziție chircită pe spate, orientat spre sud. Craniul lipsea. Picioarele îndoite inițial din genunchi în sus au căzut spre dreapta. Mâna stângă îndoită ușor în cot a fost adusă spre bazin, mâna dreapta – întinsă de-a lungul corpului. Oasele defunctului purtau urme de ocră de nuanță vișinie. O pată de ocră având aceeași nuanță a fost surprinsă pe suprafața bazei gropii alăturat humerusului drept. Pe fundul gropii au fost surprinse resturile unui așternut de origine vegetală.

Date paleoantropologice. Din cauza fragmentării și a insuficienței resturilor scheletice, nu a fost posibilă estimarea vârstei la deces, sexul antropologic și evaluarea staturii pentru acest subiect. Evaluarea patologică a relevat prezența unei anomalii la nivel dentar, și anume, hipoplazia emailului dentar pe caninul inferior drept (C).

Mormântul 16 (*cultura Mnogovalikovaia*). A fost identificat în sectorul sudic al tumulului la 13 m sud-sud-est de reperul central la adâncimea de 1,2 m (fig. 7,3). Conturul gropii mormântului nu a fost surprins.

Scheletul defunctului se afla în poziție chircită pe partea stângă, orientat cu craniul spre est-nord-est. Măinile îndoite din coate au fost aduse spre craniu.

Date paleoantropologice. Scheletul (incomplet și fragmentat) descoperit în mormântul 16, a aparținut unui bărbat cu vârsta între 40 respectiv

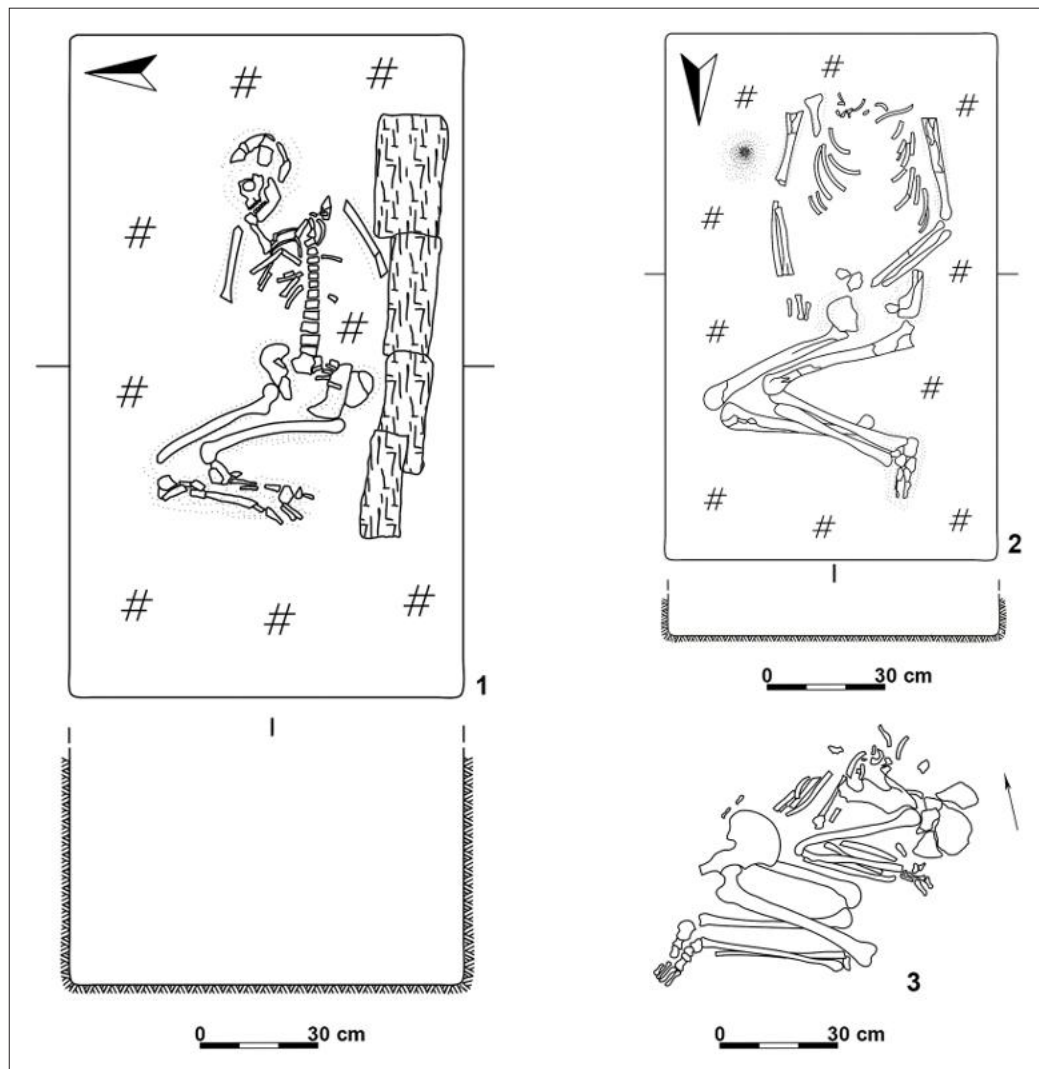


Fig. 7. Burlăceni, tumulul 10. 1 – mormântul 14; 2 – mormântul 15; 3 – mormântul 16.

Fig. 7. Burlăceni, barrow 10. 1 – grave 14; 2 – grave 15; 3 – grave 16.

45 de ani (adult mijlociu). Dentiția, erodată (gradul III), împreună cu gradul de sinostozare a suturilor craniene a permis estimarea vârstei la deces iar pe baza caracteristicilor morfologice craniene s-a stabilit sexul antropologic. Mandibula prezintă robusticitate mare (43 unități de index).

Oasele craniene și postcraniene prezintă striuri și au un aspect exfoliat probabil din cauza solului acid. Femurele sunt aplatizate în partea superioară, ușor curbate și prezintă inserții musculare accentuate la nivelul diafizelor, aceste particularități ar putea sugera practici ecvestre frecvente. Statura, foarte mare (182,33 cm), a fost stabilită bazându-se pe lungimea humerusului drept și a cubitusului drept.

Mormântul 17 (cultura Iamnaia, primar). A fost identificat la 2 m nord-nord-vest de reperul central la adâncimea de 1,3 m (fig. 8,1-3). Groapa mormântului a fost prevăzută cu treaptă. Conturul superior al complexului avea formă circulară în plan și dimensiunile de: 3,2×3,2 m, adâncimea de la nivelul surprinderii până la nivelul treptei 0,3 m. Latura vestică a treptei avea lățimea de 1 m, latura estică – 1,2 m, latura nordică – 0,5 m, latura sudică – 0,7 m. Camera funerară realizată de la nivelul treptei avea formă dreptunghiulară cu colțurile rotunjite și dimensiunile: 1,7×1 m, adâncimea de la nivelul treptei 1 m. Umplutura consta din sol de culoare brună-închisă în amestec cu sol negricios și gălbui argilos. Din umplutura gropii provin mai multe oase umane.

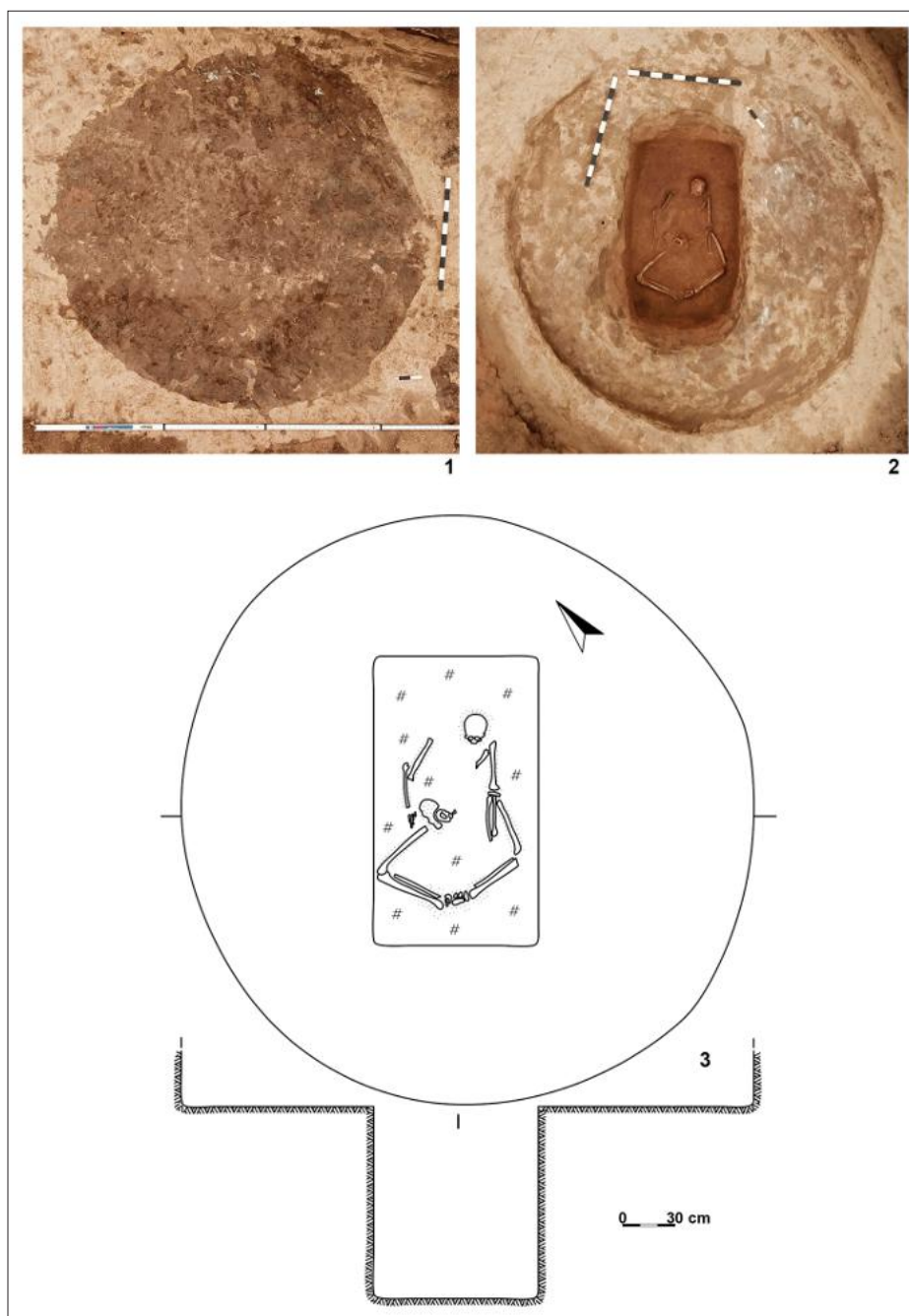


Fig. 8. Burlăceni, tumulul 10. 1-3 – mormântul 17.

Fig. 8. Burlăceni, barrow 10. 1-3 – grave 17.

Defunctul a fost depus în poziție chircită pe spate, orientat cu craniul spre nord-est. Picioarele îndoite inițial din genunchi în sus au căzut în formă de romb. Măinile defunctului au fost întinse de-a lungul corpului. Oasele defunctului purtau urme de ocru de nuanță vișinie. Pe fundul gropii se aflau resturile unui așternut de origine vegetală.

Date paleoantropologice. Scheletul a aparținut unei adolescente, cu vârsta estimată între 18 și 20 de ani. Evaluarea vârstei s-a bazat pe caracteristicile dentiției, gradul de sinostozare a suturilor craniene, morfologia simfizei pubiene și gradul de fuziune al epifizelor la nivelul diafizelor. Sexul antropologic feminin a fost estimat prin analiza

caracteristicilor morfoscopice ale craniului și bazi-nului. Statura se încadrează în categoria submijlocie (149,56 cm). Evaluarea patologică a evidențiat prezența unei excrescențe și a urmelor unei infecții la nivelul tibiei drepte.

Solul excavat din groapa mormântului. În apropierea mormântului 17, în procesul excavărilor au fost identificate două aglomerări de sol neomogen, cu precădere argilos, fiind în plan semicircular, dispuse spre nord-vest și est de mormânt. Partea estică a solului aruncat din groapă se observa inclusiv în pereții martorului stratigrafic central (fig. 2).

Alte complexe descoperite în suprafața excavată

Vatra nr. 1. A fost identificată la 5 m nord de reperul central (fig. 2). Complexul reprezintă o instalație de foc săpată de la nivelul actual de călcare, formată din cuptor, canal de acces și groapă cu cenușă/cărbune. În plan cuptorul avea formă circulară și albiată în profil. Partea nordică și sudică a pereților cuptorului era arsă la roșu pe o grosime de 10 cm. Umplutura camerei de ardere prezintă cenușă, cărbune și pietre de calcar arse. Dimensiuni: diametrul 1,2 m, adâncimea de la nivelul actual de călcare până la nivelul bazei cuptorului 0,8 m. La o distanță de 1,1 spre nord se afla o groapă circulară cu cenușă/cărbune având un diametru de cca 0,9 m ce corespundea cu cuptorul printr-un canal de acces. Lungimea totală a complexului – 3,2 m.

Vatra nr. 2. A fost identificată la 4 m nord-nord-vest de reperul central la 0,25 m adâncime (fig. 10,2-3). Complexul reprezintă o instalație de foc săpată de la nivelul actual de călcare, formată din cuptor și canal de acces. În plan, întregul complex fiind piriform alungit, orientat dinspre sud (camera de ardere) spre nord (canal de acces) având o lungime de 1,5 m (fig. 10,2). Cuptorul are în plan formă circulară, în partea superioară prezintă lipitură arsă la roșu groasă de 20 cm. În umplutura cuptorului pe lângă cenușă, cărbune și sol ars se aflau șapte cărămizi cu urme de mortar având dimensiunile 25×12×6 cm și cinci pietre de calcar (fig. 10,3). Dimensiunile cuptorului: 0,7×0,8 m, baza albiată fiind la 1,10 m. Spre nord de cuptor se afla groapa de acces umplută și ea cu cenușă și cărbune.

Ambele instalații de foc probabil au funcționat în a doua jumătate a sec. XIX.

Șanț. Se afla la 6 m sud de reperul central (fig. 10,1). Partea vestică a șanțului a fost documentată în profilul estic al martorului central. Anumite indicii stratigrafice despre o eventuală origine recentă a acestuia lipsesc. Cert este faptul că stratigrafic complexul poate fi urmărit doar de la nivelul antic de călcare, în partea sudică a profilului. Capătul sudic al șanțului însă, a suprapus peretele nordic al gropii mormântului nr. 10, aparținând culturii Mnogovalikovaia din perioada mijlocie a epocii bronzului. Deci, șanțul este mai târziu decât mormântul 10.

Complexul adâncit prezintă o amenajare semicirculară, având capetele deschise în formă de potcoavă spre nord-est. Pereții șanțului sunt drepecți, fundul ușor albiat, capetele rotunjite. Umplutura complexului a fost formată din sol cenușiu cu sporadice incluziuni argiloase. Dimensiuni: distanța dintre capetele șanțului este 2,1 m, distanța dintre capete și partea sud-vestică a șanțului 2,3 m, adâncimea de la nivelul depistării 0,35 m.

Groapă de cult?/cenotaf? Se afla la 6,5 m sud-sud-est de reperul central, în spațiul delimitat de șanțul semicircular descris mai sus (fig. 10,1). Conturul gropii complexului a fost sesizat odată cu răzuirea spațiului aferent șanțului semicircular. Complexul adâncit reprezintă o groapă dreptunghiulară având colțurile puternic rotunjite apropiindu-se de formă ovală, orientat pe axa vest-nord-vest – est-sud-est. Umplutura reprezenta sol brun deschis amestecat cu lut. Dimensiuni: 1×0,65 m, adâncimea de la nivelul depistării 0,35 m.

Nu este clară atribuirea culturală a complexului dat. Poziționarea sa în spațiul delimitat de șanț ar putea sugera posibilitatea contemporaneității acestora. Ambele complexe adâncite formează probabil o amenajare integră. Însă, compoziția umpluturii acestora este totuși diferită. Totodată, complexul dat se afla în preajma „cuiului” de morminte din perioada mijlocie și târzie a epocii bronzului nr. 6, 8-10, 16. Respectiv, nu este exclus că acesta ar putea reprezenta un mormânt de copil în care nu s-a păstrat oasele defunctului sau un cenotaf, contemporan cu mormintele din preajmă. Din cauza lipsei altor indicii, inclusiv stratigrafice, atribuirea culturală și cronologică a complexului dat rămâne incertă.

Șanț din perioada contemporană. În sectorul sudic și sud-vestic al mantalei tumulului a fost

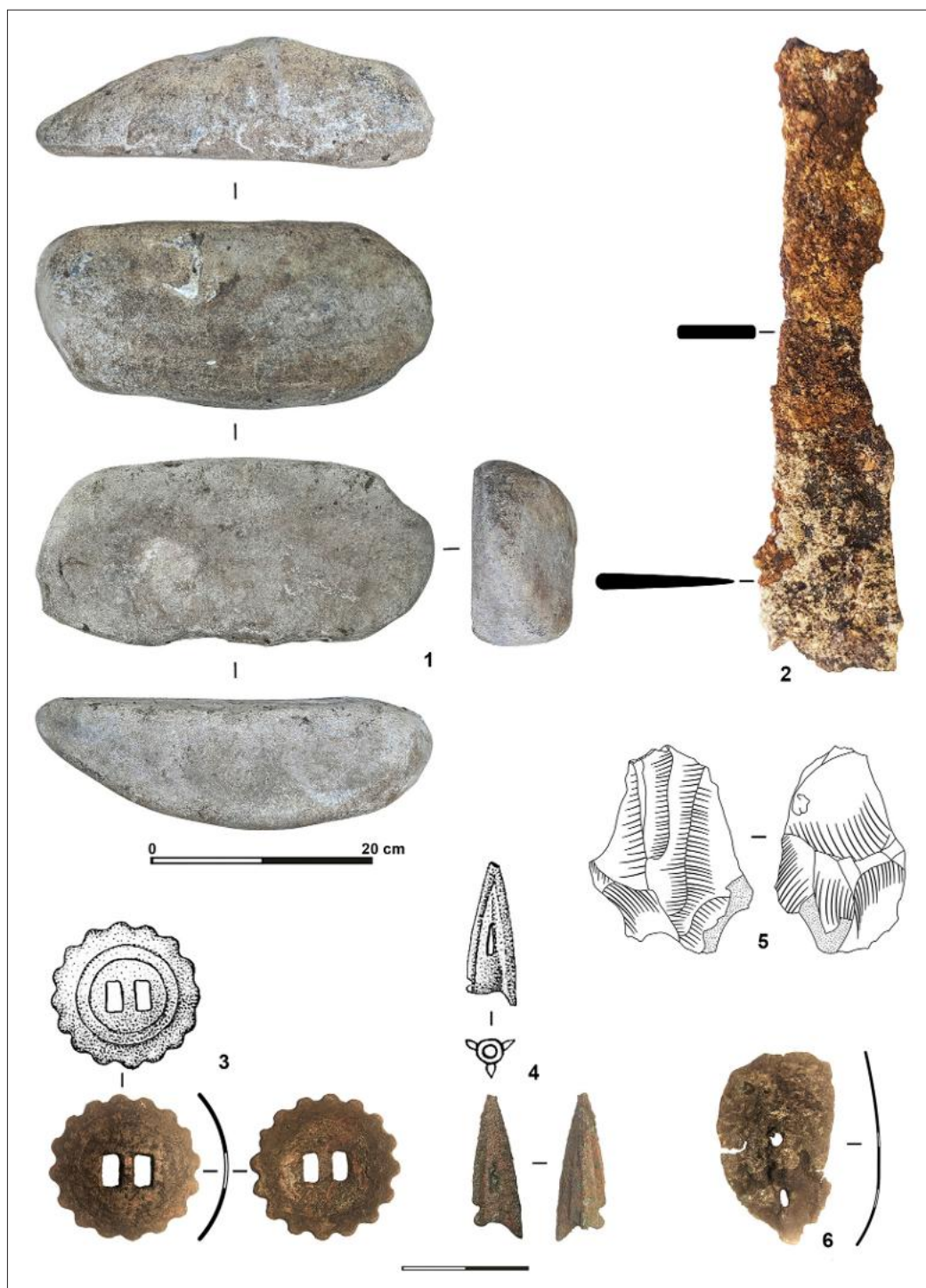


Fig. 9. Burlăceni, tumulul 10. 1-6 – piese descoperite în mantaua tumulului.

Fig. 9. Burlăceni, barrow 10. 1-6 – finds discovered in the barrow mantle.

identificată o amenajare adâncită formată de un șanț, săpat de la nivelul actual de călcare (fig. 2). În sectorul sud-vestic acesta prezintă în plan o linie dreaptă pe o lungime de 21 m trasat pe axa sud-

sud-est – nord-nord-vest. La marginea sudică, spre direcția est-nord-estică, șanțul căpăta formă unui zig-zag cu laturile de 4,5, 4, 3 și 1 m lungime. Lățimea șanțului – 0,5 m, adâncimea de la nivelul

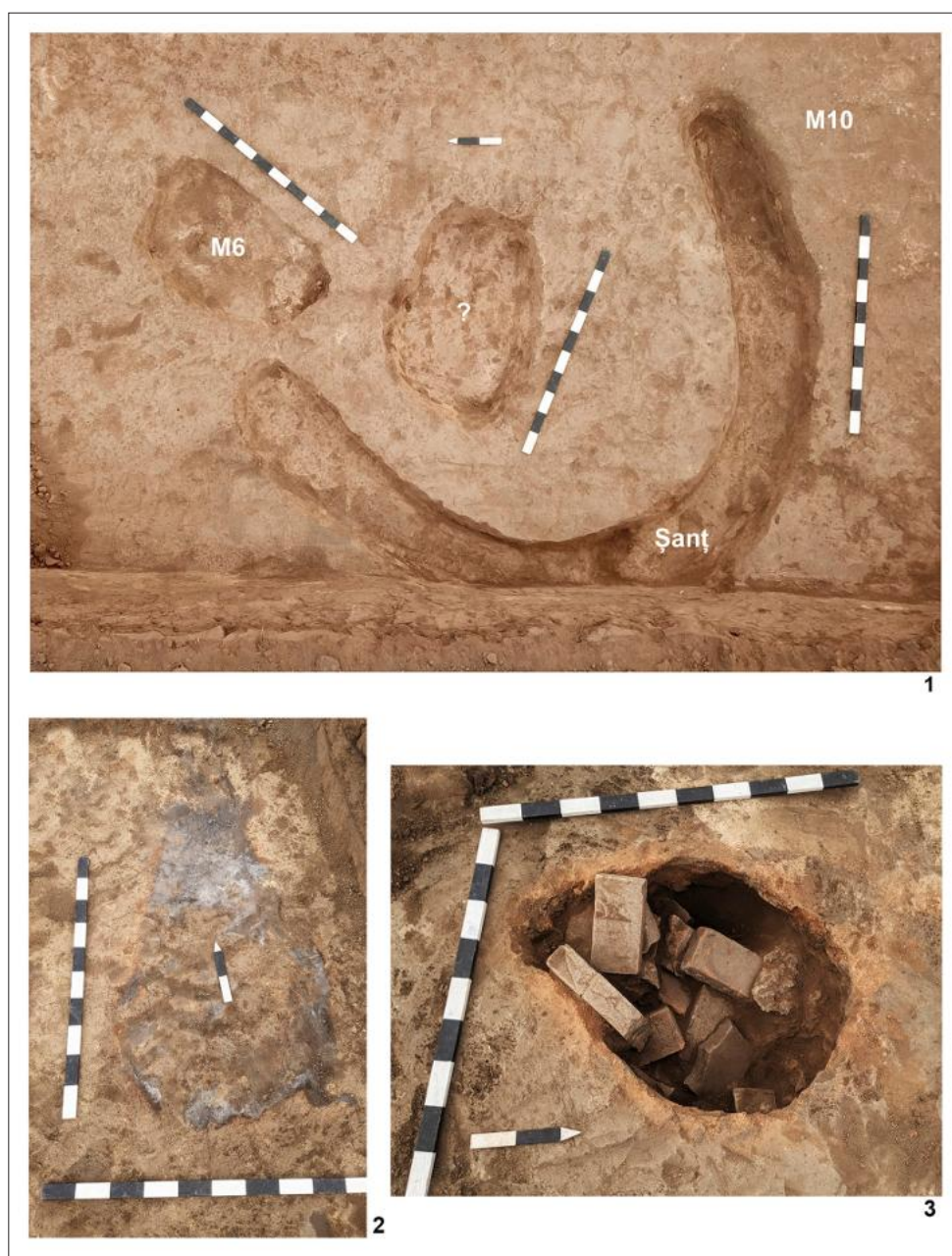


Fig. 10. Burlăceni, tumulul 10. 1 – șanț și groapa de cult (?); 2-3 – vatra 2.

Fig. 10. Burlăceni, barrow 10. 1 – ditch and ritual pit (?); 2-3 – hearth 2.

actual de călcare 1,4 m. Umplutura șanțului reprezintă sol cenușiu închis.

Piese descoperite în suprafața excavată:

1. Piesă circulară din bronz. Descoperită la 10 m nord-vest de reperul central, la adâncimea de 0,4 m. Reprezintă o aplică de harnașament prevăzută în partea centrală cu două orificii dreptunghiulare pentru curea. Diametrul – 2,4 cm. Datăre – sec. XIX (fig. 9,3).

2. Plăcuță ovală de bronz cu două orificii. A fost descoperită la 19 m sud-sud-vest de reperul central la adâncimea de 0,6 m Dimensiuni: lungime 3,3 cm, lățime 1,7 cm, grosime 0,1 cm, diametrul orificiilor 0,2 cm. Datăre incertă (fig. 9,6).

3. Râșniță din gresie. A fost descoperită la 12 m nord-est de reperul central la adâncimea de 0,5 m. Piesa are în plan formă ovală, iar în profil semi-ovală. Ca urmare a folosirii partea activă a căpătat formă

ușor alveolată. Dimensiuni: lungime 35 cm, lățime 18 cm, grosime 12 cm. Datare incertă (fig. 9,1).

4. Piesă de silex de formă dreptunghiulară, fără urme de prelucrare. Are culoare albă cu pete albastrii. Pe partea proximală se pot observa urme de crustă calcaroasă. Dimensiuni: lungime 3,6 cm; lățime 2,5 cm; grosime 2 cm (fig. 9,5).

Stratigrafie și încadrarea cultural cronologică a complexelor descoperite în tumulul 10 de la Burlăceni

Trei profile stratigrafice au permis urmărirea evoluției spațiului funerar din cadrul tumulului. Situl se caracterizează printr-o structură stratigrafică simplă: mantaua primară, unică, a fost ridicată deasupra mormântului primar nr. 17, aparținând culturii Iamnaia, din perioada timpurie a epocii bronzului. Aceasta a fost realizată din sol brun relativ uniform. Nivelul vechi de călcare a putut fi urmărit pe o lungime de 16 m în profilul martorului stratigrafic central. Pe acest nivel se afla și o lentilă de sol gălbui, cu o lungime de 4,70 m și o grosime de cca. 10 cm, reprezentând secțiunea acumulării estice a solului excavat odată cu realizarea mormântului primar.

Ulterior, tot în perioada timpurie a epocii bronzului, în partea centrală a mantalei tumulului au fost realizate mormintele culturii Iamnaia nr. 2, 4, 5, 7, 13, 14 și 15, dispuse cu precădere în gropi dreptunghiulare, unele prevăzute cu treaptă, toate gravitând în plan în jurul mormântului primar. Unui orizont târziu al culturii Iamnaia îi revine mormântul nr. 12, a cărui realizare a afectat parțial treapta mormântului nr. 13. Tot din această perioadă ar putea proveni, cu probabilitate, rășnița din gresie identificată la 12 m nord-est de reperul central, la adâncimea de 0,5 m.

Următorul orizont cultural și cronologic este reprezentat de mormintele nr. 3, 10 și 16, aparținând culturii Mnogovalikovaia, din perioada mijlocie a epocii bronzului. Două complexe (nr. 10 și 16) au fost dispuse în sectorul sudic al tumulului, iar unul (nr. 3) în sectorul vestic. Mormântul nr. 3 conținea un vas de tip borcan, specific acestei culturi, iar în mormântul nr. 10 a fost identificat un fragment de cataramă din os, de asemenea caracteristic culturii Mnogovalikovaia. Tot perioadei mijlocii a epocii bronzului îi pot fi atribuite, cu probabilitate, și mormintele nr. 8 și 9, acestea fiind însă lipsite de indicații cronologice și culturale mai precise.

În perioada mijlocie sau târzie a epocii bronzului, în sectorul sudic al tumulului a fost amenajat un șanț cu traseu semicircular. În spațiul delimitat de laturile șanțului se afla o groapă de cult sau un cenotaf, lipsită însă de material arheologic. Atât șanțul, cât și groapa din interiorul acestuia se aflau în proximitatea mormintelor nr. 6 și 10. Aceste amenajări sunt însă mai târzii în raport cu mormântul nr. 10, întrucât capătul sudic al șanțului suprapune peretele nordic al gropii acestui mormânt, atribuit culturii Mnogovalikovaia.

Culturii Sabatinovka, din perioada târzie a epocii bronzului, îi este atribuit mormântul nr. 6, acesta a fost realizat spre sud de reperul central și avea în calitate de inventar două vase.

Analogii pentru mormintele din epoca bronzului sunt cunoscute și în alți tumuli cercetați în apropiere de Burlănești. Ne referim la tumulul nr. 1 de la Copceac, investigat în 1985 de V. Beilecci [Beilekchi 1990, 34-49], la tumulii necropolei de la Găvănoasa, studiați în 1991 de S. Agulnikov [Agul'nikov 2014, 29-38; Agulnikov, Popovici 2015, 176-185], și la tumulul nr. 1 de la Ciurmai, cercetat în 2025 [Ciobanu *et al.* 2016, 29-44].

Rămâne incertă originea vârfului de săgeată din bronz, prevăzut cu trei aripioare, identificat în partea superioară a umpluturii mormântului culturii Iamnaia nr. 7. Descoperiri de acest tip sunt frecvente în morminte [Ostroverkhov, Redina 2013, 390] și așezări [Arnăut 2003, 119-120] din a doua epocă a fierului din spațiul Pruto-Nistean, însă în corpul mantalei tumulului complexe din această perioadă lipsesc.

Cele mai târzii morminte descoperite în tumul sunt cele marcate cu nr. 1 și 11. Defuncții au fost depuși în poziție întinsă pe spate, orientați cu craniul spre sud-vest. Aceste complexe pot fi încadrate în grupul I de morminte turanice, conform clasificării propuse de Ion Ursu, și pot fi atribuite populațiilor pecenege din sec. X [Ursu 2022, 94-96].

La marginea nordică a mantalei, la cca 11-12 m nord de reper, în toate trei profile stratigrafice a fost urmărit un strat negricios, care ușor coboară adâncindu-se spre direcția nordică. Stratul respectiv reprezintă solul post-preistoric de spălare a mantalei tumulului.

În perioada modernă (sec. XIX), în corpul mantalei tumulului au fost realizate două instalații de foc. Acestea ar putea fi puse în legătură, cu existența unei construcții ușoare din lemn, posibil

de tip colibă, amenajată în sectorul central-nordic al tumulului, într-o etapă în care acesta avea o înălțime mai mare și nu era încă afectat de lucrările agricole mecanizate. Construcția respectivă putea fi utilizată fie ca adăpost temporar, fie ca punct de observație. Tot din aceasta perioadă este și aplica de harnașament identificată la o adâncime de 0,4 m, precum probabil și plăcuța ovală de bronz. De asemenea, tot din perioada modernă ar putea proveni și piesa din fier, probabil un cuțit, descoperită în straturile superioare a umpluturii mormântului culturii Iamnaia nr. 2.

Șanțul cu traseu în zig-zag, din sectorul sudic al tumulului, săpat de la nivelul actual de călcare, a fost amenajat în perioada contemporană.

Date paleoantropologice privind mormintele identificate în tumulul 10 de la Burlăceni, raionul Cahul

Analiza paleoantropologică a materialului osteologic descoperit în tumulul 10 de la Burlăceni, raionul Cahul, s-a elaborat pe baza literaturii de specialitate. Starea de conservare a scheletelor este relativ satisfăcătoare. După restaurarea materialului osteologic s-a realizat stabilirea lateralității oaselor [White, Folkens 2005], înregistrarea stării de conservare [Bello *et all.* 2006] și evaluarea modificărilor tafonomice [Schotsmans *et all.* 2017].

Vârsta biologică la deces în cazul subiecților care nu au atins 20 de ani (*infans I*, *infans II* și *juvenis*) a fost estimată după următoarele criterii: etapa de erupție a dentiției temporare și a celei permanente, gradul de concreștere a epifizelor oaselor lungi la diafize, dimensiunea oaselor craniene și postcraniene. A fost utilizată metodologia propusă de Maresh [1970]; Ubelaker [1979]; Schaefer, Black, Scheuer [2009].

Pentru subiecții trecuți de 20 de ani (*adultus*, *maturus* și *senilis*), vârsta biologică la deces a fost estimată combinând diferite criterii: degenerarea simfizei pubiene și transformarea suprafeței sacroiliace [Brooks, Suchey 1990; Buikstra, Ubelaker 1994, 24-32; Schmitt 2005], modificări ale țesutului spongios din epifizele humerale, involuția scheletului și morfologia coastelor sternale, procese patologice specifice asociate cu vârsta [Îșcan *et all.* 1984; Latham, Finnegan 2010; Ubelaker 1979], date privind uzura dentară [Brothwell 1981; Lovejoy 1985] și obliterarea suturilor craniene [Buikstra, Ubelaker 1994]. Au

fost luate în considerare clasele de vârste propuse de Buikstra, Ubelaker [1994].

Estimarea sexului antropologic a fost realizată pe baza criteriilor morfologice craniene și ale pelvisului [Blanchard 2010; Buikstra, Ubelaker 1994; Bruzek 2002; Walrath *et all.* 2004; Ubelaker 1979].

Statura (talie) a fost calculată după dimensiunile oaselor lungi ale membrelor superioare (humerus, radius, ulna) și inferioare (femur, tibia, fibula) utilizându-se metodelor antropometrice propuse de Manouvrier [1892, 227-233]; Breitinger [1938, 249-274]; Trotter, Gleser [1958, 79-123]; Bach [1965, 12-21]. De asemenea, au fost evidențiate și particularitățile scheletice considerate în literatura de specialitate ca fiind adaptări funcționale și ocupaționale, ale stilului de viață, denumite indicatori musculo-scheletici. Evaluarea aspectelor paleopatologice s-a realizat utilizând lucrările de specialitate [Aufderheide, Rodriguez-Martin 1998; Ortner 2003; Waldron 2009].

Materialul osteologic uman descoperit în tumulul 10 provine de la 15 subiecți de vârste diferite, numărul celor imaturi/nonadulți (trei subiecți) fiind mai scăzut decât cel al adulților (11 subiecți – șase bărbați și cinci femei). Un subiect nu a oferit indicii pentru estimarea vârstei biologice la deces și a sexului antropologic.

Statura a putut fi stabilită pentru șase subiecți (trei de sex masculin și trei de sex feminin). Pentru sexul masculin, un subiect are statura mijlocie (166,20 cm), iar doi subiecți au staturi ce se încadrează în categoria mare și foarte mare (177,00 cm respectiv 182,33 cm) și respectiv conformații mai robuste. Scheletele de sex feminin sunt gracile, cu staturi care se încadrează în categoria mijlocie (doi subiecți – 149,56 cm respectiv 153,37 cm) și supramijlocie (un subiect – 159,12 cm).

În ceea ce privește patologiile, anomaliile și caracterele non-metrice, au fost identificate următoarele: osteoartrita (un caz), vertebre lombare sudate – vertebre „block” (un caz), infecție la nivelul tibiei drepte (un caz), sacralizarea parțială a ultimei vertebre lombare (L5) (două cazuri), sutura metopică la nivelul osului frontal (două cazuri) și hipoplazia emailului dentar (trei cazuri).

Date de antropologie dentară: analiza uzurii dentare și a trăsăturilor non-metrice

Dinții reprezintă materiale de bază în analizele paleoantropologice, datorită gradului ridicat de

mineralizare și a bunei lor conservări în context arheologic. Aceste particularități le conferă o valoare informativă ridicată, permițând investigarea uzurii dentare ca indicator al dietei și comportamentelor asociate [Petraru *et al.* 2020], precum și a trăsăturilor dentare non-metrice, utilizate în evaluarea afinităților biologice dintre populațiile umane din trecut [Irish 2010; Rathmann *et al.* 2017].

Evaluarea dentiției permanente a fost realizată prin aplicarea unor scoruri bazate pe gradul de pierdere a smalțului dentar și pe prezența insulelor de dentină [Scott, 1979, Smith, 1984]. Conform metodologiei propuse de Tomczyk *et al.* [2020], au fost delimitate trei stadii ale uzurii dentare pentru dentiția permanentă: dinți cu fațete de uzură foarte reduse (Scott: 4-9; Smith: 1-2), dinți cu fațete de uzură moderat avansate (Scott: 10-22; Smith: 3-5) și dinți cu fațete de uzură foarte avansate (Scott: 23-40; Smith: 6-8). Dintre modificări dentare asociate activităților comportamentale (MDAC) au fost cuantificate pe baza scalei de prezent/absent, fracturile dentare produse antemortem, traumatismele dentare și uzura dentară în plan oblic [Neves *et al.* 2022; Bonfiglioli *et al.* 2004].

Uzura dentară a subiecților aparținând culturii Iamnaia descoperiți în tumulul 10 de la Burlăceni, a făcut parte dintr-un studiu preliminar care integrează mai mulți tumuli descoperiți pe teritoriul Republicii Moldova [Ciorpac-Petraru *et al.* 2025]. Materialul dentar de la Burlăceni aparținând culturii Iamnaia sugerează o uzură predominant moderat avansată și avansată în special pentru dinții molari (M) și incisivi (I) urmați de dinții canini. La nivelul premolarilor, nivelul uzurii dentare este ușor mai redus (uzură redusă și uzură moderată în raport de 1:1). Dintre subiecții umani care aparțin culturii Iamnaia, doar 4 subiecți au prezentat fracturi dentare produse antemortem, acestea fiind predominant identificate la nivelul incisivilor și caninilor. De remarcat la dentiția scheletului uman descoperit în mormântul M13 este prezența anormală a celui de-al doilea molar decidual m2 drept situat *in situ* (fig. 11,1) și a molarului decidual m2 stâng, cel din urmă fiind izolat (fig. 11,2). Cea mai frecventă cauză a prezenței dinților deciduali în dentiția definitivă este reprezentată de agenezia dinților permanenți de înlocuire, în acest caz premolarii P2 mandibulari [Brabant 1967; Dos Santos *et al.* 2022]. Subiecții umani care aparțin Culturii Mnogovalikovaia fac subiectul unei cercetări aflate în curs de publicare și

care conturează caracterul abraziv al uzurii dentare alături de prezența unor forme MDAC. Modificări dentare asociate activităților comportamentale includ formele de uzură ocupațională. La nivelul dentiției subiecților Culturii Mnogovalikovaia au fost identificate fracturile dentare produse antemortem preponderant la nivelul dinților posteriori și uzura dentară în plan oblic [Popovici *et al.* 2026]. În ceea ce privește uzura dentară a turanicilor medievali descoperiți în mormântul 1 și mormântul 11, acesta sunt contrastante, un factor decisiv fiind în acest caz vârsta la deces a subiecților. Dentiția subiectului M1 este caracterizată de o uzură extrem de redusă la nivelul dinților anteriori (incisivi și canini) și al premolarilor (scor Smith=1-2), în timp ce dinții molarii sunt caracterizați de uzură moderat avansată (scor Scott=12-18). Nu au fost identificate forme de uzură ocupațională. În schimb, dentiția subiectului M11 este caracterizată o uzură avansată atât la nivelul dinților anteriori, cât și la nivelul dinților posteriori (scor Smith=6-8, scor Scott=36). În acest ultim caz descris, uzura dentară fiind situată inferior față de joncțiunea smalț-cement, nu s-a pretat la identificarea fracturilor dentare produse antemortem.

Uzura dentară a seriei scheletice descoperite în Tumulul 10 de la Burlăceni, evidențiază ușoare diferențe din punct de vedere cultural și cronologic, sugerând influența multifactorială a uzurii dentare (caracterul abraziv al dietei, modificările dentare produse în urma activităților comportamentale și vârsta la deces). În cazul indivizilor aparținând culturii Iamnaia și culturii Mnogovalikovaia, dentiția este caracterizată de o uzură moderat avansată și avansată, în special la molarilor și incisivilor, care poate fi corelată cu caracterul abraziv al dietei, mai accentuat însă pentru subiecții culturii Mnogovalikovaia. Aceștia au manifestat fracturi dentare predominant la nivelul dinților posteriori, aspect ce poate fi asociat unui regim alimentar cu pronunțat caracter abraziv. În schimb, la indivizii culturii Iamnaia fracturile dentare au fost identificate preponderent la nivelul dinților anteriori putând fi corelate cu utilizarea dinților în activități non-masticatorii. În cazul indivizilor turanici medievali, contrastele dintre cele două profiluri dentare analizate reflectă în principal diferențele de vârstă.

Trăsăturile non-metrice dentare au fost analizate prin intermediul Arizona State University Dental Anthropology System (ASU-

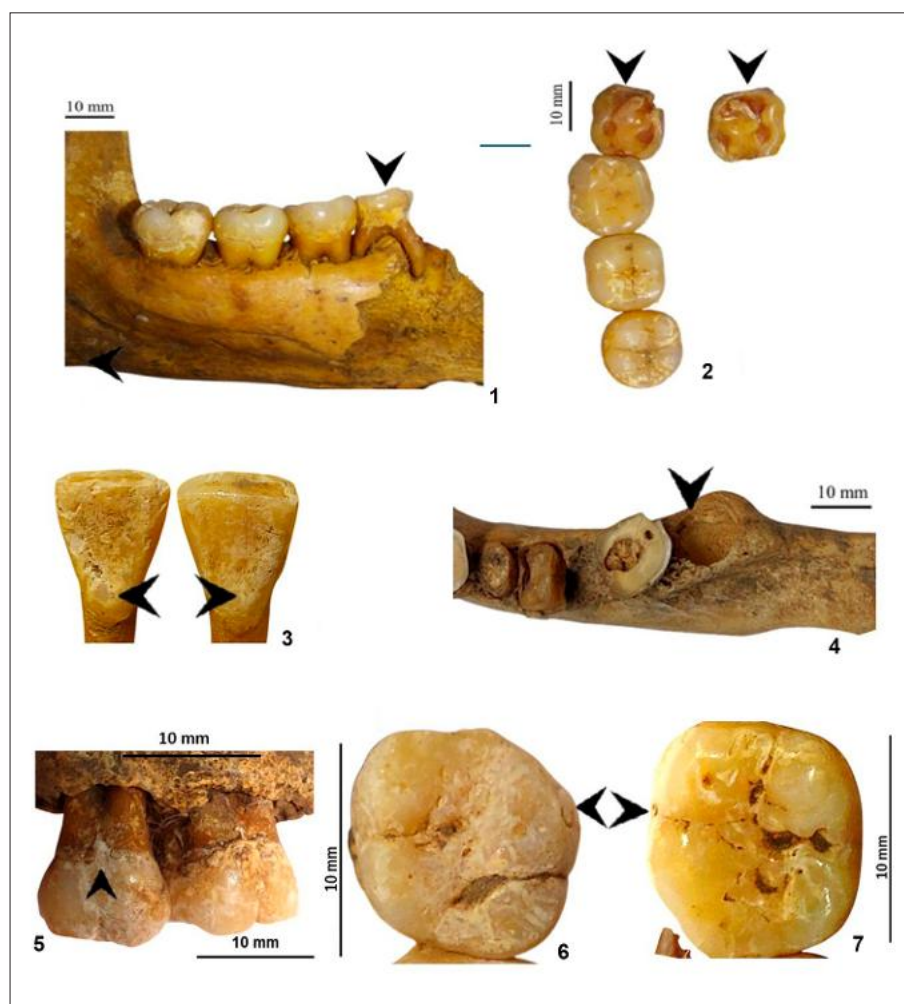


Fig. 11. Burlăceni, tumulul 10. Caracteristici dentare observate în materialul bioarheologic analizat: (1-2) prezența molarilor deciduali m2 mandibulari la subiectul din M13, vedere bucală (1) și ocluzală (2); (3) tuberculi dentari la incisivii centrali la subiectul din M1; (4) torsiune mandibulară la nivelul molarului trei la subiectul din M11; (5) extensie de smalț la nivelul molarilor maxilari, vedere bucală, la subiectul din M1; (6) tuberculul lui Carabelli pe primul molar maxilar la subiectul din M1; (7) protostilid pe primul molar mandibular la subiectul din M1.

Fig. 11. Burlăceni, barrow 10. Dental traits observed in the analyzed bioarchaeological material: (1-2) presence of mandibular deciduous m2 molars in the individual from M13, buccal (1) and occlusal (2) views; (3) dental tubercles on the central incisors in the individual from M1; (4) mandibular torsion at the level of the third molar in the individual from M11; (5) enamel extension on the maxillary molars, buccal view, in the individual from M1; (6) Carabelli's cusp on the first maxillary molar in the individual from M1; (7) protostylid on the first mandibular molar in the individual from M1.

DAS), un sistem standardizat care permite descrierea și compararea morfologiei dentare între diferite populații umane [Turner *et al.* 1991; Scott, Irish 2017]. În acest context, prevalența și clasificarea trăsăturilor non-metrice în materialul dentar analizat au fost determinate pe baza prezenței, absenței și a gradului de exprimare al acestora.

Analiza trăsăturilor non-metrice la nivelul dentiției anterioare (incisivi și canini) precum și a

premolarilor a fost limitată din cauza pierderilor postmortem ale dinților și a uzurii avansate.

O observație relevantă a constituit-o prezența unui tubercul dentar asimetric dezvoltat (fig. 11,3), pe fața linguală a incisivilor centrali de la nivelul maxilarului, la subiectul provenit din mormântul M1.

La nivelul maxilarului, molarii au prezentat configurația tipică cu patru cuspidi cu o reducere moderată a cuspidului distolingual (hipoconul).

Acesta a fost evaluat la gradul 3, conform scalei ASUDAS, în timp ce metaconul (cuspidul distobucal) a prezentat o expresie mai pronunțată, încadrată între gradele 4 și 5.

Cuspidul lui Carabelli a fost identificat pe primul molar la doi dintre subiecții analizați (din mormintele M1 și M14). În ambele cazuri, acesta a fost exprimat sub forma unui cuspid redus fața linguală a dintelui (fig. 11,7).

A fost identificată o extensie a smalțului dentar pe suprafața bucală a molarilor maxilari (fig. 11,5), constând într-o prelungire a liniei smalțului de 1-2 mm către zona de bifurcație radiculară (gradele 1-2). Această trăsătură a fost identificată la subiectul din mormântul M1, asociat unui context medieval turanic, precum și la un subiect aparținând culturii Mnogovalikovaia, descris detaliat într-un studiu recent (Popovici et al. 2026, în curs de publicare).

Trăsăturile non-metrice dentare descrise la nivelul mandibulei, se referă la numărul de cuspizi, fosa precuspidală, precum și la modelul de dispunere a șanțurilor intercuspidale.

Primul molar mandibular din materialul analizat a prezentat o configurație cu cinci cuspizi și un model în formă de Y de dispunere a șanțurilor intercuspidale (modelul Y-5), caracterizat prin contactul dintre metaconid (cuspidul mesiolingual) și hipoconid (cuspidul distobucal). Această configurație este considerată morfologia clasică a primului molar mandibular uman și reflectă menținerea modelului *Dryopithecus* [Gregory 1916; Turner et al. 1991; Scott, Turner 1997].

Molarul al doilea mandibular a prezentat o configurație cu patru cuspizi, cu modelul în formă de X de dispunere a șanțurilor intercuspidale (X-4), în care protoconidul (cuspidul mesiobucal) și entoconidul (cuspidul distolingual) intră în contact. Această observație a fost posibilă pentru toți subiecții la care starea de uzură dentară a permis evaluarea (mormintele M1, M3, M5, M9, M13 și M14).

Fosa precuspidală a trigonidului a fost identificată la nivelul molarilor mandibulari. La nivelul primului molar mandibular, această structură a fost absentă (grad 0) la subiecții din mormintele M1, M14 și M17, slab exprimată, prin dezvoltarea redusă a crestei marginale meziale (grad 1), la subiectul din mormântul M13 sau pronunțată (grad 3) la subiectul din mormântul M9. Molarii doi și trei au prezentat o expresie mai accentuată a ace-

tei trăsături, caracterizată prin dezvoltarea creștelor esențiale și marginale meziale, delimitând o fosă precuspidală distinctă, încadrată în clasa 2 (subiectul din mormânt M14) și clasa 3 (subiecții din mormintele M1 și M13), conform sistemului de referință [Scott, Irish 2017].

Protostilidul a fost identificat la subiectul din mormântul M1, sub forma unei fose bucale (grad 1), situată în șanțul interlobal dintre protoconid și hipoconid, la nivelul primului molar mandibular (fig. 11,7).

Un alt caracter observat în materialul analizat a fost torsiunea mandibulară, identificată la patru dintre subiecții analizați (din mormintele M1, M10, M11, M13) (fig. 11,4). Această trăsătură s-a prezentat sub forma unui unghi de torsiune molară de cel puțin 10°, orientat în direcție bucală sau linguală, încadrată la gradul 1 conform criteriilor ASUDAS [Scott, Irish 2017].

Analiza comparativă a trăsăturilor dentare a materialului bioarheologic de la Burlăceni, a evidențiat existența unor similitudini morfologice între subiecții din lotul analizat și cei atribuiți populațiilor turanice medievale analizați în alte studii bioantropologice. În mod particular, subiectul din mormântul M1 a prezentat mai multe caracteristici, precum morfologia primului molar mandibular, prezența extensiei smalțului dentar și a protostilidului, acestea fiind identificate și la unii subiecți turanici medievali din sudul Moldovei (Republica Moldova) [Popovici et al. 2023], precum și în materiale dentare provenite din zona Dunării inferioare [Frânculeasa et al. 2020].

Aceste corespondențe morfologice pot sugera posibile afinități biologice sau procese de interacțiune populațională în spațiul carpato-dunărean medieval. Totuși, interpretarea acestor similitudini trebuie realizată cu prudență și integrată într-un cadru analitic mai larg, care să includă atât date bioantropologice suplimentare, cât și informații arheologice și istorice.

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Un *gladius* roman descoperit la Noșlac, Jud. Alba

Key words: sword, roman period, Dacia, restoration.

Cuvinte cheie: sabie, epoca romană, Dacia, restaurare.

Dan Anghel, George Valentin Bounegru

A Roman *gladius* discovered at Noșlac, Alba County

Two years ago, in Noșlac – a locality in the northern part of Alba County – a piece of Roman weaponry was discovered using a metal detector. Based on its typological characteristics, it belongs to a relatively rare type within in Dacia Province. The object falls into the *Pompeii type*, characterized by the triangular shape of its tip and its two parallel cutting edges. The location of the discovery, now a deciduous forest, lies not far from a Roman settlement. Moreover, the area is well suited for agriculture, and the salt deposit at Ocna Mureș, located a few kilometers away, along with the presence of the *Ala I Batavorum* fort on the opposite bank of the Mureș River, contributed to dense habitation across a broader area.

The relative rarity of pieces of this type required increased attention during the restoration process, which attempted to restore as much of the original shape as possible and stabilize the physical and chemical structure of the metal.

Dan Anghel, George Valentin Bounegru

Un *gladius* roman descoperit la Noșlac, Jud. Alba

În urmă cu doi ani la Noșlac, o localitate aflată în nordul județului Alba, a fost descoperită prin detecție o piesă de armament roman care prin caracteristicile tipologice se încadrează unui tip destul de rar în fosta provincie Dacia. Piesa se încadrează în *tipul Pompeii*, caracterizat de forma triunghiulară a vârfului și cele două tășuri paralele. Aflată locația descoperirii, astăzi pădure de foioase, se află nu foarte departe de o așezare romană. De altfel, zona este una propice agriculturii, iar zăcămintul de sare de la Ocna Mureș aflat la câțiva kilometri și prezența castrului *Alei I Batavorum* de pe malul opus al Mureșului au generat o puternică locuire pe un areal mai mare. Relativa raritate a pieselor de acest tip a impus o atenție sporită în cadrul procesului de restaurare prin care s-a încercat redarea pe cât posibil a formei originale și stabilizarea fizico-chimică a structurii metalice.

În ultimii ani, în România s-au înmulțit descoperirile efectuate cu ajutorul detectorului de metale. Piese absolut spectaculoase sau obiecte comune, uzuale sau rarissime, acestea intră în patrimoniul muzeelor din județele unde au fost descoperite.

La finalul primăverii anului 2024 Muzeul Național al Unirii Alba Iulia a fost sesizat în scris de către un posesor de detector de metale asupra faptului că în ziua precedentă acesta făcuse o descoperire susceptibilă de a fi încadrată în categoria patrimoniului cultural național, respectiv un *gladius* databil în epoca romană. Descoperitorul a procedat la dezvelirea și fotografierea piesei, dar nu a ridicat-o de la locul său, lăsând această operațiune la latitudinea unui arheolog care să investigheze astfel și posibilul context¹. Ca urmare

a sesizării ne-am deplasat la fața locului unde în urma unui diagnostic intruziv am ridicat piesa descoperită (fig. 1,2).

Locul descoperirii

Zona descoperirii este pe raza UAT Noșlac, în pădurea situată la sud de sat (*vezi* fig. 1,1). Zona, deși acoperită cu pădure de foioase, este cunoscută cu toponimul „Pe șes”. Artefactul a fost descoperit într-un spațiu plan, drept, care putea fi utilizat odinioară ca drum de legătură între comunitățile care locuiau într-un areal mai larg. Astăzi în teren această potențială cale de acces nu este însă vizibilă.

Localitatea Noșlac este situată în nord-estul județului Alba, pe malul stâng al râului Mureș. În Repertoriul arheologic al județului Alba localitatea era cunoscută datorită descoperirilor preistorice cu precădere, dar și a unor monede romane (imperi-

1. Pe această cale apreciem atitudinea descoperitorului Koltzsvári Csaba care a ales această modalitate de abordare a situației în locul extragerii și predării către primărie.

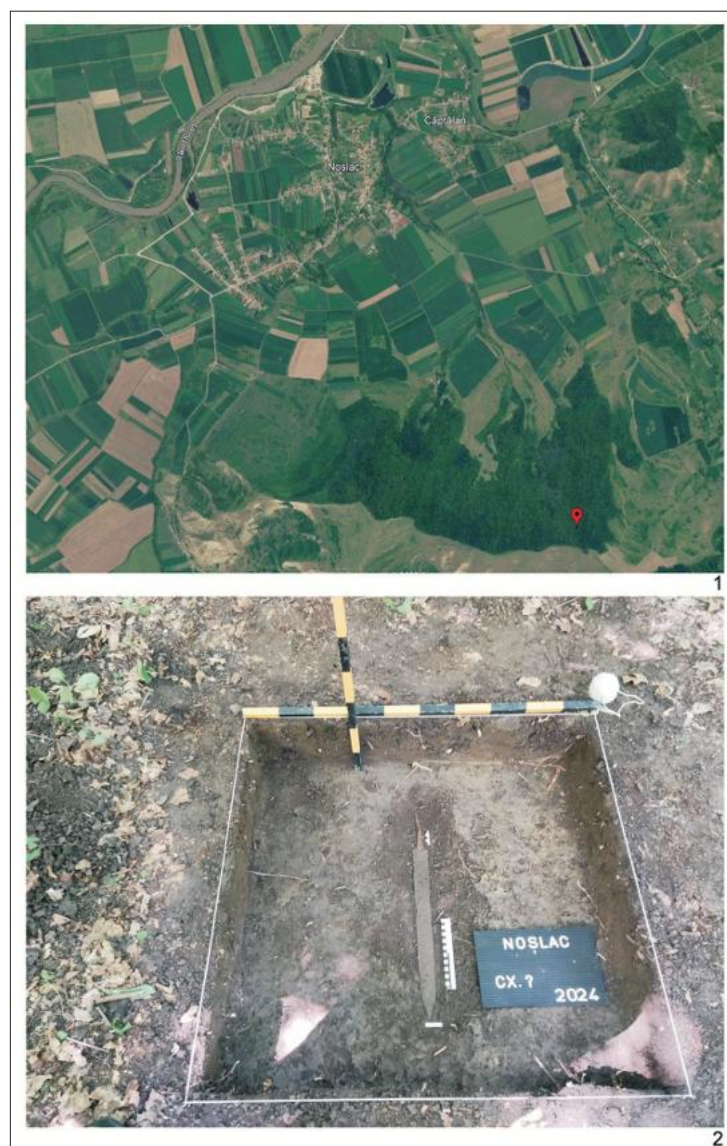


Fig. 1. 1 – Amplasarea descoperirii; 2 – Imagine din timpul prelevării piesei.

Fig. 1. 1 – Location of the discovery; 2 – Image from the time the piece was taken.

ale) [Rep Alba 1995, 53]. În toamna anului 2022 a fost descoperit pe raza localității, tot cu ajutorul detecției, un tezaur monetar compus din 109 de denari imperiali². De asemenea, din diverse puncte de pe teritoriul localității au fost efectuate descoperiri de epocă romană tot cu ajutorul detecției³.

2. Drept urmare, am realizat un diagnostic arheologic din care au rezultat mai multe materiale de epocă romană. În urma acestei identificări a fost înscris în RAN a unui întins sit de epocă romană.

3. O serie de fibule descoperite prin detecție au fost publicate anul precedent. De la Noșlac provin 5 exemplare aflate nu departe de pădurea în care a fost descoperită spada romană [vezi Bounegru 2025, 266, 268].

Terasele râului Mureș sunt propice locuirii, iar exploatarea de sare de la Ocna Mureș au facilitat dezvoltarea comunităților umane pe un areal mai larg. Din cercetările perieghetice, încă inedite, am constatat că locuirea romană este prezentă pe fiecare dintre numeroasele văi care străbat zona. În raport cu această locuire, punctul descoperirii este dispus geografic central față de siturile de epocă romană aflate pe raza localităților din jurul său.

Descrierea piesei

Revenind la piesa descoperită, aceasta este un *gladius* de tip Pompeii [Ulbert 1969, 119-125]

realizat din fier, având lungimea totală de 670 mm dintre care 506 mm lama și 164 mm lungimea mânerului (fig. 2,1). Lama are astăzi formă dreptunghiulară în profil, având vârful triunghiular și umerii drepți. Lățimea este de cca 45 mm în zona centrală, această dimensiune crescând cu 2mm spre mâner. Limba de mâner este lungă și prezintă în zona sa centrală o ușoară îndoitură, o deteriorare antică vizibilă pe una dintre fețe. La momentul descoperirii această deteriorare, similară unei lovături, era pe partea din jos, pe sol. În capăt, limba păstrează parțial un buton mic din bronz cu ajutorul căruia era prins mânerul. Lipsa mânerului indică fără dubiu că acesta era realizat din lemn care s-a deteriorat în decursul timpului. Lungimea limbii de mâner este extrem de mare pentru lățimea palmei și a gârzii, așa că avem de-a face cu o terminație sferică și nu emisferică. De altfel, acest aspect al dimensiunii limbii de mâner a fost clarificat de către Liviu Petculescu.

Chiar dacă descoperirile de spade romane sunt relativ numeroase, tipul Pompeii în care este inclusă și descoperirea de la Noșlac este rar în Dacia romană. Din Dacia este publicată o spadă cu caracteristici asemănătoare descoperită în castrul de la Berzobis (Berzovia, jud. Caraș-Severin) [Flutur 2007, 69-73]. Arma se afla în stratul de nivelare al primului nivel de locuire, fiind datată în perioadă traianică. Limba de mâner a piesei de la Berzovia este mai scurtă decât în cazul celei de la Noșlac (fig. 2,2). În plus, la o mică distanță se afla și capătul emisferic al mânerului realizat din bronz, păstrând însă în interior fragment din limba de fier. Spre deosebire de aceasta, piesa noastră avea, după cum am spus și mai sus, un mâner din material care s-a deteriorat în decursul timpului, probabil lemn, iar sistemul de prindere era diferit.

O a doua analogie, având caracteristicile tipologice similare a fost descoperită în urmă cu câțiva ani la Pricaz, jud. Hunedoara (fig. 2,3) cu ocazia unor cercetări preventive ocazionate de efectuarea unei lucrări de infrastructură⁴. Piesa, inedită încă, are lamele/muchiile paralele, curbate ușor spre interior, probabil datorită uzurii funcționale și/sau ascuțirilor repetate. După restaurare se observă mai bine cele două tășuri care sunt concave. De asemenea, partea distală a vârfului

lui triunghiular este ruptă. Contextul descoperirii este unul preroman.

Cea de-a treia analogie, descoperită tot prin detecție, inedită și aceasta, ne-a fost semnalată de către colegul Bogdan Ciupercă de la MJ Prahova, locul descoperirii fiind în zona Pasului Tabla Buții⁵. Locația leagă descoperirea cel mai probabil de războaiele dacice. Piesa este una cu stare de conservare excelentă.

Cât privește celelalte spade romane sau elemente de gardă provenite de la acestea descoperite în provincia Dacia, ele au fost analizate de către Liviu Petculescu într-un material publicat recent [Petculescu 2023, 487-504]. Cele mai multe sunt încadrate altor tipuri și, cu excepția piesei de la Berzovia, nu sunt analogii cu descoperirea de la Noșlac. În Imperiu, spadele sunt cuprinse într-o monografie amplă aparținând lui Christian Miks. Piesa noastră se încadrează tipologic variantei clasice de lame *tip Pompei* (Klingen der Variante „Klassisch”) [Miks 2007, 66-67, Vortafel C,8; Taf. 29-33]. Caracteristicile muchiilor, ale umerilor și vârful corespund acestei variante. Și din punct de vedere al dimensiunilor, redată mai sus, având în vedere că se păstrează întregă, spada de la Noșlac corespunde tipologic. În cazul acestui subtip, lamele pot atinge o lungime până la 550 mm. Majoritatea, însă, se situează în intervalul 400 și 500 mm, cu o predominanță a lungimilor de peste 440 mm. Lățimea maximă a lamei variază între 35 și 52 mm, predominând lamele cu lățime între 35 și 45 mm.

Restaurarea piesei

Relativa raritate a pieselor de acest tip a impus o atenție sporită în cadrul procesului de restaurare prin care s-a încercat redarea pe cât posibil a formei originale și stabilizarea fizico-chimică a structurii metalice.

Piesa, aparent intactă, prezintă o serie de zone în care miezul metalic a fost parțial sau total transformat în produși de coroziune. În urma unor microteste de laborator a fost relevat că suprafața piesei este acoperită cu un strat neuniform de oxid fero-feric (magnetită) suprapus de

4. Informație amabilă C. Dima și A.C. Bolog cărora le mulțumim pe această cale.

5. Comunicarea științifică „Un *gladius* recent descoperit pe teritoriul județului Prahova” susținută în cadrul Sesiunii de Comunicări Științifice „Milenii teaurizate. Creație și spiritualitate”, Ediția a XXII-a, Buzău, 9-10 mai 2024. De asemenea, pentru informațiile oferite cu generozitate îi aducem mulțumiri.



Fig. 2. 1-2 – Noșlac (înainte și după restaurare); 3 – Berzobis [Flutur 2007, pl. I/ 2]; 4 – Pricaz.

Fig. 2. 1-2 – Noșlac (before and after restoration); 3 – Berzobis [Flutur 2007, pl. I/ 2]; 4 – Pricaz.

oxid feric, depuneri mecanice de sol și carbonați de calciu.

Distrugerea parțială a miezului metalic este datorată atacului diversilor factori din sol (umiditate, atacul bazic sau acid) evidențiindu-se ca principal factor acțiunea clorurilor insolubile din compoziția diversilor compuși de oxidare a fierului.

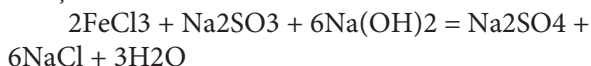
Butonul din bronz ce fixa capătul mânerului este, și el, total transformat în produși de coroziune ca urmare a diferențelor de potențial electrochimic între cele două tipuri de metal.

Produșii de coroziune cu aspect îngroșat ce deformează aspectul piesei au fost îndepărtați prin curățări mecanice manuale, utilizarea micro-

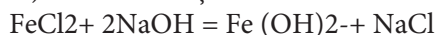
motoarelor cu freze abrazive și microsablare la 6 atmosfere.

Pentru eliminarea clorurilor s-a ales aplicarea unei metode de stabilizare chimică prin băi repetate într-o soluție de sulfat de sodiu (Na_2SO_4), 25,2% și hidroxid de sodiu (NaOH), 2% [Mourey, 1998, 67; Hamilton 1999, 67], în etuvă la o temperatură de 60°C . Soluția a fost schimbată la intervale de 1-2 săptămâni.

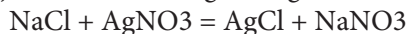
La tratarea pieselor din fier corodate în care stratul de oxizi conține FeCl_2 și/sau FeCl_3 , în soluția amintită anterior sunt posibile o serie de reacții în urma cărora clorurile se vor regăsi sub formă solubilă [Anghel, Ursu 2015, 193]. Datorită caracterului reducător al sulfatului de sodiu și mediul bazic din soluția de tratare clorura feroasă va reacționa în felul următor:



De asemenea dacă între produșii de coroziune există FeCl_3 acesta va fi transformat în $\text{Fe}(\text{OH})_2$ conform reacției:



La final, clorura se va regăsi în soluție ca și clorură de sodiu (NaCl) solubilă care se îndepărtează periate în apă distilată. Tratamentul continuă timp de mai multe luni, până nu se mai evidențiază prezența clorurilor prin titrarea cu soluție de azotat de argint (AgNO_3).



După încheierea tratamentului chimic piesa a fost clătită în mai multe băi de apă distilată până la eliminarea totală a reactivilor identificată prin teste de pH. Uscarea finală s-a efectuat prin substituirea apei în soluție alcoolică.

Pentru evitarea deteriorării urmelor butonului din bronz acesta a fost protejat de mediul alcalin prin acoperirea cu rășină epoxidică și verificarea integrității stratului și înlocuirea lui, dacă a fost necesar, la fiecare etapă de clătire în apă distilată.

Pasivarea finală a piesei a fost realizată prin aplicarea de soluție pe bază de acid tanic (Fertan) aplicat la cald în două straturi la intervale de 24 de ore.

Pentru conservarea finală a fost aplicat un strat de Paraloid B72 cu o concentrație de 3% în soluție alcoolică.

Concluzii

Sabia este importantă prin semnificația și raritatea sa, piesa romană de armament este foarte

importantă prin raritatea sa. Pe scurt, date fiind analogiile de mai sus, pe teritoriul fostei Dacii romane gladii de *tip Pompeii* sunt doar descoperirile de la Berzobis și de la Noșlac. Dacă extindem aria studiată la nivelul actualei României, am adăuga descoperirea din nordul Munteniei – Tabla Buții. Piesa de la Pricaz este contextualizată în perioada dacică, deci cronologic anterioară epocii romane.

În linii mari, datarea pieselor similare începe cândva înainte de mijlocul sec I p.Chr și se încheie la războaiele marcomanice [Miks 2007, Vortafel B].

O problemă pe care o ridică descoperirea este legată de caracterul întâmplător sau intenționat prin care piesa a ajuns în locul descoperirii. O acțiune intenționată presupune o depunere cu un scop anume. Cu prilejul diagnosticului intruziv pe care l-am efectuat pentru recuperarea armei nu am constatat existența în acel loc sau în apropiere a unor elemente care să o poată lega de un context funerar sau de un loc cult. Prin excludere, spada a fost „pierdută”, iar împrejurările prin care posesorul a rămas fără ea pot fi multiple și mai degrabă speculative, lipsite de argumente sau contexte de ordin istoric. Astfel că asupra acestora am ales să nu ne pronunțăm.

Cât privește dezvoltarea locuirii antice pe malul stâng al Mureșului, aceasta se datorează salinelor de la Ocna Mureș. Exploatarea sării a atras după sine dezvoltarea unor activități economice conexe, dar și o prezență militară stabilă pe malul opus al râului unde începând cu perioada lui Hadrian se va afla încartiruită *Ala I Batavorum*.

Cei doi factori, unitatea militară și resursa de sare, au constituit factorii esențiali care au atras o locuire intensă în zonă. Sunt atestate așezări de mari dimensiuni, precum cele de la Noșlac și Micoșlaca, consemnate în Repertoriul Arheologic Național, alături de o serie de *villae rusticae* care valorificau în epocă potențialul agricol al numeroaselor terase dezvoltate de-a lungul unor văi străbătute de pâraie de mici dimensiuni, în mare parte secate astăzi.

În contextul actual în care muzeele românești sunt asaltate de descoperiri efectuate cu detectorul, cele mai numeroase scoase din contextul lor, publicarea selectivă a unor piese, coroborată cu trasarea unor situri arheologice, acolo unde este cazul, rămâne o soluție de avarie.

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**Archaeometric investigation of the Hellenistic period Colchian amphoras
from Pichvnari (Western Georgia)***

Key words: Colchis, Hellenistic period, Colchian “brown-clay” amphora, Archaeometry, Petrography, Production technology, Provenance.

Cuvinte-cheie: Colchida, perioada elenistică, amforă de colchida „din argilă brună”, arheometrie, petrografie, tehnologie de producție, proveniență.

Andria Rogava, Mustafa Kibaroglu, Merab Khalvashi

Archaeometric investigation of the Hellenistic period Colchian amphoras from Pichvnari (Western Georgia)

The article presents a first extensive archaeometric (macroscopic and petrographic) analysis of the Hellenistic period Colchian “brown-clay” amphoras discovered at Pichvnari, one of the most representative sites for the study of this type of transport containers. The material consists of 44 amphora and 3 sand samples taken for comparative reasons in the broad surrounding of the site. The macroscopic fresh break and petrographic thin section analysis is set in the context of previous work done by other authors. The Pichvnari material reveals various fabric recipes that largely correspond to the already determined fabric groups. However, in contrast to the previous works, the study also manages to show the compositional profiles of the fabric groups in a greater detail and therefore supposes the possibility of a minor fabric variations eventually linked to sub-regional productions. Mineralogical comparison with the sand samples allows us to carefully suppose that the tempering material originated in the riverine and/or coastal sedimentary environment in the area around Pichvnari. However, due to the lack of a more extensive and systematic raw material sample collection from the region of interest, the question of the exact provenance of Pichvnari “brown-clay” amphoras remains open.

Andria Rogava, Mustafa Kibaroglu, Merab Khalvashi

Investigație arheometrică a amforelor colchice din perioada elenistică de la Pichvnari (vestul Georgiei)

Articolul prezintă o primă analiză arheometrică extinsă (macroscopică și petrografică) a amforelor colchice din perioada elenistică, din „argilă brună”, descoperite la Pichvnari, unul dintre cele mai reprezentative situri pentru studiul acestui tip de containere de transport. Materialul constă din 44 de amfore și 3 probe de nisip, prelevate în scop comparativ din împrejurimile sitului. Analiza macroscopică a rupturilor proaspete și a secțiunilor subțiri petrografice se plasează în contextul lucrărilor anterioare efectuate de alți autori. Materialul de la Pichvnari dezvăluie diverse rețete de țesături care corespund în mare măsură grupurilor de țesături deja determinate. Cu toate acestea, spre deosebire de lucrările anterioare, studiul reușește, de asemenea, să arate profilurile compoziționale ale grupurilor de țesături într-un detaliu mai mare și, prin urmare, presupune posibilitatea unor variații minore ale țesăturilor, legate în cele din urmă de producții subregionale. Comparația mineralogică cu probele de nisip ne permite să presupunem cu atenție că materialul de proveniență are originea în mediul sedimentar riveran și/sau costier din zona din jurul sitului Pichvnari. Cu toate acestea, din cauza lipsei unei colectări mai extinse și sistematice de mostre de materii prime din regiunea de interes, problema provenienței exacte a amforelor „din argilă brună” Pichvnari rămâne deschisă.

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Introduction

Colchian “brown-clay” amphoras produced in the large period of mid. 4th century BC – 7th century AD represents one of the most iconic features of Antique and Late Antique material culture in the Eastern Black Sea region. Based on previous integrated macroscopic and comparative petrographic studies of mid. 4th century BC – 4th century AD examples a first foundation was laid to consider the local Colchian provenance of these

vessels on an interdisciplinary basis, underlining the importance of a trade and exchange network between western Transcaucasia and northern Pontic region [Tsetskhladze, Vnukov 1992; Vnukov 2006, 77-85; Lordkipanidze 1966, 138-139]. However, a small number of samples analysed archaeometrically did not allow a confident differentiation of various technological groups and pinpointing of “brown-clay” amphora production sites.

The aim of this study is to carry out a more detailed study on the basis of the Hellenistic period Colchian amphoras from Pichvnari, including both the cemetery and the settlement, which is up to date the most representative site in south-western Georgia in terms of this specific amphora finds. Besides, this pottery will be compared to potential tempering material in the form of three sand samples from the broader region around Pichvnari (fig. 1). This way we will be able to evaluate the validity of the results by Tsetskhladze, Vnukov and Lordkipanidze [Tsetskhladze, Vnukov 1992; Vnukov 2006, 77-85; Lordkipanidze 1966, 138-139] and therefore try to draw a more nuanced picture of the “brown-clay” amphora production and provenance.

Archaeological background

Based on the evolution of certain morphological attributes, four chronological groups can be differentiated within the whole production period of the “brown-clay” amphoras: Ch IA¹, Ch IB, Ch IC and Ch ID [Vnukov 2011, 271, 277, Fig. 8]. From these, only two forms, Ch IA and IB are made during the Hellenistic period. The distribution area of Ch IA and IB is confined to the eastern, northern (mainly Crimea) and southern Black Sea coastal areas. A number of finds are also known from shipwrecks discovered at Phanagoria [Boetto *et al.* 2022, 1-25] and Kinburn Spit [Gerashimov *et al.* 2018, 190-192, Fig. 13] (fig. 1).

The earliest well-dated “brown-clay” amphoras (middle of the 4th – late 3rd / beginning of 2nd centuries BC) [Lordkipanidze *et al.* 1972; Vnukov, Tsetskhladze 1991, 171], Ch IA, very much resemble the Sinopean transport containers, more precisely the type II [Monakhov, Kuznetsova 2022, 276, 300, Pl. VII]. The neck is either cylindrical, slightly bulging or flaring and ends typically in a roller-shaped rim. The upper part of the handles, which are flattened ovals in section, are attached under the rim and in most cases descend vertically down on the shoulders. The ovoid body of the “brown-clay” amphora ends in a conical foot terminating in a profiled cylindrical or slightly widening heel, which sometimes can be button-shaped.

The resemblance of Colchian amphoras with the Sinopean type II persists in the 3rd – begin-

ning of the 2nd centuries BC [Tsetskhladze, Vnukov 1992, 362-365, Fig. 3-4, 5]. However, towards the end of the 3rd century BC these containers develop a “waist” in the lower part of the body. Compared to Ch IA, this new form, Ch IB, is characterized by a shorter neck and loop-shaped handles; All dimensions are in general smaller. The inner side of the base is always “adorned” with a flourish [Tsetskhladze, Vnukov 1992, 365-370]. Nevertheless this “specific technological protuberance” [Vnukov 2011, 274, Fig. 4.1] is not always present on the earlier and later (Roman period) Colchian amphora forms.

Based on certain morphological details the group B is further subdivided in two typochronological subgroups: Ch IB1 (end of 3rd / beginning of 2nd – middle of 1st centuries BC) and Ch IB2 (middle of 1st century BC – last quarter of 1st century AD). The bulging rims of Ch IB1 vessels retain similarities with the earlier Ch IA. However, all other details (neck, handles) differ significantly. Whereas in Ch IB2 the cylindrical neck is sometimes replaced by a funnel-shaped one, the handles are always loop-shaped and the “waist” in the lower body becomes more sharply defined [Vnukov 2010, 29-30, Pl. 15.1-2].

Other characteristic morphological features of the Hellenistic period “brown-clay” amphoras are epigraphical and non-epigraphical stamps, as well as marks incised in wet clay: 1. marks similar to Greek letters, 2. marks that possibly resemble letters and 3. fingerprints [Tsetskhladze, Vnukov 1992, 371, Fig. 13].

Epigraphical stamps are made in Greek. Four types are known within this category. The first one, ΔΙΟΣ | ΚΟΥ, is encountered on handles found in the surroundings of Dioscuria and Eshera (Hellenistic layer) in Colchis and Nymphaeum and Panticapaion in Crimea and can be dated of the 3rd century BC [Tsetskhladze, Vnukov 1992, 371, Fig. 13.2, 372]. The second one, ΔΡ, is known only from a single handle fragment from the territory of Dioscuria [Phiphia *et al.* 2022, 64, 413]. The third stamp type, ΤΙΜΑΡΧΟΥ, is found on several “brown-clay” amphora fragments discovered in or in the vicinity of Bosphorus, Scythian Napolis, Chersonesus and Patraeum in northern Black Sea region. It is dated either of the second half of the 3rd or 2nd centuries BC [Vinogradov, Onaiko 1975, 88-89] or of the second half of the

1. “Ch” is an abbreviation for “Colchian” (note by the authors).

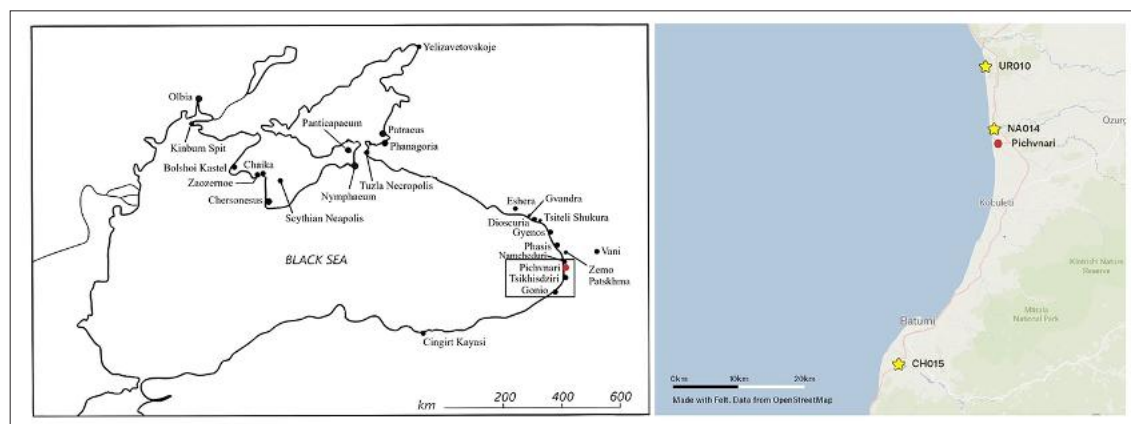


Fig. 1. Main sites of discovery of Hellenistic period “brown-clay” amphoras (left map) [map is based on: Tsetsckhladze 2023, 2, Fig. 1. The data is compiled from: Tsetsckhladze, Vnukov 1992, 360-361, Fig. 1 and 2; Boetto *et al.* 2022; Erol, Tamer 2020; Gerasimov *et al.* 2018 and Greek amphora from the Northern Pontus Euxinus (database)], Pichvnari (red dot) and sand sampling locations (yellow stars) (right map) (created on Felt.com).

2nd century BC. While the fourth one is a unique, miniature three-line stamp containing two Greek names [Tsetsckhladze, Vnukov 1992, 373].

The first two epigraphic stamps are considered to denote the city name of Dioscurias, suggesting that the ceramic workshop(s) producing the brow-clay amphoras in question was/were officially owned by the polis of Dioscurias, where Greek artisans should have been among the producers of these containers [Phiphia *et al.* 2022, 62, 64, 411-413; Tsetsckhladze, Vnukov 1992, 373-374] (see: below). However, its interpretation as a personal name Dioskos is also not excluded [Kac 2008, 107]. The third and fourth type probably denominate several of such Greek artisans who worked in Colchis [Tsetsckhladze, Vnukov 1992, 373-374].

Within the non-epigraphic stamps, only two types are known: first, a cross with a round frame from Pichvnari and Vani and a round stamp with the imprint of a horseman, six-pointed star and a bird [Tsetsckhladze, Vnukov 1992, 372-373 Fig. 13.3-4]. The first one is especially interesting, since two similar stamps are also known from *pithoi* rims in Vani [Tsetsckhladze 1991, 361-381]. Tsetsckhladze and Vnukov eventually connect the cross stamp to the aristocrat-owned workshops [Tsetsckhladze, Vnukov 1992, 373-374].

Concerning the three types of marks incised in wet clay, because of their abstract nature, there is no consensus among the scholars with respect to their meaning [Tsetsckhladze, Vnukov 1992, 373-374].

The provenance of “brow-clay” amphoras has been and still remains a matter of discussion among the scholars (for a review of different contributions see: Khalvashi 2002, 12-13; Matera *et al.* 2024, 61-62). However, the petrographic study done by Tsetsckhladze and Vnukov on 49 mid. 4th century BC – 4th century AD “brown-clay” amphora samples from different sites all over Colchis and the northern Black Sea littoral (mainly Crimea) [Tsetsckhladze, Vnukov 1992, 374-386] represents a strong piece of archaeometric evidence, which cannot be avoided when discussing the issue, especially in the light of a new archaeometric analysis. The study managed to identify two main groups: Fabric 1 (or A) and Fabric 2 (or B2). Both fabric groups are iron-rich, non-calcareous and seem to contain hydromicaceous (illite-smectite) minerals [Tsetsckhladze, Vnukov 1992: 372-385; Vnukov 2010, 30; 2011, 271-272] and 5 to 15% of ore mineral grains, together with “grains of quartz, plagioclase, pyroxene and moderately alkaline and acidic effusive rocks of normal alkalinity” [Vnukov 2006, 78].

Fabric 1 is mainly composed of pyroxene (50-90% of all inclusions). The rest of the inclusions is dominated by fragments of basalt [Tsetsckhladze, Vnukov 1992, 380]. However, quartz, plagioclase and acid rock fragments are also present (usually up to 5-7%). Other mineral and rock types only occur sporadically in a few samples. The authors conclude that a pyroxene-basaltic rich sand was used to prepare the fabric in ques-

tion [Vnukov 2006, 80; Tsetskhladze, Vnukov 1992, 382]. A very similar temper is also attested in Sinopean amphoras [Tsetskhladze, Vnukov 1992, 380]. Fabric 1 is used for the “brown-clay” containers from the 4th-1st centuries BC as well as the later Ch IC form from the Roman period [Vnukov 2011, 277, Fig. 8].

Fabric 2 is characterized by a larger petrographic and mineralogical variation compared to Fabric 1. We encounter varying amounts of quartz, plagioclase, pyroxene, various types of volcanic rock fragments. Plutonic rock fragments are present up to 5% and olivine, mica, sedimentary rock (sandstone) and shale together rarely rise above 5% [Vnukov 2006, 79]. The fabric group entails “brown-clay” amphora samples from virtually all periods (4th century BC – 4th century AD), as well as comparative pottery samples: four *pithoi* (4th-2nd centuries BC) and two domestic vessel fragments from southwestern Colchis (Ajara region)², one *pithos* (4th-3rd centuries BC) and one jug (1st century AD) from Vani [Tsetskhladze, Vnukov 1992, 381-382; Vnukov 2010, 30; Vnukov 2017, Pl. IV.21-24].

Interesting to note is the fact that the 4th-2nd century BC samples from north-western Georgia (Abkhazia) and the 4th-1st centuries BC samples from southwestern Georgia both contain quartz-sericitic schist fragments, while this rock type is absent from the Ch IC vessels of the 1st-4th centuries AD belonging to the same fabric group [Tsetskhladze, Vnukov 1992, 382].

In some of the publications a third fabric, the so-called transitional variety is also identified [Tsetskhladze, Vnukov 1992, 381; 1993, 91; Vnukov 2017, Table IV.20]. Here pyroxene is still dominant (over 40%). However other mineral and rock fragments not observed in Fabric 1 (e.g., orthoclase, magmatic rock fragments) also appear in minor quantities [Tsetskhladze, Vnukov 1992, 381]³. The authors interpret the more diversified composition of temper material as a less strict selection of raw materials compared to Fabric 1. This recipe turns out to be used for Ch IA as well

as Ch IB vessels, probably even into the 1st century AD [Tsetskhladze, Vnukov 1992, 381; Vnukov 2017, Pl. IV.20].

Based on the morphological and fabric similarities between the earliest Ch IA and Sinopean amphoras Tsetskhladze and Vnukov conclude that the production of former containers in Colchis could have been introduced by Sinopean artisans. This idea is further supported by the fact that the “brown-clay” amphoras with Greek stamps have only been attested within the first fabric group. Vnukov suggested that the production could have been based in Trapezus [Vnukov 2006, 81-82], “a colony of Sinope in the land of Colchis” [Xenoph, *Anab.* IV, 8, 20].

On the other hand, the mineralogical similarity of Fabric 2 group to the local pottery from southwestern Georgia allows us to link at least a part of the “brown-clay” amphora production to this very region, probably in a coastal environment, which would typically yield sands with such a varied mineralogy [Vnukov 2006, 80. also: Kac 2008, 104-105]. The authors assume that the containers made in Fabric 2 could have been rather produced by local craftsmen “who had adopted (to all intents and purposes) the new technology for the production of such vessels, without changing their traditional clay formula” [Tsetskhladze, Vnukov 1992, 384].

Within this paper we would like to assess whether the technological and productive groups outlined by the above-mentioned authors can be objectively defined in the light of a bigger sample size from a single site. We believe that the interpretative power of the comparison between 7 amphora and a few various types of domestic pottery samples from a wide chronological range is not enough to confidently argue that the Fabric 2 group vessels should have been made in southwestern Colchis per se. We think that rather a comparative archaeometric study of these transport containers and local raw materials from a wider region of the southern, eastern and northern Black Sea region has the power to finally resolve this issue.

Material and methods

The Hellenistic period amphoras considered in this study were discovered in the years 1965-2010 in Pichvnari, both on the cemetery and settlement areas. For the current study 44 representative

2. The date of these vessel fragments is unfortunately not given [Tsetskhladze, Vnukov 1992, 375].

3. These authors also mention Epidote as typical for the Fabric 2 and “transitional fabric” [Tsetskhladze, Vnukov 1992, 381-382]. However, this mineral is never mentioned in later publications [Tsetskhladze, Vnukov 1993; Vnukov 2006, 77-85; 2010, 30; 2011, 271-272] (see: below).

	Ch IA	Ch IA(?)	Ch IB	Ch IB(?)	CH IA/B	Total
Settlement	4	2	4	2	14	26
Cemetery	9	1	4	2	2	18
Total	13	3	8	4	16	44

Table 1. Statistics of selected petrographic samples per typological category.

samples were selected and their fabrics documented and described (Appendix A, Table A.1, A2, fig. A.1). 18 samples come from the cemetery, while 26 – from the settlement area (for detailed statistics see Table 1). The material can be subdivided into three main typological categories: Ch IA (certainly or probably), Ch IB (certainly or probably) and Ch IA/B (Appendix A, Table A.1; fig. 2).

As a comparative material, three sand samples were taken on three locations: the estuary areas of two rivers, Chorokhi (CH015) and Natanebi (NA014) and one sample from the beach of Ureki (UR010) (fig. 1). Sand is a potential tempering agent, fulfilling the role of giving strength to the clay vessel and allowing “to control excessive shrinkage and cracking of the ceramic object during drying and firing” [Montana 2017, 98]. Therefore, the aim of such comparison was to assess whether a part of the local raw materials could have been used within the “brown-clay” amphora production.

Petrographic analysis was used to investigate both pottery and sand samples. This method is one of the cost-effective and powerful research tools to describe in detail the composition of ceramics, as well as raw materials necessary for its’ production and explore the evidence for specific ceramic technologies that is hard to identify by the naked eye (from raw material processing and paste preparation to firing and use) and provenance [Quinn 2022, 13, 205-286; Braekmans, Degryse 2017, 233-261]. Petrographic analysis is especially useful in differentiating fabrics that are macroscopically difficult to separate. Therefore, by taking a large sample number from a single site we think to be able to test the petrographic classification by Vnukov and Tsatskhladze and eventually discover a more nuanced picture of petrographic variation within the “brown-clay” amphora group.

Results

Macroscopic analysis

Macroscopic study allowed us to subdivide the assemblage into two large groups: Group 1 and

2. The distinction is based mainly on the abundance of black versus white admixtures observed by naked eye. In Group 2 the black inclusions predominate over the white ones, while Group 1 is characterized by the opposite amounts of white and black mineral/rock grains. Besides, the white and black inclusions have a more regular and even distribution in Group 2 fabric group than in Group 1. Concerning the brown and grey inclusions, they were not always well visible by naked eye and the general impression is that they should be of secondary importance in macroscopic fabric group differentiation. However, it can be said that the abundance of brown admixtures is more typical for Group 1 (Appendix A, Table A.2).

Besides the well-differentiated samples there were also a dozen (no. 78, 81, 96, 97, 105, 109, 113, 114, 117 and 119) of which the belonging could not be determined with certainty seen the fact that they displayed non-typical patterns. They 1. Either had a more or less same amount of black and white inclusions (Group 1?) or 2. The black admixtures predominated, while the general appearance of the sample was still not typical for Group 2 (Group 2?). Therefore, the issue of the final fabric classification was taken to the petrographic level of analysis.

Petrographic analysis

Pottery samples

Petrographic analysis allowed us to clearly define two microscopic fabric groups, Pm-1, Pm-2 and a loner Pm-3. The descriptions were made according to the chart proposed by Quinn [Quinn 2022, 108]. However, the abundance of each inclusion category was estimated semi-quantitatively using (+/-) percentages, in order to render the comparison with the data presented by Vnukov and Tsatskhladze (see: above) easier. Detailed petrographic descriptions are provided in Appendix B.1.

Pm-1 comprises 5 samples (no. 80, 86, 102, 104 and 106). It is characterized by an iron-rich

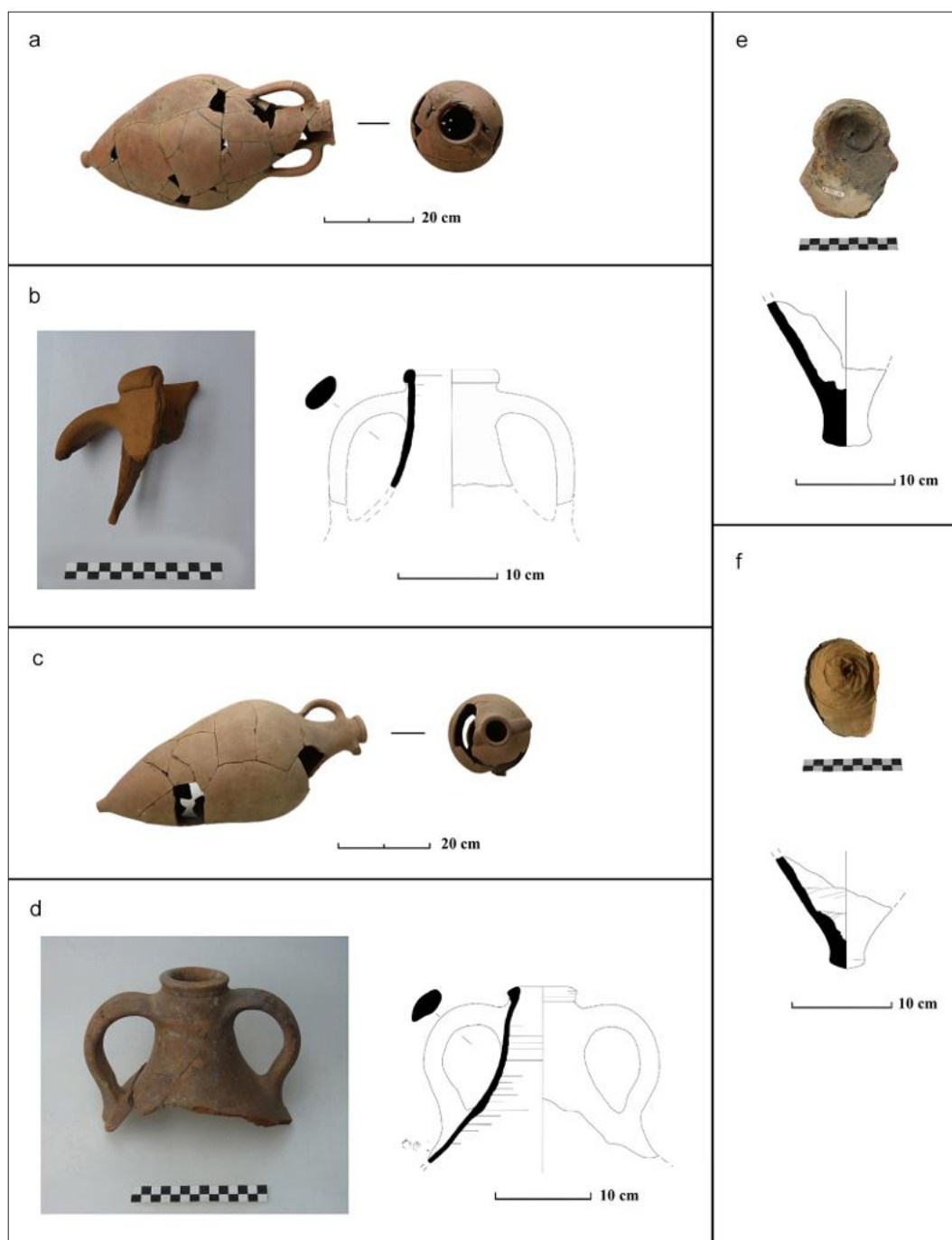


Fig. 2. Fragments and reassembled amphoras from Pichvnari. Ch IA: a – QP07-01(not sampled), b – sample no. 105; Ch IB: c – sample no. 115-116, d – sample no. 97, Ch IA/IB: e – sample no. 80, f – sample no. 88 (photos and drawings: A. Rogava).

fabric dominated by pyroxene (+/- 13,5-19%) and volcanic rock fragments (+/- 1-5%) (fig. 3). Black opaque iron-rich ore mineral fragments range from around < 0,5 to 1% and iron-rich rock fragments from around 1,5 to 4%. While quartz (+/- 1-3%) and feldspar (< 0,5-1%) are of low significance. Occasionally Pm-1 fabric group also includes spo-

radic intrusive rock (up to +/- 1%) fragments. The silt fraction is mainly composed of quartz and/or feldspar (up to +/- 1,5%), with some black opaque ore mineral fragments (up to +/- 0,5%), while mica flakes are only exceptional. The fabric group has a clearly bimodal grain size distribution. The matrix contains some amount of iron rich clay pellets

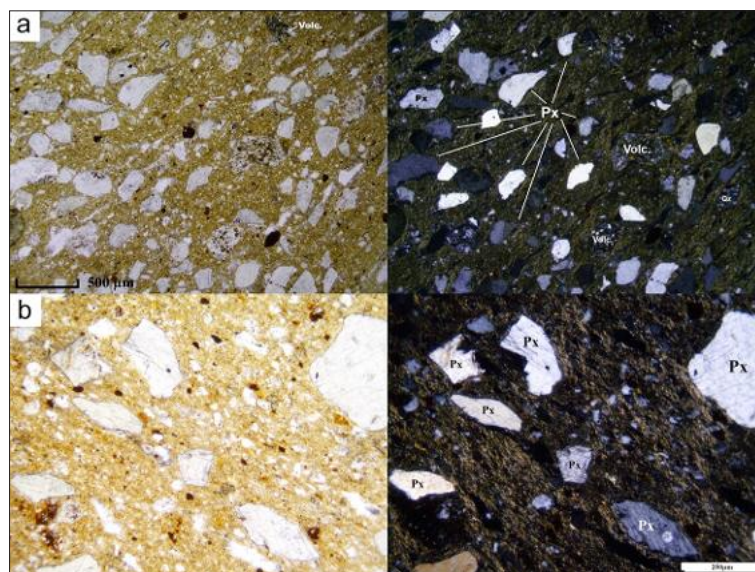


Fig. 3. Pm-1 microscopic fabric group: a – 40x (sample no. 80), b – 100x (sample no. 102). Abbreviations: Px – pyroxene, volc. r. – volcanic rock (Photos: A. Rogava).

and in the majority of the thin sections a thread-like texture is observed, implying the presence of montmorillonite clay. Optical anisotropy is weak to strong suggesting an equivalent firing temperature of below 800-850 °C [Quinn 2022, 269].

Pm-2 comprises the majority of the studied thin sections, 38 in total (no. 79, 81, 82, 83, 84, 85, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 103, 105, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120 and 121). The grain size distribution can be described as moderately bimodal. The dominant inclusion types are volcanic rock fragments of various type (+/- 4-11%) and pyroxene (+/- 1-9%). The distinguishing rock types, completely or virtually absent in Pm-1 are: siltstone-sandstone (< 0,5-3%), yellowish-greenish inclusions of possible volcanic glass (< 0,5-3%) and metamorphic rock admixtures (up to 5%, only absent in two thin sections) (fig. 4,a-c). Compared to Pm-1, a more felsic nature of the Pm-2 microscopic fabric group is demonstrated by higher amounts of quartz (+/- 1-7%), feldspar (< 0,5-3%) and intrusive rock fragments consisting mainly of quartz and feldspar (< 0,5-4%). Another typical feature of Pm-2 are silt-sized mica and yellowish-greenish volcanic glass(?) fragments, more or less evenly distributed within the matrix and varying from around 0,5 to 1%. Less diagnostic inclusion categories (also present in Pm-1) are: iron-rich rock (+/- 0,5-6%) and black opaque iron-rich ore mineral

(< 0,5-2%) fragments. The matrices of 35 samples are characterized by weak/medium to strong anisotropy. Only in the case of three samples (no. 85, 89 and 94) vitrification can be observed, which can probably be considered as accidental (heat effect during a post-firing fire event), rather than indicating an equivalent firing temperature of 800-850 °C or above [Quinn 2022, 269].

Pm-3 loner (sample no. 78 – QS144-4) is characterized by the prominence of volcanic and iron-rich rock fragments, each documented as +/- 10%. Within the volcanics the admixtures with abundant rutile dominate. Less important are: pyroxene (+/- 3%), quartz (+/- 1%), feldspar (+/- 1%) and black opaque iron-rich ore mineral fragments (+/- 1%). Compared to Pm-1 and Pm-2, the clay of the Pm-3 loner is clearly siltier (+/- 4% in total) and is dominated by quartz and/or feldspar grains (+/- 3%), while mica, yellow-greenish volcanic glass(?) and black isotropic iron-rich ore mineral fragments are of secondary importance (each documented as < 0,5%). The matrix of the Pm-3 loner is very iron-rich and seems to have been fired on an equivalent temperature of less than 800-850 °C [Quinn 2022, 269], as indicated by a medium – strong anisotropy (fig. 4,d-e).

Sand samples

The sand samples, where all the four rock categories found in Pm-2 were encountered, are

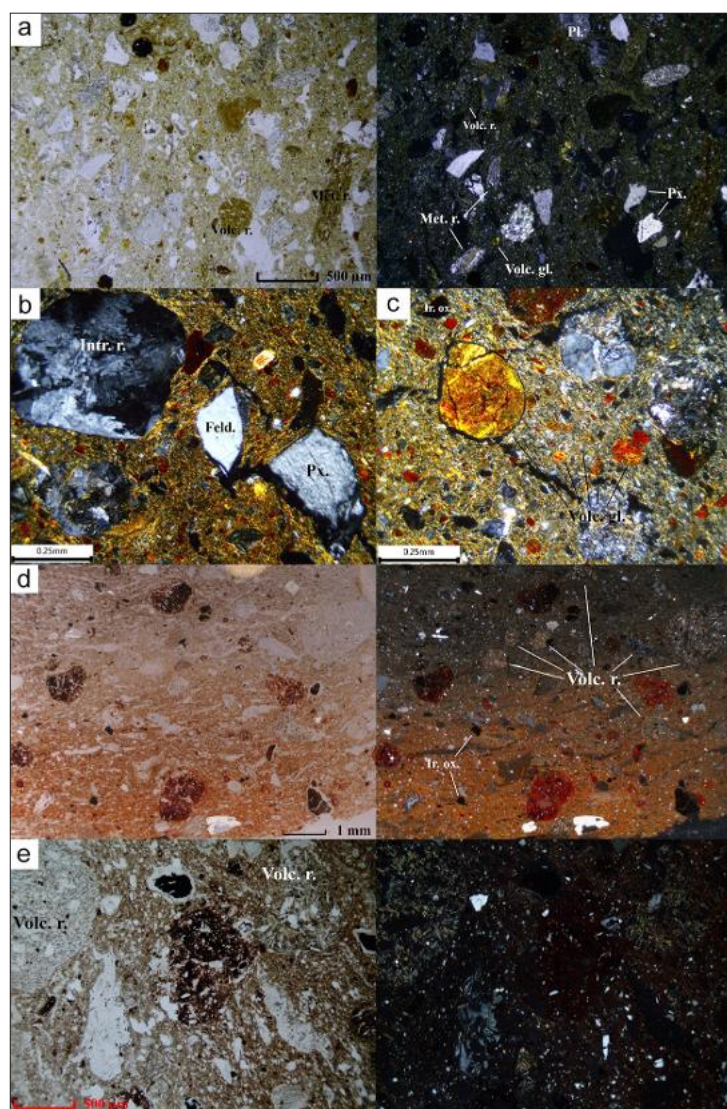


Fig. 4. Pm-2 petrographic fabric group (a – 40x (sample no. 81), b and c – 100x (sample no. 87)) and Pm-3 (loner) (d – 12x (sample no. 78), e – 40x (sample no. 78)). Abbreviations: Feld. – Feldspar, Px. – Pyroxene, Pl. – Plagioclase, Volc. r. – Volcanic rock, Volc. gl. – Volcanic glass, Intr. r. – Intrusive rock, Met. r. – Metamorphic rock, Ir. ox. – Iron ore fragments (photos: A. Rogava).

NA014 and UR010, respectively Natanebi river and Ureki beach sands. In case of Natanebi the main part of the inclusions consists of volcanic (+/- 8%), silt-sandstone (+/- 7%) and metamorphic rock fragments (+/- 7%). Pyroxene amounts to around 2,5%, however the felsic inclusions, composed of quartz (+/- 4%, mainly monocrystalline), feldspar (+/- 3%) and intrusive rock fragments consisting mainly of quartz and feldspar (+/- 3%) are still an important category. Less significant are: yellowish-greenish volcanic glass(?) (+/- 2%), iron-rich rock (+/- 2%) and mica (< 0,5%) fragments. The silt fraction is mainly com-

posed of quartz and/or feldspar (+/- 3%), followed by black isotropic iron-rich ore (< 0,5%) and mica and yellowish-greenish mineral fragments (+/- 0,5%) (full petrographic description of all sand samples are provided in Appendix B.2) (fig. 5,b).

Within the Ureki beach sand sample (UR010) volcanic rock fragments are even more important (+/- 12%), while sandstone-siltstone and metamorphic rock inclusions amount to around 4 and 3% respectively. Pyroxene seems to be more important here than in Natanebi river sand, amounting to around 5%, while the felsic component, consisting of only feldspar (+/- 1,5%) and quartz (+/- 3%)

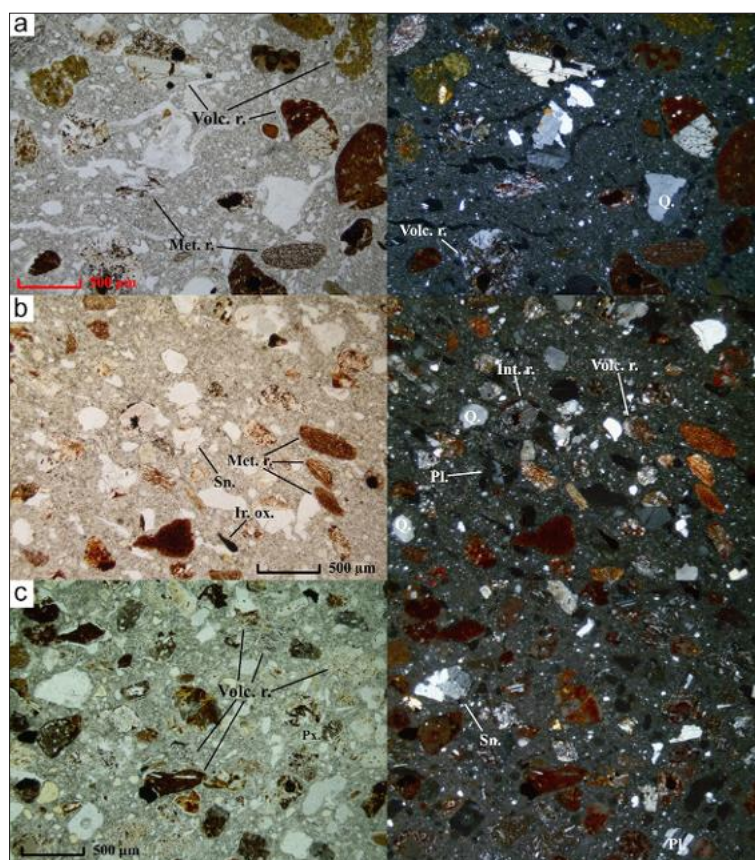


Fig. 5. Sand samples under magnification of 40x: a – UR010; b – NA014; c – CH015. Abbreviations: Q. – Quartz, Pl. – Plagioclase, Px. – Pyroxene, Met. r. – Metamorphic rock, Volc. r. – Volcanic rock, Intr. r. – Intrusive rock, Sn. – Sandstone, Ir. ox. – Iron oxide (photos: A. Rogava).

is somewhat less significant. Besides, low amount of iron-rich rock fragments ($\pm 1\%$) also occur in Ureki beach sand. Concerning the silt fraction, its' composition is practically the same as in the case of Natanebi river sand, with the only difference that yellowish-greenish volcanic glass(?) fragments seem to be absent here (fig. 5,a).

Chorokhi river sand (CH015) appears as petrographically the most distinct from the other two sand, as well as all the ceramic samples. It is dominated by volcanic rock fragments ($\pm 16\%$), followed by sandstone-siltstone ($\pm 5\%$) and feldspar ($\pm 4\%$). The river sand sample also contains a certain amount of iron-rich rock fragments ($\pm 3\%$). Other inclusion types, such as pyroxene ($\pm 2\%$) and intrusive rock admixtures ($\pm 1\%$), are only of secondary importance, while quartz is sporadically present ($\pm 0,5\%$). The silt fraction of Chorokhi river sand appears compositionally the same as the river sand of Natanebi (see: above) (fig. 5,c).

Discussion and conclusions

Following the analysis of the material, it is now possible to examine the results in relation to the data presented by Tsetskhaldze and Vnukov (see: above). Concerning the Pm-1, we observe that the approximate share of pyroxene is around 50%, while volcanic rock fragments represent the second most important inclusion type; Therefore, this fabric group is most consistent with the pyroxene-rich Fabric 1 (or A) defined by Tsetskhaldze and Vnukov [Tsetskhaldze, Vnukov 1992: 380; Vnukov 2006, 80; Vnukov 2010: 30; see also: above]. While Pm-2 appears mineralogically very close to Fabric 2, presented as a mix of volcanic, intrusive, metamorphic and sedimentary (sandstone) rock types. However, olivine, which was present in 80% of the samples of Fabric 2 [Vnukov 2006, 79] was practically undetected in any of our 38 samples. Therefore, it is even possible that this large group from Pichvnari might represent a specific fabric variation, eventually linked to a specific production sub-region.

Due to a larger number of samples, we were able to ascertain that the majority of Pm-2 group specimens contains both siltstone-sandstone and metamorphic rock fragments. However, there were a few samples without either of the two (sample no. 116) or containing higher and larger amounts of yellow-greenish volcanic glass(?) (sample no. 121) (Appendix B.1). What all the thin sections of Pm-2 fabric group share is the abundance of silt-size mica and yellow-greenish volcanic glass(?) inclusions, together with other above mentioned sand sized rock and mineral admixtures. Therefore, based on our material we conclude that the metamorphic rock and sandstone fragments are indeed found in the “brown-clay” amphoras discovered on the south-western Colchis, as noted by Vnukov and Tsetskhladze [Tsetskhladze, Vnukov 1992, 382]. However, that’s not always the case.

The loner Pm-3 (= sample no. 78, QS144-4) represents an interesting case. In terms of mineralogy, it shows similarities to Pm-2 fabric group, suggesting that the source for the raw material should not have been very different from the raw material(s) used for Pm-2. We could be dealing here with an alternative geographical source, used only in a limited way in the “brown-clay” amphora production in the Hellenistic period.

Concerning the firing conditions of the studied amphoras, it is evident that the majority of them were fired at an equivalent firing temperature of less than 800-850 °C. Only three samples from Pm-2 fabric group (no. 85, 89 and 94) display some vitrification. All three of them were found in the settlement context and therefore it is

not excluded that a fire event, rather than a relatively high firing temperature, was responsible for vitrification.

Another interesting issue is the relationship between macroscopic and microscopic fabric characteristics of the studied Colchian amphoras. It turns out that the differences between the pyroxene-rich (Pm-1) and “mixed” fabric groups (Pm-2) are not always clearly detectable macroscopically (Appendix A, Table A.2). The share of black vs. white-coloured inclusions and their distribution within the matrix appears to be enough in the majority of cases to differentiate these two fabric groups correctly. However, one might mismatch around 1/4th of sherds when classifying the material only by naked eye. Therefore, it is advisable to inspect as many fresh breaks and surface areas as possible.

Evaluating the provenance of the studied “brown-clay” amphoras can still not be direct, seen the lack of evidence in the form of production remains (kiln or wasters) and a substantial corpus of raw material (sand and clay) samples from a wide region. The limited amount of sand samples that we were able to examine in our preliminary analysis, however, indicates that the tempering material originated in the riverine and/or coastal sedimentary environment in the area around Pichvnari. In any case, the comparison between the 3 sand and 44 pottery samples analysed within the scope of this article gives us a hint about how useful such a comparative study can be and suggests that the searching for potential temper (and clay?) sources should start from the immediate surroundings of the site itself.

Appendix A – Macroscopic description of analysed amphora samples

Sample no.	Inv. no.	Fragment	Type	Context
78	QP99-144	FW	Ch IA/B	settlement
79	QP99-142	FW	Ch IA/B	settlement
80	05N80-52	FW	Ch IA/B	settlement
81	N65-241	RNH	Ch IA	settlement
82	QP99-191	FW	Ch IA(?)	settlement
83	QP04-7	HN	Ch IA(?)	settlement
84	QP19-3	RNH	Ch IA/B	settlement
85	N2.19-41	RNH	Ch IA/B	settlement
86	05NII81-55	FW	Ch IA/B	settlement

87	05NII81-28	FW	Ch IA/B	settlement
88	QP84-615(1)	FW	Ch IA/B	settlement
89	QP79-724	FW	Ch IA	settlement
90	QP84-609	NHW	Ch IA/B	settlement
91	QP84-617(2)	RNH	Ch IB1	settlement
92	QP84-617(3)	RNH	Ch IB1	settlement
93	QP81-252	FW	Ch IB(?)	settlement
94	QP77-111	FW	Ch IA/B	settlement
95	QP76-8	RN	Ch IA	settlement
96	QP81-245	FW	Ch IA/B	settlement
97	QP84-591(1)	RNHW	Ch IB	settlement
98	QP80-54	FW	Ch IA/B	settlement
99	QP65-912	FW	Ch IA/B	settlement
100	QP99-124	FW	Ch IB (?)	settlement
101	QP84-591(2)	RNHW	Ch IB	settlement
102	QP77-53	FW	Ch IA/B	settlement
103	QP80-51	FW	Ch IA	settlement
104	QP02-01	RNHW	Ch IB	cemetery
105	QP04-16	RNHW	Ch IA	cemetery
106	QP08-31	FW	Ch IA	cemetery, small ritual platform, NO I 21 sect. sq. 46
107	QP04-16	FWH	Ch IA	cemetery, ritual platform N3
108	QP04-08	RNHW	Ch IA	cemetery
109	QP80-9*	RNH	Ch IA(?)	cemetery
110	QP80-9*	FW	Ch IA(?)	cemetery
111	QP02-33	HW	Ch IA(?)	cemetery, grave N 173, SW 61 sect. sq. 70-60
112	QP08-69	?	Ch IA	cemetery, large ritual platform, NO I 21 sect. sq. 55
113	QP80-86	FW	Ch IA	cemetery
114	QP06-01	RNHW	Ch IB(1)	cemetery, ritual platform, NO I 21 sect. sq. 76
115	QP06-42*	RNHWF	Ch IB1	cemetery
116	QP06-42*	RNHWF	Ch IB1	cemetery
117	QP06-44	RNHWF	Ch IB1(?)	cemetery
118	QP80-06	FW	Ch IA/B	cemetery
119	QP08-67	RNH	Ch IB(?)	cemetery, large ritual platform, NO I 21 sect. sq. 55
120	QP80-05	FW	Ch IA/B	cemetery
121	QP02-58	RNHWF	CH IA	cemetery, ritual platform N1

Table A.1. Sample list with corresponding inventory numbers and information about the fragment (F – Foot, W – Wall, R – Rim, N – neck, H – Hand), type of amphora and context. Starred amphora / amphora fragments represent the same vessels sampled at two different parts of the body.

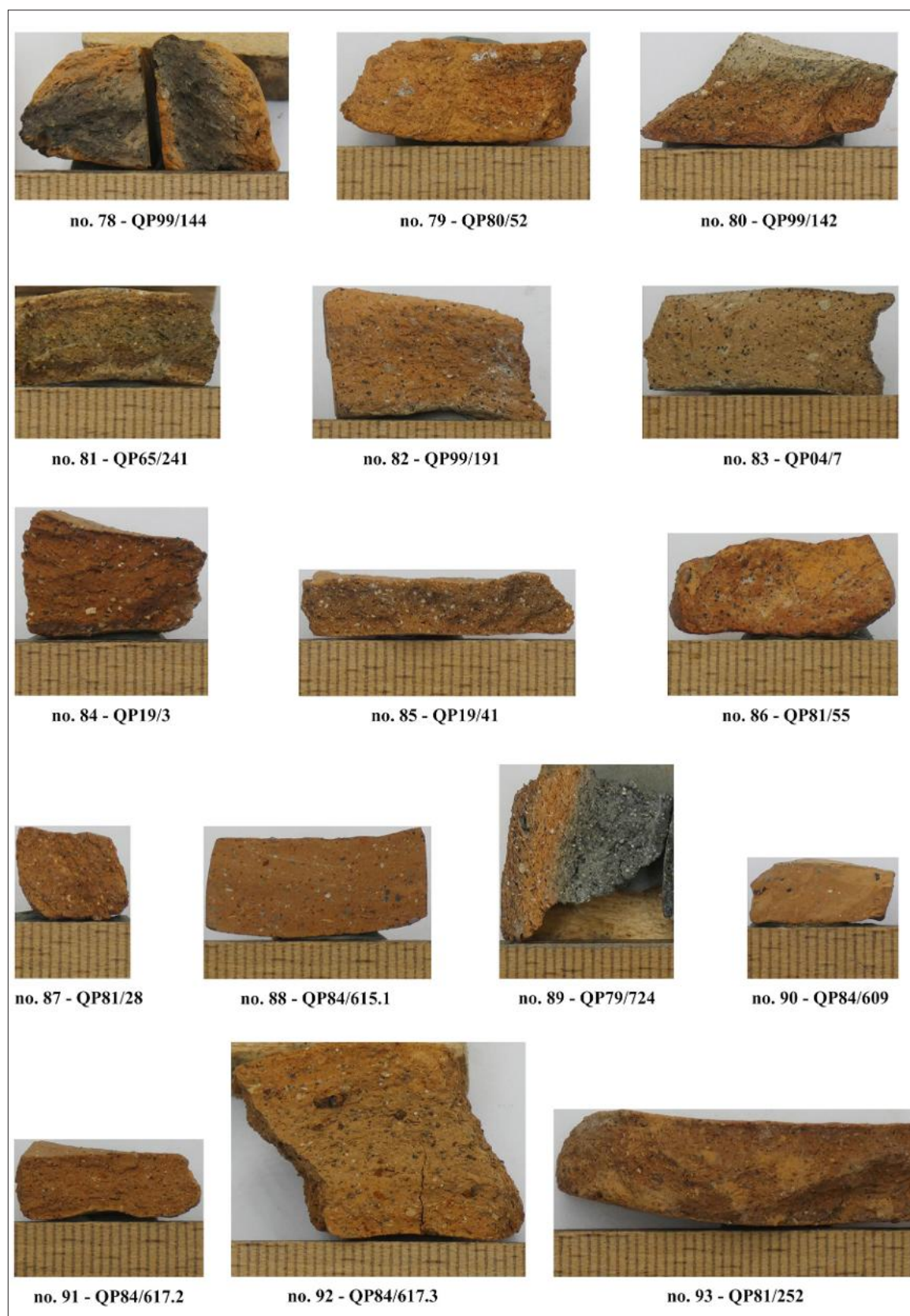


Fig. A.1.1. Fabrics of analysed pottery samples (photos: A. Rogava).



Fig. A.1.2. Fabrics of analysed pottery samples (photos: A. Rogava).

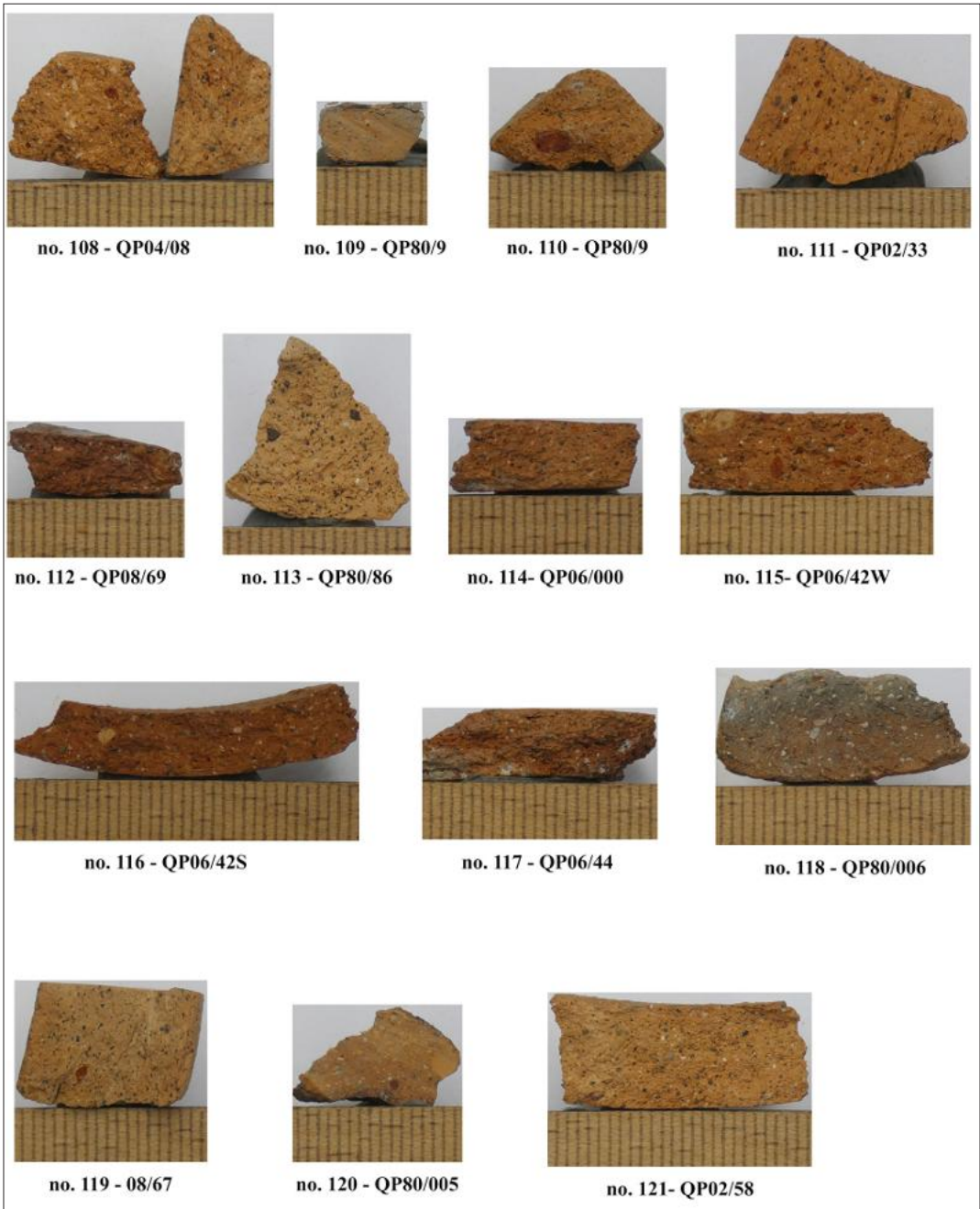


Fig. A.1.3. Fabrics of analysed pottery samples (photos: A. Rogava).

Sample no.	Black	White	Red-brown	Grey	Macr. grouping
78	1-3% (< 1mm)	2-3% (< 0.25mm)	<0.5% (< 1mm)	0.5-2% (up to 1mm)	Group 1?
79	2-5% (< 1mm)	2-5% (up to 1mm)	0.5-2% (< 1mm)	?	Group 1
80	5-10% (< 1mm)	2-5% (< 2mm)	0.5-1% (up to 1mm)	?	Group 2
81	4-7% (< 1mm)	2-5% (up to 0.5mm)	<0.5% (up to 1mm)	?	Group 2?
82	3-5% (up to 1mm)	2-5% (< 1mm)	0.5-1% (up to 1mm)	0.5-1% (> 1mm)	Group 1
83	3-5% (< 1mm)	3-7% (< 0.5mm)	0.5-1% (< 1mm)	1-2% (> 1mm)	Group 1

84	1-3% (< 1mm)	3-7% (> 1mm)	0.5-1% (< 1mm)	1-2% (< 1mm)	Group 1
85	2-5% (< 1mm)	5-10% (up to 1mm)	1-2% (up to 1mm)	1-2%? (up to 1mm)	Group 1
86	5-8% (up to 0.5mm)	1-2% (< 0.25mm)	0.5-1% (up to 1mm)	< 0.5%? (< 1mm)	Group 2
87	2-4% (up to 0.5mm)	3-5% (< 1mm)	0.5-1%? (up to 1mm)	0.5-1%? (< 1mm)	Group 1
88	2-3% (< 1mm)	3-7% (< 1mm)	0.5-1% (< 1mm)	1-2% (> 1mm)	Group 1
89	1-3% (< 1mm)	3-7% (> 1mm)	2-3% (< 1mm)	1-2% (< 1mm)	Group 1
90	0.5% (< 1mm)	1-2% (< 1mm)	0.5%? (up to 1mm)	< 0.5% (< 1mm)	Group 1
91	2-4% (up to 0.5mm)	2-5% (< 1mm)	0.5%? (up to 1mm)	0.5-1%? (< 1mm)	Group 1
92	2-4% (> 1mm)	4-8% (< 1mm)	2-4% (> 1mm)	0.5%? (> 1mm)	Group 1
93	2-5% (up to 1mm)	3-7% (< 1mm)	0.5%? (up to 1mm)	0.5-1% (> 1mm)	Group 1
94	2-4% (up to 1mm)	2-5% (< 1mm)	0.5%? (< 1mm)	0.5-1%? (up to 1mm)	Group 1
95	2-5% (< 1mm)	2-5% (< 1mm)	2-4% (> 1mm)	0.5-1% (up to 1mm)	Group 1
96	2-4% (< 1mm)	1-3% (up to 0.5mm)	2-3% (> 1mm)	0.5-2%? (up to 1mm)	Group 2?
97	2-3% (up to 0.5mm)	1-3% (< 1mm)	0.5% (< 0.5mm)	?	Group 1?
98	2-4% (< 1mm)	3-6% (< 1mm)	0.5-1%? (up to 2mm)	1-2%? (up to 1mm)	Group 1
99	1-3% (< 1mm)	3-6% (up to 1mm)	2-5% (> 2mm)	0.5%? (< 1mm)	Group 1
100	1-2% (up to 0.5mm)	2-6% (up to 1mm)	0.5-1%? (up to 1mm)	0.5%? (< 1mm)	Group 1
101	2-5% (up to 1mm)	3-7% (< 1mm)	0.5-1% (< 1mm)	0.5-1% (up to 1mm)	Group 1
102	5-8% (< 1mm)	2-3% (up to 1mm)	0.5-1%? (< 1mm)	?	Group 2
103	3-5% (up to 1mm)	4-6% (> 1mm)	1-3% (up to 1mm)	0.5-1%? (< 1mm)	Group 1
104	6-8% (< 1mm)	1-3% (up to 1mm)	1-3% (> 2mm)	0.5%? (< 1mm)	Group 2
105	4-5% (< 1mm)	2-4% (up to 1mm)	0.5-1%? (> 1mm)	?	Group 2?
106	4-6% (< 1mm)	1-3% (< 1mm)	0.5%? (up to 1mm)	0.5-1% (up to 1mm)	Group 2
107	2-3% (up to 1mm)	3-5% (< 1mm)	0.5-1% (up to 1mm)	0.5%? (< 1mm)	Group 1
108	1-2% (< 1mm)	3-7% (up to 1mm)	0.5-1% (< 2mm)	?	Group 1
109	1-2%? (< 1mm)	1-2%? (< 0.5mm)	?	?	Group 1?
110	2-3% (< 6mm)	2-4% (up to 0.5mm)	2-4% (> 3mm)	0.5%? (up to 1mm)	Group 1
111	2-3% (> 1mm)	2-4% (< 1mm)	1-2% (> 1mm)	0.5% (< 1mm)	Group 1
112	1-2% (< 1mm)	2-4% (up to 1mm)	0.5%? (< 1mm)	?	Group 1
113	2-5% (> 1mm)	2-4% (< 1mm)	1-2% (up to 0.5mm)	< 0.5%? (up to 0.5mm)	Group 2?
114	2-3% (> 1mm)	1-2% (< 1mm)	0.5%? (< 1mm)	< 0.5%?	Group 2?
115	1-2% (< 1mm)	3-6% (up to 1mm)	1-3% (up to 2mm)	?	Group 1
116	1% (< 1mm)	2-5% (> 2mm)	0.5-1%? (< 1mm)	0.5-1%? (< 1mm)	Group 1
117	2-3% (< 1mm)	2-3% (< 1mm)	0.5%? (< 1mm)	0.5-1%? (> 1mm)	Group 1?
118	1-2% (< 1mm)	3-6% (> 1mm)	0.5% (< 1mm)	0.5%? (< 1mm)	Group 1
119	3-5% (< 1mm)	2-3% (< 0.5mm)	1-2% (> 2mm)	?	Group 2?
120	1% (< 0.5mm)	2-3% (< 1mm)	1% (up to 1mm)	1%? (< 1mm)	Group 1
121	1-2% (< 1mm)	2-3% (< 1mm)	0.5-1% (< 1mm)	0.5% (< 1mm)	Group 1

Table A.2. Macroscopic description and grouping of amphora samples.

Appendix B – Petrographic descriptions**B.1. Pottery samples****Pm-1: Pyroxene and volcanic rock fabric (Fig. ...)**

Samples: no. 80, 86, 102, 104 and 106.

Inclusions (23,5-36%)¹

Sorting: moderate to poor.

Grain size distribution: bimodal

Silt fraction (eq. & el., a to wr) (+/- 0,5 – < 2%)

0,5-1,5% quartz/feldspar

< 0,5-0,5% black isotropic iron-rich ore mineral fragments

0 – < 0,5% mica (only sample no. 102)

Sand fraction (el & eq, a to sr) (+/- 23-35%)

13,5-19% Pyroxene (up to 830 µm)

1-5% Volcanic rock fragments (up to 840 µm)

0 – < 0,5% Volcanic (?) rock fragment (up to 315 µm) (present only in sample no. 80).

1-3% polycrystalline quartz (up to 1560 µm)

1,5-4% largely isotropic, black or reddish-black rock fragments (up to 1280 µm)

0,5-3% quartz and/or feldspar (up to 505 µm)

< 0,5-1% black isotropic iron-rich mineral fragments (up to 190 µm)

< 0,5-1 % feldspar (up to 680 µm)

0-1% intrusive rock fragments (up to 735 µm). It is absent in sample no. 104.

0-0,5% intrusive(?) rock fragments (up to 700 µm). It is present in sample no. 104 and 106.

0-1% Sandstone(?) (up to 370 µm). It is only present in sample no. 80, 86 and 102.

0 – < 0,5% unidentified yellowish to reddish volcanic glass(?) fragments (up to 240 µm). It is present only in sample no. 86.

< 0,5-2% unidentified rock fragments (up to 900 µm).

Matrix (57-71%)

Matrix is iron-rich. However, its' content is variable: judging from the samples' colour in XPL the sample no. 104 contains less iron (and less quartz and/or feldspar inclusions in silt fraction) compared to the samples no. 80, 86, 102 and 106 (which also contain more quartz and/or feldspar inclusions in silt fraction). The colour of matrix in XPL is orangish-brown (seldom yellow-orangish) to greenish(-yellowish), mostly with weak to strong pleochroism. In 4 out of 5 thin sections a thread-like texture can be observed, suggesting the presence of montmorillonite clay. Iron-rich clay pellets can be clearly identified in samples no. 80, 86 and 104. The colour in PPL is light orangish brown to orange – brown or dark brown.

Voids (5-8%)**Pm-2: "Mixed" fabric (magmatic, sedimentary and metamorphic rock) fabric (Fig. ...)**

Samples: no. 79, 81, 82, 83, 84, 85, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 103, 105, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116 117, 118, 119, 120 and 121.

Inclusions (13-37%)

Sorting: moderate to poor

Grain size distribution: bimodal – moderately bimodal

Silt fraction (eq. & el. a. to r):

0,5-1% mica + unidentified yellow-greenish mineral fragments

< 0,5-1,5% quartz and/or feldspar

< 0,5% black isotropic iron-rich ore mineral fragments

1. All abundance estimation numbers are approximative (+/-).

Sand fraction (el. & eq. a. to sr):

4-11% volcanic rock fragments (up to 1390 µm)

1-9% pyroxene (up to 860 µm)

1,5-7% mainly polycrystalline and some monocrystalline quartz (up to 1000 µm)

0,5-6% largely isotropic, black/reddish-black rock fragments (up to 1800 µm)

< 0,5-3% feldspar (up to 840 µm)

< 0,5-4,5% quartz and/or feldspar (up to 485 µm)

< 0,5-4% intrusive rock fragments (up to 955 µm)

0-2% intrusive(?) rock fragments (up to 490 µm). Present only in samples: no. 101, 105, 107, 111, 112, 113, 114, 115, 116, 118.

0-5% metamorphic rock fragments (up to 910 µm). It is absent in samples: no. 86, 115, 116 and 121.

0 – < 0,5% metamorphic(?) rock fragments (up to 545 µm). Present only in samples: no. 83, 84, 91 and 119.

< 0,5-3% Siltstone – Sandstone (up to 580 µm)

0-2% Siltstone – Sandstone(?) (up to 640 µm). It is present in samples: no. 81, 83, 84, 86, 107, 110, 111, 113, 114, 115, 118, 119, 120, 121.

< 0,5-2% black isotropic iron-rich ore mineral fragments (up to 330 µm)

< 0,5-3% unidentified yellowish to reddish volcanic glass(?) fragments (up to 1210 µm)

< 0,5-2% other unidentified rock fragments (up to 590 µm)

0 – < 0,5% amphibole (up to 440 µm). It is only present in samples: no. 81, 84 and 117.

0 – < 0,5% olivine (230 µm). Present only in sample no. 110.

0 – < 0,5% olivine(?) (200 µm). Present only in sample no. 79.

Matrix (54-83%)

Matrix has a variable iron content. Iron rich clay cloths and iron poor zones are often visible, as well as iron rich streaks in some cases. The colour in XPL is mostly orangish-brown to light greenish/yellowish with a weak/medium to strong pleochroism. Exceptions are samples no. 85, 89 and 94, which have weak to medium pleochroism and partly vitrified matrices. Majority of thin sections have a thread-like texture, suggesting the presence of montmorillonite clay. The matrix colour in PPL is mostly light (orangish) brown to orange-brown, dark brown or reddish brown. Seldom – light grey to dark grey.

Voids (4-10%)**Comments**

Samples no. 115, 116 and 121 contain no metamorphic rock fragments and sample the first two also lack sandstone admixtures. However, their matrices and silt fraction is typical for Pm-2. Therefore, based on general criteria these three thin sections should also be considered as belonging to Pm-2 microscopic fabric group.

The low inclusions share in samples no. 90 and 91 is due to the fact that these thin sections were made from thin wall parts, where the inclusions are well-spread across the matrix. On the outer surface of thin section no. 85 traces of smoothing is visible.

Pm-3 (Loner) – sample no. 78 (QS144-4): Silty with volcanic rock and opaques**Inclusions (32%)**

Sorting: Moderate

grain size distribution: moderately bimodal

Silt fraction (eq. & el. a. to r.):

+/- 3% quartz/feldspar

< 0,5% mica

< 0,5% unidentified yellow-greenish mineral fragments

< 0,5% black isotropic iron-rich ore mineral fragments

Sand fraction (el. & eq. a. to sr.):

- +/- 10% volcanic rock fragments (up to 1160 µm). Large part of them are of the same type and contain tiny Rutile needles. The rest is mostly mafic in composition.
- +/- 10% largely isotropic, black/reddish-black rock fragments (up to 2100 µm)
- +/- 3% pyroxene (up to 850 µm)
- +/- 2% quartz and/or feldspar (up to 150 µm)
- +/- 1% feldspar (up to 560 µm)
- +/- 1% polycrystalline quartz (up to 540 µm)
- +/- 1% black isotropic iron-rich ore fragments (up to 210 µm)
- < 0,5% metamorphic rock fragments (possibly schist) (up to 345 µm)

Matrix (60%)

The colour of the matrix in XPL is orange brown to greenish with traces of montmorillonite. Pleochroism is medium to strong. The colour in PPL is light brownish-grey to orangish/reddish brown, suggesting the presence of a certain amount of iron. It contains large amount of partly isotropic iron-rich concretions and iron oxides (up to 2100 µm). It is difficult to judge whether they form part of the temper or belong to the original raw clay.

Silt size inclusions are evenly distributed within the matrix, suggesting a primary silty raw material.

Voids (8%)**B.2. Sand samples****1. CH015 (Chorokhi river sand – briquette fired at 980 °C)****Inclusions (38,5%)**Silt fraction (eq. & el. a. to r.):

- 3% quartz / feldspar
- < 0,5% black isotropic iron rich ore mineral fragments (incl. magnetite?)
- 0,5% mica and other indefinite yellowish mineral fragments

Sand fraction (el. & eq. a. to r.):

- 16% volcanic rock fragments (up to 700 µm)
- 5% sandstone (up to 480 µm)
- 4% feldspar (up to 515 µm)
- 3% mainly isotropic, iron rich rock fragments (up to 540 µm)
- 2% pyroxene (up to 410 µm)
- 2% quartz and/or feldspar (up to 365 µm)
- 1% intrusive rock fragments (up to 700 µm)
- 1% unidentified rock fragments (up to 650 µm)
- 0,5% quartz (up to 260 µm)
- < 0,5% amphibole (hornblende?) (a single fragment, 210 µm)

Comments

Zoning occurs in the case of two plagioclase crystals within the volcanic rock and a few loose plagioclase crystals.

2. NA014 (Natanebi river sand – briquette fired at 980°C)**Inclusions (44,5%)**Silt fraction (eq. & el. a. to r.):

- 3% quartz/feldspar
- 0,5% mica + undefined mafic (often yellowish mineral fragments)
- < 0,5% black isotropic iron rich ore mineral fragments (incl. magnetite?)

Sand fraction (el. & eq. a. to r.):

- 8% volcanic rock fragments (up to 860 µm)
- 2% yellowish-greenish volcanic glass(?) fragments (up to 680 µm)
- 7% sandstone (consisting mostly of quartz) (up to 980 µm)
- 7% metamorphic rock fragments (up to 950 µm)
- 3% feldspar (up to 470 µm)
- 2,5%: pyroxene (up to 310 µm)
- 3% monocrystalline quartz (up to 400 µm)
- 1% polycrystalline quartz (or rocks consisting mainly of polycr. quartz) (up to 400 µm)
- 3% intrusive rock fragments (265-630 µm)
- 2% black or reddish-black, partly isotropic iron rich rock fragments (up to 420 µm)
- 2% quartz and/or feldspar (up to 545 µm)
- < 0,5% mica (a single fragment, 135 µm)

Comments

Zoning occurs in the case of a plagioclase crystal within a volcanic rock and a loose plagioclase fragment. Yellowish volcanic glass fragments often contain silt sized accessory minerals.

3. UR010 (Ureki beach sand – briquette fired at 980 °C)**Inclusions (35,5%)**Silt fraction (eq. & el, a. to r.):

- 3% quartz/feldspar
- 0,5% mica
- < 0,5% black isotropic iron rich ore mineral fragments

Sand fraction (el. & eq. a. to r.):

- 12% volcanic rock fragments (165-975 µm)
- 5% pyroxene (220-800 µm)
- 4% sandstone (up to 950 µm)
- 3% metamorphic rock (shale?) fragments (up to 970 µm)
- 1,5% monocrystalline quartz (up to 585 µm)
- 2% polycrystalline quartz (or rocks consisting mainly of polycr. quartz) (up to 500 µm)
- 2% intrusive rock fragments (up to 600 µm)
- 1% black or reddish-black, iron-rich, partly isotropic rock fragments (up to 400 µm)
- 1,5% feldspar (up to 830 µm)

Comments

Zoning occurs in the case of plagioclase crystals within two volcanic rock and one plagioclase crystal.

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**О травматическом повреждении на черепе из «монгольского» погребения
Мингечаура (Азербайджанская Республика)**

Key words: Azerbaijan, archaeology, Medieval, Mongolian burials, physical anthropology, craniometry, traumatic injuries, computer tomography.

Cuvinte-cheie: Azerbaidjan, arheologie, Evul Mediu, înmormântări mongole, antropologie fizică, craniometrie, leziuni traumatice, tomografie computerizată.

Dmitry Kirichenko, Anar Abdullayev, Afgana Kesemenli, Samira Gasimova

On a Traumatic Cranial Injury from a “Mongol” Burial at Mingachevir (Republic of Azerbaijan)

The article examines anthropological materials dating to the medieval period, recovered during rescue archaeological excavations (field season of 1950) conducted in the construction zone of the Mingachevir Hydroelectric Power Station at Settlement No. 3. The study focuses on a cranium (No. 1) belonging to a male individual aged over 45 years at the time of death, originating from a so-called “Mongol” burial dated to the late 13th – early 14th centuries. At present, the human cranium is housed in the exhibition of the Museum of Human Anatomy at the Department of Anatomy and Medical Terminology, Azerbaijan Medical University (Baku, Republic of Azerbaijan). The examined cranium is brachycranial and exhibits Mongoloid morphological traits, corresponding to a representative of the Central Asian anthropological type. A traumatic lesion was identified on the left temporal bone: a sharp-force chop wound measuring 4.8 cm in length and approximately 3 mm in width, with a total affected area of 7.5 cm. The absence of healing indicates that the injury is diagnostic of perimortem trauma. The fatal injury was most likely inflicted by a sharp sabre or a long-edged sword. The study incorporates data obtained through modern computed tomography (CT) scanning of the cranium, which confirmed and further refined our conclusions regarding the identified lethal cranial injury of the Mongol warrior. The article also presents comparative data on perimortem trauma from contemporaneous (13th-14th centuries) contexts in the Caucasus, the Middle East, Eastern Europe, and the Volga region, summarized in a consolidated table.

Dmitry Kirichenko, Anar Abdullayev, Afgana Kesemenli, Samira Gasimova

Despre un traumatism cranian descoperit într-un mormânt de tip „mongol” la Mingachevir (Republica Azerbaidjan)

Articolul analizează materialele antropologice din perioada medievală, descoperite în cadrul săpăturilor arheologice de salvare (campania de teren din 1950) efectuate în zona de construcție a centralei hidroelectrice Mingachevir, în așezarea nr. 3. Studiul se concentrează asupra unui craniu (nr. 1) aparținând unui individ de sex masculin cu vârsta de peste 45 de ani la momentul decesului, provenind dintr-o așa-numită înmormântare „mongolă” datată la sfârșitul secolului al XIII-lea – începutul secolului al XIV-lea. În prezent, craniul uman se află în expoziția Muzeului de Anatomie Umană al Departamentului de Anatomie și Terminologie Medicală al Universității de Medicină din Azerbaidjan (Baku, Republica Azerbaidjan). Craniul examinat este brahicranial și prezintă trăsături morfologice mongoloide, corespunzând unui reprezentant al tipului antropologic din Asia Centrală. Pe osul temporal stâng a fost identificată o leziune traumatică: o rană de tăiere provocată de un obiect ascuțit, cu o lungime de 4,8 cm și o lățime de aproximativ 3 mm, cu o suprafață totală afectată de 7,5 cm. Absența vindecării indică faptul că leziunea este diagnosticabilă ca traumatism perimortem. Leziunea fatală a fost cel mai probabil provocată de o sabie ascuțită sau de o sabie cu lamă lungă. Studiul include date obținute prin tomografie computerizată (CT) modernă a craniului, care au confirmat și au completat concluziile noastre privind leziunea craniană letală identificată la războinicul mongol. Articolul prezintă, de asemenea, date comparative privind traumatismele perimortale din contexte contemporane (secolele XIII-XIV) din Caucaz, Orientul Mijlociu, estul Europei și regiunea Volga, sintetizate într-un tabel cuprinzător.

Введение

В статье рассмотрен антропологический материал, обнаруженный в ходе спасательных археологических раскопок (полевой сезон 1950 г.) в зоне строительства Мингечаурской ГЭС.

В ходе работы был исследован мужской череп со следами травматических повреждений летального характера. Краниум происходит из «монгольского погребения» на поселении №3 в зоне Мингечаура.

Поселение («Городище») №3 было расположено на левом берегу р. Кура на небольшом холме площадью 250×300 м при входе в ущелье Боздага. Среди местного населения эта территория была известна под названием «Калагет» («мощная крепость») [Vaidov 1952, 94].

Поселение существовало вплоть до начала XIII в. и, по всей видимости, было уничтожено, в ходе монгольского вторжения [Vahidov 1961, 20].

Погребения прорезали культурный слой поселения и перекрывали остатки стен раннего строения [Vaidov 1952, 95].

Захоронения обнаружены в квадрате 48/54 на глубине 1,5 м и были совершены уже после гибели поселения на его руинах [Vahidov 1961, 20]. Погребения относятся к концу XIII – началу XIV вв. [Akhmedov 2009, 162].

Погребения представляли собой грунтовые ямы, овально вытянутой формы, с деревянным верхним перекрытием, скрепленным железными кованными гвоздями. Костяки находились в вытянутом положении на спине. Среди погребального инвентаря обнаружены конская сбруя и снаряжение (ремни из сыромятной кожи, железные кольца, пряжки, стремена, остатки деревянных крашенных седел), оружие из железа (ножи, наконечники стрел и дротиков долотного типа), колчан из бересты; предметы из драгоценных металлов (серебряная чаша с гравированным позолоченным растительным орнаментом, золотые серьги-подвески в виде вопросительного знака); изделия из кости (бляшки, пряжки, нашивки очень тонкой ажурной выделки), фрагменты кожаных сапог, одежда из шелковой и парчовой тканей (халат, рубашка, шаровары) [Vaidov 1952, 95], а также фрагменты двух шелковых монгольских мужских халатов коричневатого-песочного цвета, кусок шелковой ткани сандалового цвета, накладные декоративные украшения тонкого мужского пояса, фрагмент кожаного мешка и фрагмент плетеной пластины непонятного назначения из кожи и ткани, круглая железная пайцза диаметром 8,7 см, обломок кинжала с костяной рукояткой и сохранившимся фрагментом деревянных ножен, два железных втульчатых ромбовидных вытянуто-ромбовидных наконечников копья (длина – 37,6 см и 31,4 см), пять железных фрагментов клинкового оружия (возможно два из них могли при-

надлежать сабле, другой – палашу). Поблизости лежала пара железных стремян, железный маленький крестообразный предмет; остатки удила и ряд других железных предметов, утративших форму [Akhmedov 2009, 164].

Возможно, в монгольских погребениях Мингечаура были захоронены люди из кочевой элиты правящего класса Улуса Джучи, об этом свидетельствуют такие «статусные» предметы, как шелковые халаты, серебряная чаша, кусочки шелка и пайцза [Kirichenko 2025, 160].

Следует отметить, что в конце XIII – первой половине XIV в. между Золотой Ордой и Хулагуидами происходили постоянные войны за Азербайджан [Mamedov 2009, 239].

Вероятнее всего, археологические находки из этих трех монгольских захоронений следует связать с ними, и принадлежали они погибшим знатым воинам, которые были с почестями здесь захоронены [Kirichenko 2025, 160].

В настоящее время предметы из «монгольских» захоронений Мингечаура представлены в экспозиции Национального Музея Истории Азербайджана (г. Баку, Азербайджанская Республика).

В «Археологическом фонде» музея вместе с некоторыми артефактами из этих трех погребений, хранится также еще один мужской краниум из «монгольского» захоронения Мингечаура, на котором отмечена прижизненная успешная операция – трепанация черепа, осуществленная методом скобления и прорезывания, со следами заживления кости [Kirichenko 2025, 162].

К сожалению, достаточно трудно установить из какого из этих трех монгольских погребений происходили те или иные предметы, а также и сами черепа, со времени археологических раскопок прошло уже 80 лет, информация оказалась утерянной, также отсутствуют и полевые отчеты об этих находках.

Материалы и методы исследования

В настоящее время, исследуемый череп человека представлен в экспозиции «Музея анатомии человека» на кафедре «Анатомии человека и медицинской терминологии» Азербайджанского Медицинского Университета (г. Баку, Азербайджанская Республика) и значится под инвентарным №1.



Рис. 1. Мингечаур. Мужской череп из «монгольского» погребения (фото: Д.А. Кириченко).

Fig. 1. Mingachevir. Male skull from (photo by D.A. Kirichenko).

Новизной публикации является описание нового случая черепной травмы с летальным исходом эпохи средневековья (конец XIII – начало XIV вв.) с территории Южного Кавказа.

В ходе работы использованы современные технологии – компьютерная томография (КТ) черепа, примененная уже в третий раз для изучения антропологических материалов с территории республики, с целью рассмотрения травматических повреждений на краниуме человека. Следует отметить, что на Южном Кавказе пока неизвестны подобного рода исследования, за исключением описанных случаев из Азербайджанской Республики [Kirichenko, Abdullaev 2025; Kirichenko *et al.* 2026].

Череп человека был изучен (табл. 1) в соответствии с методикой Р. Мартина [Martin, Saler 1957; Alekseev, Debets 1964]. Половая принадлежность определена по морфологии черепа [Alekseev, Debets 1964], а возраст – по изношенности зубов верхней челюсти и степени зарастания черепных швов [Buikstra, Ubelaker 1994].

Травматические повреждения на краниуме отмечены в соответствии с различным современным методиками, применяемыми, как в судебной медицине, так и в палеопатологических исследованиях [Kriukov 1998; Sauer 1998; Çeker 2022; Mamonova 1997; Buzhilova 1998; Balabanova, Pererva 2007; Razhev 2013; Balabanova, Pererva 2019; Lovell 1997; Ortner 2003; Knüsel 2005].

Компьютерная томография (КТ) черепа была осуществлена в отделении радиологии Учебно-Хирургической Клиники при Азербайджанском Медицинском Университете

(г. Баку, Азербайджанская Республика) на 64 рядном, 128 срезовом аппарате Aquilion CXL фирмы Toshiba, производства – Япония.

В статье представлена сводка случаев травматических повреждений с летальным исходом, синхронного времени (XIII-XIV вв.) с территории Кавказа, Ближнего Востока, Поволжья, Восточной Европы в виде таблицы, с указанием страны, археологического памятника, пола человека и вида ранения/травмы.

Анализ исследованных материалов

Исследованный авторами череп принадлежал мужчине возмужалого возраста (45+) [Buikstra, Ubelaker 1994] – брахикранный, характеризуется малым продольным, большим поперечным и малым на границе со средними показателями признака высотным диаметрами мозговой коробки. Лоб узкий. Лицо очень широкое, очень высокое, слабо профилированное на верхнем и нижнем уровнях, по указателю – мезен. Орбиты широкие, высокие, мезоконхные. Нос среднеширокий, очень высокий, слабо выступающий над линией профиля, лепторинный. Мужчина относился, предположительно, к центральноазиатской расе.

Следует отметить, что центральноазиатской, но с примесью южносибирской расы был и мужчина со следами трепанации из другого «монгольского» погребения Мингечаура [Kirichenko 2025, 161].

Представители центральноазиатской расы встречались, как среди кочевого [Gazimzianov 2001; Gerasimova, Pezhemskii 2009], так и городского населения Улуса Джучи [Iablonskii 1986].

Признак № по Мартину Martin, Saller 1957; Aleksiev, Debec 1964	♂ 45+
1	173,4
8	145,2
5	102,1
9	91
17	131,6
20	127,7
40	96
45	153,8
48	83
51	43
51a	41
52	36
54	25
55	58
8:1	83,7
48:45	54
52:51	83,7
52:51a	87,8
54:55	43,1
77	168,6!
∠ Zm	141,4
75 (1)	23

Таблица 1. Мингечаур. Индивидуальные краниометрические измерения мужского черепа.

Table 1. Mingachevir. Individual craniometrical measurements of Male skull.

В исследуемый период наиболее близкими в территориальном плане погребениями людей с чертами этой расы являлись захоронения в курганном могильнике Джухта-2 (Ставропольский край, Российская Федерация) [Gerasimova, Pezhemskii 2001], инвентарь, которых весьма представительный, здесь также были обнаружены халаты, шитые золотыми нитками, серебряные чаши, кожаная обувь, оружие и другие предметы [Dode 2007].

На левой чешуйчатой кости черепа мужчины (рис. 2) присутствует дефект (размерами –длина 4,8 см, толщина – 3 мм), который, при визуальном осмотре, согласно методикам используемым в судебной медицине и палеопатологии [Kriukov 1998; Sauer 1998; Çeker 2022; Mamonova 1997; Buzhilova 1998; Balabanova, Pererva 2007; Razhev 2013; Balabanova, Pererva 2019; Lovell 1997; Ortner 2003; Knüsel 2005], отмечается следующее: при сильном ударе (нанесенном, предположительно, нападавшим, который находился сверху (возможно был всадником), за спиной пострадавшего), была повреждена кость, которая немного отслоилась, а из зоны повреждения пошла трещина (рис. 3). Общая зона поражения: длина – 7,5 см. Противник, судя по всему, являлся правойшей, а в качестве оружия могли выступать острые предметы – длинный меч или сабля, позволившее так сильно надрубить кость, что привело к вероятной смерти индивидуума.

Данный дефект следует определить, как рубленое ранение, концы острые, следы заживления кости отсутствуют. Травматическое повреждение идентифицируется, как *perimortem trauma* – травма, совершенная в момент и/или незадолго до смерти человека [Sauer 1998; Çeker 2022; Lovell 1997; Ortner 2003].

Следует отметить, что экземпляры оружия напоминающее то, каким был нанесен смертельный удар монгольскому воину из Мингечаура были выявлены в погребениях синхронного времени, как на территории южнорусских степей [Leonova *et all.* 2023, ris. 4,1] (рис. 4,1), так и в Центральной Азии [Agatay *et all.* 2025, Fig. 1,2] (рис. 4,2) и относилось к оружию кочевников того периода.

Травмы «фатального» характера периода средневековья с территории Азербайджана были зафиксированы на краниуме мужчины из погребения на городище Судагылан (два рубленых ранения и компрессионный перелом) и на черепе женщины из г. Габала (вдавленный компрессионный перелом), но датировались они более ранним временем (VII-XI вв.) [Kirichenko *et all.* 2026].

Травматические повреждения на палеоантропологических материалах исследуемой эпохи (XIII-XIV вв.) были зафиксированы (табл. 2): на черепе мужчины из кочевниче-

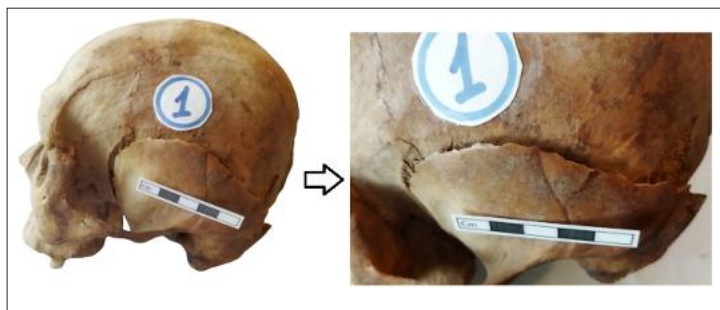


Рис. 2. Мингечаур. Травматическое повреждение (фото: Д.А. Кириченко).

Fig. 2. Mingachevir. Traumatic injury (photo by D.A. Kirichenko).



Рис. 3. Мингечаур. Травматическое повреждение (фото: Д.А. Кириченко).

Fig. 3. Mingachevir. Traumatic injury (photo by D.A. Kirichenko).

ского погребения 3 кургана 20 могильника Песчаный IV (Ростовская область, Российская Федерация), датируемого первой четвертью-началом второй четверти XIII в. – проникающее ранение (дырчатый перелом) [Leonova *et all.* 2023]; на черепах мужчин-крестоносцев из массовых захоронений (101, 110) на территории, расположенной к северу-северо-востоку от Замка св. Луи (Галат аль-Муизз), рядом с портом г. Сидон/Сайда (Ливан), которые датировались первой половиной XIII в. выявлены рубленые, проникающие ранения и вдавленные компрессионные переломы. Характер ранений и их расположение свидетельствует о том, что они были пешими, когда на них напали всадники [Mikulski *et all.* 2021]. Смертельные ранения жертв монгольского нашествия второй четверти XIII в. фиксируются на черепах погибших людей из массовых захоронений в г. Ярославль, на городище Старая Рязань, у



Рис. 4. Железные сабли монгольского периода. 1 – Могильник Песчаный IV, курган 20, погребение 3 [Leonova *et all.* 2023, рис. 4, 1]; 2 – Инв. № QRUM 802. г. Астана, Национальный Музей Республики Казахстан [Agatay *et all.* 2025, Fig. 1,2].

Fig. 4. The iron sabers of Mongolian period. 1 – Necropolis Peschanyj IV, barrow 20, burial 3 [Leonova *et all.* 2023, Fig. 4,1]; 2 – Inv. no. QRUM 802. Astana, The National Museum of the Republic of Kazakhstan [Agatay *et all.* 2025, Fig. 1,2].

д. Фатьяновка [Engovatova *et all.* 2009], г. Владимир [Goncharova 2015], г. Переяславль-Залесский [Rasskazova *et all.* 2021]; г. Изяславль [Rohlin 1965]; г. Киев [Kozak 2010]. В ходе раскопок одной из «братских могил» у Десятинной церкви (г. Киев, Украина) археолог В.В.

Археологический памятник/ Страна	Тип погребения, номер	Пол	Вид ранения/ травмы	Исследователь
Мингечаур/ Азербайджанская Республика	Грунтовое/ –	М	Р	Наст. издание
Тахьяг (Иран)	Внутри колодца	Ж	П	Sołtysiak, Sharahi 2017
Сидон (Сайда)/ Ливан	Массовое погребение/ 101, 110	М	Р, П, ВКП	Mikulski <i>et all.</i> 2021
Могильник Песчаный IV / Российская Федерация	Курган 20, погребение 3	М	П/ДП	Leonova <i>et all.</i> 2023
Ярославль/ Российская Федерация	Массовое захоронение	М; Ж	Р, П	Engovatova <i>et all.</i> 2009
Городище Старая Рязань / Российская Федерация	Массовое захоронение	М; Ж	Р	Engovatova <i>et all.</i> 2009
Фатьяновка/ Российская Федерация	Массовое захоронение	М; Ж	П	Engovatova <i>et all.</i> 2009
Владимир/ Российская Федерация	Массовое санитарное захоронение	М; Ж	Р; П; ВКП	Goncharova 2015
Переяславль- Залесский/ Российская Федерация	Массовое захоронение	М; Ж	Р; ДП	Rasskazova <i>et all.</i> 2021
Могильник Шареный Бугор (Хаджи-Тархан)/ Российская Федерация	–	М; Ж; П-т	ВКП; П; Р	Pererva 2025
Могильника Маляевка, (округа Царевского городища – золотоордынский город Гюлистан)/ Российская Федерация	курган 24, погребение 1	П-т	П/ДП	Pererva 2025

Селитренное городище (Сарай-Бату/Сарай-ал-Махруса)/ Российская Федерация	Погребение 11	М	Р	Pererva 2025
Маячный бугор (могильник Красноярского городища)/ Российская Федерация	Погребение 54	М	Р	Pererva 2025
Болгарское Городище (г. Великий Болгар)/ Российская Федерация	Культурный слой; некрополь в районе «Памятный знак» погребение 4	М	П/ДП	Zholobov <i>et all.</i> 2015
Изяславль/ Украина	Массовое захоронение	М; Ж; Д	Р; ДП; ВКП	Rokhlin 1965
Киев/ Украина	Массовое захоронение	М; Ж	Р; П; ВКП	Kozak 2010

Таблица 2. Археологические памятники с *perimortem trauma* (XIII-XIV вв.). Южный Кавказ, Ближний Восток, Восточная Европа, Поволжье.

Table 2. Archaeological sites with *perimortem trauma* (XIII-XIV centuries). The South Caucasus, the Near East, Eastern Europe, Volga region.

–: Данные отсутствуют; М: Мужчина; Ж: Женщина; Д: Детский; П-т: Подросток; П: Проникающее; ДП: «Дырчатый перелом»; ВКП: Вдавленный компрессионный перелом; Р: Рубленая.

Хвойка обнаружил краниум с монголоидными чертами «череп которого был пробит страшным ударом боевого топора» [Khvoika 1908, 29]. Вероятно, он принадлежал монгольскому воину, погибшему при штурме города.

На территории могильника Шареный Бугор – золотоордынского г. Хаджи-Тархан (Астраханская область, Российская Федерация), на черепе мужчин и подростка отмечены предсмертные ранения и вероятное отсечение головы [Pererva 2025, 368-370]. Возможно, что летальные исходы от ранений являются следствием событий, связанных с разрушением города Тимуром, которое произошло зимой 797 г.х. (1395-1396 гг.) [Pererva 2025, 370]. На черепе мальчика-подростка из могильника Маляевка, курган 24, погребение 1 (округи Царевского городища – золотоордынский город Гюлистан, Волгоградская область, Российская Федерация) отмечено травматическое

повреждение овальной формы без следов жизнедеятельности [Pererva 2025, 343, рис. 85]. На черепе мужчины из погребения 11 на Селитренном городище (золотоордынский город Сарай-Бату/Сарай-ал-Махруса) (Астраханская область, Российская Федерация) отмечено рубленое ранение, имеющее предсмертный характер [Pererva 2025, 362]. На черепе мужчины из Маячного бугра – могильника Красноярского городища (Астраханская область, Российская Федерация) золотоордынского времени отмечается одно предсмертное ранение [Pererva 2025, table 67]. На черепах двух мужчин из Болгарского городища (г. Великий Болгар), относящихся к золотоордынскому (XIII-XIV вв.) времени отмечены травматические повреждения летального характера [Zholobov *et all.* 2015]. На черепе женщины (относящемся к первой половине XIII в.), из колодца в подземном сооружении возле святилища Зейнаб

Хатун около деревни Тахьяг (провинция Меркези, Иран), на лобной кости присутствует смертельное ранение [Softysiak, Sharahi 2017].

На 3D-реконструкции черепа определяется линия перелома по левому скулоглазничному шву. Перелом также прослеживается по левой клиновидной кости и по чешуйчатому шву между височной и теменной костями слева. Далее линия перелома распространяется до уровня большого затылочного отверстия (рис. 5).

На твёрдом нёбе по срединному нёбному шву, начиная от переднего края альвеолярно-

го отростка, визуализируется линия перелома (рис. 6).

В дальнейшем она продолжается по правому поперечному нёбному шву на горизонтальную пластинку нёбной кости, отделяя её от крыловидного отростка клиновидной кости.

Кости основания черепа в целом сохранены; сосцевидные ячейки, лобные и клиновидные пазухи чётко визуализируются. Костные структуры внутреннего и среднего уха также относительно хорошо сохранены. В левой нижнезадней теменной области определяется

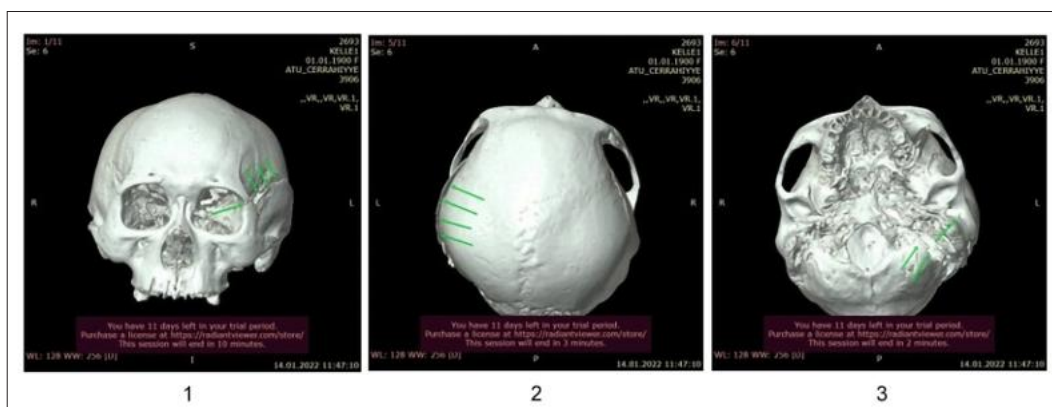


Рис. 5. 3D-реконструкция черепа. 1 – вид спереди; 2 – вид сверху; 3 – вид основания черепа, линия перелома продолжается до уровня большого отверстия затылочной кости. Линии перелома отмечены зелеными стрелками (снимок: А.С. Абдуллаева).

Fig. 5. 3D reconstruction of the skull. 1 – anterior view; 2 – superior view; 3 – basal view of the skull, the fracture line extends to the level of the foramen magnum. The fracture lines are indicated by green arrows (snapshot by A.S. Abdullayev).

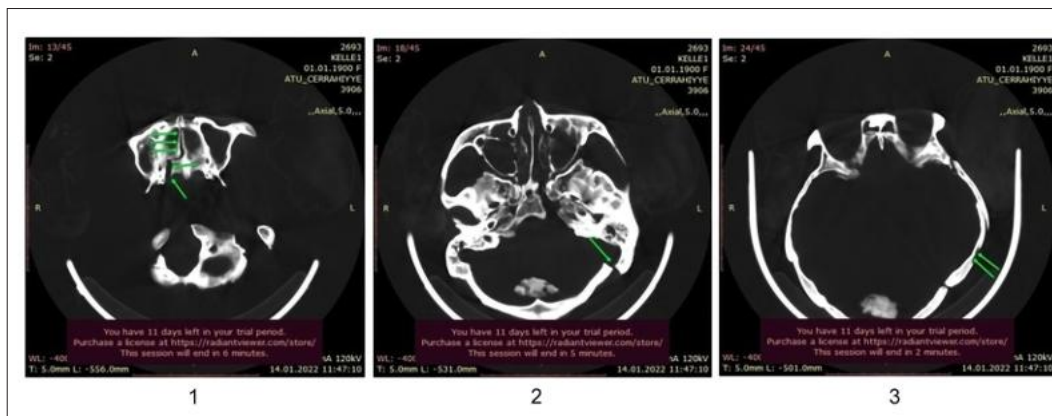


Рис. 6. Акциальная проекция черепа. 1 – перелом костного нёба по срединной линии, продолжающийся на правую небную кость; 2 – слева линия перелома между затылочной и височной костями; 3 – слева поверхностный костный дефект, ограниченный наружной пластинкой кости. Линии перелома отмечены зелеными стрелками (снимок: А.С. Абдуллаев).

Fig. 6. Axial projection of the skull. 1 – fracture of the bony palate along the median line, extending to the right palatine bone; 2 – on the left, a fracture line between the occipital and temporal bones; 3 – on the left, a superficial osseous defect limited to the outer table of the bone. The fracture lines are indicated by green arrows (snapshot by A.S. Abdullayev).

поверхностный костный дефект, не достигающий уровня стекловидной пластинки. Характер и топография костных повреждений не исключают их формирования в результате воздействия тяжёлого рубящего орудия (например, топора или меча). Линейная направленность переломов и их распространение по швам черепа могут свидетельствовать о значительной кинетической энергии травмирующего воздействия. Характер выявленных повреждений позволяет провести дифференциальную диагностику между травмой, нанесённой рубящим орудием, и повреждениями, возникающими при воздействии тупого (дробящего) предмета. Для рубящих повреждений характерны относительно чёткие линейные переломы, нередко распространяющиеся по естественным анатомическим швам черепа, а также наличие локализованных дефектов с ограниченной зоной краевого разрушения. В представленном случае линия перелома демонстрирует направленность и последовательное распространение по скулоглазничному, чешуйчатому и нёбным швам, что указывает на передачу значительной кинетической энергии по анатомически ослабленным зонам черепа. Поверхностный дефект в левой нижнезадней теменной области также соответствует морфологии частичного внедрения лезвия с ограниченной глубиной проникновения. В отличие от этого, травмы дробящего характера, как правило, сопровождаются радиальными и концентрическими трещинами, обширной зоной пластической деформации, фрагментацией костной ткани и выраженным вдавлением с неровными краями. Отсутствие признаков массивного вдавленного перелома и множественной оскольчатости делает менее вероятным воздействие исключительно тупого предмета.

Таким образом, совокупность морфологических признаков в большей степени соответствует воздействию тяжёлого рубящего орудия (например, топора или меча), хотя полностью исключить комбинированный механизм травмы не представляется возможным.

С точки зрения антропологической интерпретации, локализация повреждений в области лицевого скелета и теменной зоны может свидетельствовать о фронтальном или

слегка латеральном направлении удара. Подобная топография характерна как для межличностного насилия (боевые столкновения, казни, ритуальные действия), так и для бытовых конфликтных ситуаций с применением оружия. Особое внимание заслуживает отсутствие признаков заживления, если таковое подтверждается макро- и микроскопическим анализом, что может свидетельствовать о перимортальном характере травмы. В этом случае повреждение, вероятно, сыграло непосредственную роль в летальном исходе.

Выводы

Травматическое повреждение на черепе (№1) мужчины из «монгольского» погребения в Мингечауре явилось ранением со смертельным исходом, относящимся к типу рубленых травм. Вероятно, монгольский воин погиб в одной из битв, происходивших во время войн между государством Золотая Орда и империей Хулагуидов (Ильханов), либо же стал жертвой внезапного нападения, учитывая тот факт, что ранение было нанесено со спины и сверху, предположительно, всадником. В настоящее время на территории республики отмечено пока что три случая *perimortem* травм, два из них зафиксированы на черепах мужчин, а одна на черепе женщины. Относительно, региона Северного и Южного Кавказа, то «фатальные» травмы на черепах в изучаемое время не отмечены.

В исследуемый период, травматические повреждения с «фатальным» исходом на краниумах людей отмечены на некоторых археологических памятниках с территории Ближнего Востока, Восточной Европы и Поволжья. Характер травм был различен, здесь отмечены были, как рубленые, так и проникающие («дырчатые» переломы) ранения, а также вдавленные компрессионные переломы. Травмы фиксируются как на черепах мужчин, женщин, так и подростков, и детей. В численном отношении больше всего ранений отмечено на краниумах мужчин, что не вызывает удивление, учитывая «профессиональную» деятельность многих из них, как воинов, а также тех, кто встал на защиту родных городов от вражеского вторжения. Если рассматривать травму в археологическом контексте, рубящие повреждения черепа часто ассо-

цируются с вооружёнными столкновениями, особенно в культурах, где холодное оружие являлось основным средством ведения боя. При этом направление и глубина поражения могут указывать на положение тела в момент удара – стоячее, наклонённое либо находящееся в состоянии защиты. В более широком

культурно-антропологическом измерении подобные травмы могут отражать уровень социальной конфликтности, наличие специализированного оружия и воинских практик, а также степень институционализации насилия в исследуемом сообществе.

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**Necropola medievală de la Lozova-La hotar cu Vornicenii.
Raport antropologic (campania 2024)***

Key words: medieval necropolis, skeletal series, paleoanthropological analysis, Lozova, 14th century.

Cuvinte-cheie: necropola medievală, seria scheletică, analiza paleoantropologică, Lozova, secolul XIV.

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The medieval necropolis of Lozova-La hotar cu Vornicenii. Anthropological report (campaign of 2024)

The human skeletal series referred to in this study was exhumed in 2024 from the perimeter of the medieval necropolis of Lozova-La hotar cu Vornicenii (Strășeni District, Republic of Moldova). According to the data provided by the research team, based on the funerary inventory, the use of the necropolis is chronologically placed between the 14th century and the beginning of the 15th century. The necropolis belonged to a Christian community because the deceased were buried according to the Christian ritual.

The anthropological study was preceded by bone marking and restoration, to allow morphological analysis, osteometry, estimation of age at death and determination of sex, as well as paleopathological evaluation. In this excavation campaign, 18 skeletons from 17 funeral complexes were investigated: six children (three *infant I* and three *infant II* – 33,33%), four adolescents – indeterminate sex (22,22%) and eight adults (three ♂ and five ♀ – 44,45%). The state of preservation of the skeletons is satisfactory. The *sex ratio* (masculinity index) in this osteological series is subunitary.

The presence of anomalies, pathologies and non-metric features is moderate. At the cranial level, the following were identified: dental caries, dental enamel hypoplasia (four cases each) and radicular cyst (one case). At the postcranial segment level, the following were reported: osteoarthritis, olecranon perforation (two cases each) and *spina bifida occulta* (one case).

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Necropola medievală de la Lozova-La hotar cu Vornicenii. Raport antropologic (campania 2024)

Seria scheletică umană la care ne referim în prezentul studiu a fost deshumată în anul 2024 din perimetrul necropolei medievale de la Lozova-La hotar cu Vornicenii (raionul Strășeni, Republica Moldova).

Conform datelor furnizate de echipa de cercetare, pe baza inventarului funerar, utilizarea necropolei este încadrată cronologic în perioada secolului al XIV-lea. Necropola a aparținut unei comunități creștine deoarece defuncții erau înhumate potrivit ritualului creștin.

Studiul antropologic a fost precedat de marcarea și restaurarea osoasă, pentru a permite analiza morfologică, osteometria, estimarea vârstei la deces și a sexului, precum și evaluarea paleopatologică. În această campanie de săpătură au fost investigate 18 schelete provenite din 17 complexe funerare: șase copii (trei *infans I* și trei *infans II* – 33,33%), patru adolescenți indeterminabili ca sex (22,22%) și opt adulți (trei bărbați și cinci femei – 44,45%). Starea de conservare a scheletelor este satisfăcătoare. *Sex ratio* (indicele de masculinitate) în acest eșantion osteologic este subunitar.

Prezența anomaliilor, patologiilor și a trăsăturilor non-metrice este moderată. La nivel cranian au fost identificate: carii dentare, hipoplazia smalțului dentar (câte patru cazuri) și granulomul (chistul radicular – un caz). La nivelul segmentului post-cranian au fost semnalate: osteoartrita, perforația olecraniană (câte două cazuri) și *spina bifida occulta* (un caz).

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Introducere

Cercetările arheologice, demarate în anul 2010 în necropola medievală de la Lozova-La hotar cu Vornicenii (raionul Strășeni, Republica Moldova) (fig. 1), au continuat și în anii următori (2011,

2014, 2015), respectiv și în vara anului 2024. Situl este localizat în imediata apropiere a hotarului dintre satele actuale Lozova și Vorniceni (raionul Strășeni) din valea Bucovățului. În campania arheologică din 2024, coordonată de dr. Ion Ursu

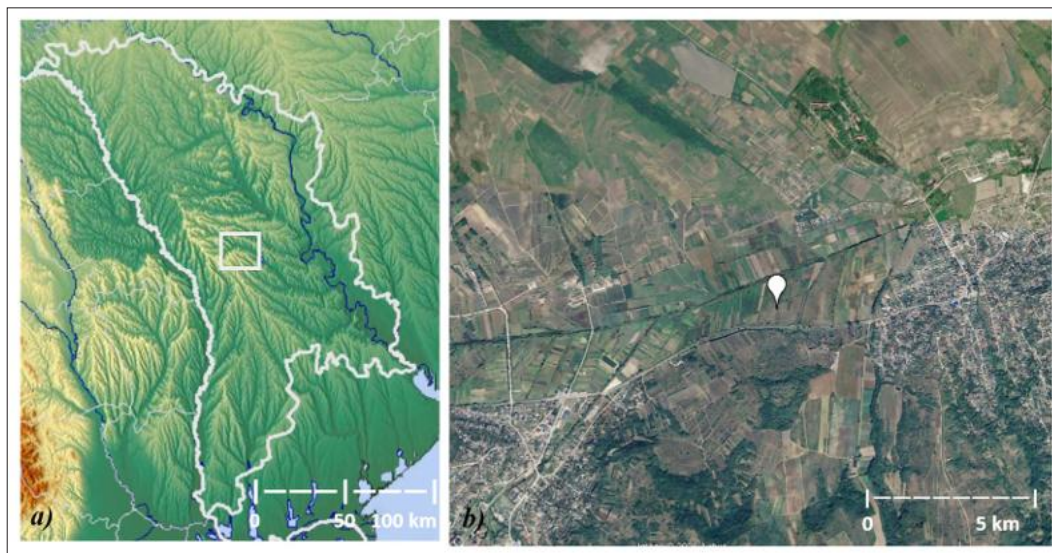


Fig. 1. Necropola medievală de la Lozova-La hotar cu Vornicenii (raionul Strășeni, Republica Moldova): a. Localizarea sitului; b. detaliu.

Fig. 1. Medieval necropolis of Lozova-La hotar cu Vornicenii (Strășeni District, Republic of Moldova): a. Location of the site; b. detail.

(Institutul Patrimoniului Cultural, Chișinău), în secțiunile nou excavate, s-au întreprins, ca și în campaniile arheologice anterioare, cercetări pluri-disciplinare. În această campanie au fost descoperite 17 complexe funerare, în care s-au identificat 18 schelete umane. Necropola a aparținut unei comunități creștine, defuncții fiind înhumați conform ritualului creștin, cu capul spre apus și fața spre răsărit, în decubit dorsal, cu picioarele întinse și brațele îndoite din coate, cu mâinile așezate pe piept sau abdomen. Adâncimea mormintelor variază între 0,2 și 0,7 m, iar gropile erau de formă rectangulară. În ceea ce privește inventarul funerar acesta este reprezentat prin piese de podoabă, precum cercei, inele, mărgel, pandantive și verigi de tâmplă, alături de diferite obiecte de port și ustensile, cum ar fi nasturi globulari, aplici, cataramă, degetare.

Conform datelor oferite de echipa de cercetare, pe baza inventarului funerar din campaniile anterioare, perioada de utilizare a necropolei este încadrată cronologic între secolul al XIV-lea și începutul secolului al XV-lea [Ursu, Bacumenco-Pîrnău, Vornic 2015, 139-142; Ursu *et al.* 2016, 250-271].

Material și metode de studiu

În acest studiu este prezentată analiza paleoantropologică a osemintelor descoperite în

necropola medievală de la Lozova în campania din anul 2024. Eșantionul osteologic analizat este reprezentat de 18 schelete provenite din 17 morminte de înhumare. Până în prezent, în aria necropolei medievale de la Lozova-La hotar cu Vornicenii au fost descoperite 123 de complexe funerare.

Materialul osteologic uman deshumat în campaniile arheologice anterioare (2010-2011, 2014-2015) a fost studiat, atât din punct de vedere arheologic [Bacumenco-Pîrnău, Vornic, Ursu 2011, 120-122; Vornic *et al.* 2012, 222-256; Ursu *et al.* 2016], cât și paleoantropologic [Simalcsik 2012, 316-343; Simalcsik, Simalcsik, Groza 2013a, 71-80; 2013b, 228-244; Simalcsik, Simalcsik, Groza 2014, 85-96; Simalcsik *et al.* 2014, 247-265; Simalcsik, Groza 2015].

Starea de conservare a scheletelor este satisfăcătoare (deși unele schelete sunt incomplete și fragmentate din cauza factorilor antropici și de mediu). După restaurarea materialului osteologic s-a realizat stabilirea lateralității oaselor [White, Folkens 2005], înregistrarea stării de conservare [Bello *et al.* 2006] și evaluarea modificărilor tafonomice [Schotsmans *et al.* 2017]. A urmat analiza morfoscoptică, înregistrarea datelor biometrice, estimarea vârstei la deces, estimarea sexului, precum și o analiză paleopatologică.

Vârsta biologică la deces în cazul subiecților, care nu au atins 20 ani (*infans I*, *infans II* și *juvenis*), a fost estimată după următoarele criterii: etapa de erupție a dentiției temporare și înlocuirea acesteia cu dentiția permanentă, gradul de concreștere a epifizelor oaselor lungi la diafize, dimensiunea oaselor craniene și postcraniene, stadiul de osificare a vertebrelor. A fost utilizată metodologia propusă de M. Maresh [1970]; D. Ubelaker [1979]; M. Schaefer, S. Black, L. Scheuer [2009].

Pentru subiecții trecuți de 20 ani (*adultus*, *maturus* și *senilis*) vârsta biologică la deces a fost estimată combinând diferite criterii: degenerarea simfizei pubiene și transformarea suprafeței sacroiliace [Brooks, Suchey 1990; Buikstra, Ubelaker 1994, 24-32; Schmitt 2005], modificări ale țesutului spongios din epifizele humerale, involuția scheletului și morfologia coastelor sternale, procese patologice specifice asociate cu vârsta [Ișcan *et al.* 1984; Latham, Finnegan 2010; Ubelaker 1979], date privind uzura dentară [Brothwell 1981; Lovejoy 1985] și obliterarea suturilor craniene [Buikstra, Ubelaker 1994]. Au fost luate în considerare clasele de vârste propuse de J. Buikstra și D. Ubelaker [1994]. Estimarea sexului antropologic pentru subiecții trecuți de 20 ani s-a bazat pe următoarele aspecte: dezvoltarea reliefului osos, forma și înclinarea frunții, dimensiunea apofizei mastoide, robustețea mandibulei, forma și dimensiunea dinților [Walrath *et al.* 2004]; caracteristicile pelvisului [Blanchard 2010; Bruzek 2002; Ferembach *et al.* 1979], dezvoltarea inserțiilor musculare, dimensiunea suprafețelor articulare, masivitatea și robustețea scheletului [Ubelaker 1979; Buikstra, Ubelaker 1994].

Pentru analiza antropologică s-au avut în vedere atât valorile absolute (rezultate din măsurători directe), cât și de cele relative (indici calculați prin raportul dintre măsurătorilor directe), după metodele recomandate de R. Martin, K. Saller [1957-1966]. Evaluarea și încadrarea în categorii a valorilor absolute și relative s-au realizat după scările dimorfice recomandate de V. Alekseev, G. Debetz [1964]. Observațiile morfoscopice au fost înregistrate și analizate după metodele recomandate de E. von Eickstedt [1934] și G. Olivier [1969].

Talia (statura) a fost calculată după dimensiunile oaselor lungi ale membrilor superioare (humerus, radius, ulna) și inferioare (femur, tibia, fibula). Am utilizat scările dimensionale propuse

de L. Manouvrier [1892, 227-233]; E. Breitingier [1938, 249-274]; M. Trotter, G. Gleser ([1958, 79-123]; H. Bach [1965, 12-21]. Au fost analizate și particularitățile scheletice considerate în literatura de specialitate ca fiind adaptări funcționale și ocupaționale, ale stilului de viață, denumite entezopatii mecanice sau indicatori musculo-scheletici. De asemenea, a fost consultată literatura paleopatologică [Aufderheide, Rodriguez-Martin 1998; Ortner 2003].

Rezultate și discuții

Materialul osteologic analizat a fost atribuit unui număr de 18 subiecți cu vârste diferite - șase copii (trei *infans I* și trei *infans II* - 33,33%; indeterminabili ca sex), patru adolescenți - indeterminabili ca sex: 22,22%) și opt adulți (trei ♂ - 35-65 ani: 16,67%; cinci ♀ - 20-65 ani: 27,78%) (Tabelul 1).

Descrierea individuală a scheletelor¹

Mormântul - M107

Scheletul M107, incomplet și fragmentat, a aparținut unui copil. Din segmentul cranian s-au recuperat doar cinci dinți izolați (molarul 2 definitiv inferior dreapta (M_2), caninii inferiori (C), premolari 1 inferiori stânga și dreapta (P_1)). Din segmentul postcranian sunt prezente: humerusurile, un fragment cubitus drept, un fragment din omoplatul stâng, femure (incomplete), fragmente din tibii și din peronee, un fragment coxal drept (fig. 2). Apreciind după dezvoltarea dentiției (în special a molarului 2 definitiv) și după lungimea diafizei humerusurilor (210 mm) putem preciza vârsta acestui copil ca fiind de circa 11-12 ani (*in-*

1. În lucrare au fost folosite următoarele abrevieri: 1: g-op (lungimea neurocraniului); 8: eu-eu (lărgimea neurocraniului); 9: ft-ft (lărgimea minimă a frunții); 10: co-co (diametrul maxim al frunții); 12: ast-ast (diametrul maxim al occipitalului); 17: ba-b (înălțimea craniului); 20: po-b (înălțimea calotei); 45: zy-zy (diametrul maxim al feței); 48: n-pr (înălțimea masivului facial); 47: n-gn (înălțimea totală a feței); 51: mf-ek (lărgimea orbitei); 52: înălțimea orbitei; 54: al-al (lărgimea nasului); 55: n-ns (înălțimea nasului); 65: kdl-kdl (lărgimea bicondilară); 66: go-go (lărgimea bigoniacă); 69: id-gn (înălțimea mentonului); 69₍₁₎: înălțimea la nivelul găurii mentoniere; 69₍₃₎: grosimea la nivelul găurii mentoniere; 70: înălțimea ramului vertical al mandibulei; 71: lărgimea ramului vertical al mandibulei; 8/1: indicele cranian; 20/1: indicele porio-bregmatic longitudinal; 20/8: indicele porio-brgmatic transversal; 9/10: indicele frontal transversal; 9/8: indicele fronto-parietal; 12/8: indicele porio-brgmatic transversal; 47/45: indicele facial total; 48/45: indicele facial superior; 52/51: indicele orbital; 54/55: indicele nazal; 69₍₃₎/69₍₁₎: indicele de robusticitate a mandibulei.

Sex	Masculin		Feminin		Indeterminabili	
Vârsta (ani)	N	%	N	%	N	%
Copil (3-11 ani)	-	-	-	-	6	33,33
Adolescent (12-19 ani)	-	-	-	-	4	22,22
Adult tânăr (20-34 ani)	-	-	1	5,56	-	-
Adult mijlociu (35-49 ani)	1	5,56	3	16,66	-	-
Adult bătrân (50+ ani)	2	11,11	1	5,56	-	-
Total	3	16,67	5	27,78	10	55,55

Tabelul 1. Repartiția pe categorii de vârstă și sex a scheletelor analizate.

Table 1. Distribution by age and sex of the analyzed skeletons.

*N – numărul de schelete/the number of skeletons.



Fig. 2. Scheletul – M107, copil de circa 11-12 ani (*infans II*): fragmente din scheletul postcranian și dinți izolați.

Fig. 2. Skeleton – M107, child of about 11-12 years (*infant II*): fragments of the postcranial skeleton and isolated teeth.

fans II). Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M108

Scheletul M108, aparține unei femei de circa 35-40 ani (adult mijlociu). Având în vedere faptul că dimorfismul sexual al acestui subiect este slab

exprimat la nivelul scheletului, atribuirea sexului antropologic s-a realizat cu prudență. Inventarul resturilor osteologice din acest mormânt ne permite să precizăm caracterul relativ complet al acestui schelet, cât și buna conservare a acestuia. Astfel, scheletul cranian este aproape complet (fig. 3,a-b), iar partea postcraniană cuprinde, de asemenea, majoritatea oaselor.

Craniul, ovoid în norma verticală și în formă de „casă” în cea occipitală, este scurt (1: 149 mm), îngust (8: 113 mm) și de înălțime medie (20: 112 mm), indicii cranieni fiind de tip mezocran (8/1: 75,50 u.i.), hipsicran (20/1: 75,16 u.i.) și acrocran (20/8: 99,55 u.i.). Fruntea ovală este eurimetopă (9/8: 88,88 u.i.) cu relieful glabellar neaccentuat (gradul II). Occipitalul este îngust și mijlociu de bombat cu protuberanța externă slab marcată. Apofizele mastoide sunt dezvoltate (gradul II→III), cu relief supramastoidian pronunțat.

Fața, este înaltă – leptenă (48/45: 59,99 u.i.), cu orbite înalte – hipsiconci (52/51: 101 u.i. – înalte). Malarele sunt moderate ca dezvoltare, având o dispoziție intermediară. Arcada dentară este paraboloid divergentă, medie ca adâncime, iar apertura piriformă este de tip antropin. Mandibula robustă (69₍₃₎/69₍₁₎: 48,38 u.i.) prezintă un menton proeminent (butonat) și gonioane ușor dezvoltate. Dentiția este prezentă în totalitate la nivelul mandibulei, iar la nivelul maxilarului superior prezintă unele căderi *post mortem* (incisivul central și incisivul lateral – dreapta). Abraziunea suprafeței

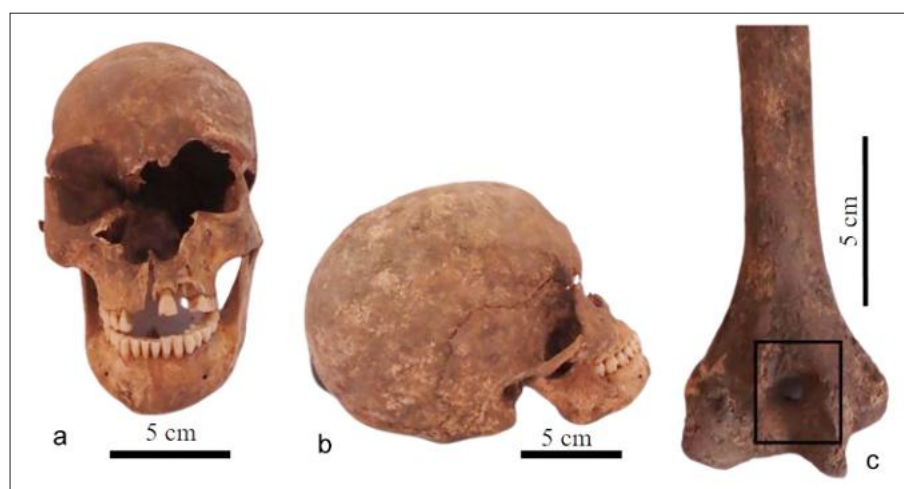


Fig. 3. Scheletul – M108; 35-40 ani, ♀: craniu: a. norma facială; b. norma laterală dreaptă; c. perforație supratrohleară (olecraniană) la nivelul humerusului drept.

Fig. 3. Skeleton – M108; 35-40 years old, ♀: skull: a. facial norm; b. right lateral norm; c. supratrochlear (olecranon) perforation at the level of the right humerus.

dentare este slabă (gradul I), ușor mai accentuată la nivelul dinților masticatori (gradul II).

Scheletul postcranian prezintă robusticitate medie. Femurele sunt platimere (drept – 75,75 u.i.; stâng – 76,00 u.i.), fără pilastru (drept – 98,21 u.i. și stâng – 98,30 u.i.) și cu relief subtrohanterian accentuat (creastă și fosă). Tibiile sunt simetrice ca aplatizare și apar euricneme (dreapta – 77,58 u.i.; stânga – 77,48 u.i.), fără să prezinte fațete suplimentare de articulație la astragale. Humerurile sunt euribrahice (drept – 77,27 u.i.; stâng – 78,00 u.i.). Talia, calculată după lungimea oaselor membrelor superioare și inferioare, ne indică o valoare de 167,39 cm (statură mare).

În segmentul postcranian este prezentă perforația olecraniană (supratrohleară) la nivelul humerusului drept (fig. 3,c). În general, fosa olecraniană este separată de fosa coronoidă de o placă osoasă fină și transparentă. La anumite oase, această placă se perforază treptat în timp, formându-se un orificiu numit foramen supratrohlear sau perforație olecraniană a cărei incidență variază între 6% și 60% [Singhal, Rao 2007]. Sub aspect tipologic acest schelet prezintă caractere esteuopoide.

Mormântul – M109

Scheletul M109, incomplet și fragmentat, a aparținut unui adolescent, indeterminabil ca sex.



Fig. 4. Scheletul – M109, adolescent de circa 13-14 ani: a. fragmente din scheletul cranian; b. fragmente din scheletul postcranian.

Fig. 4. Skeleton – M109, adolescent of about 13-14 years old: a. fragments of the cranial skeleton; b. fragments of the postcranial skeleton.



Fig. 5. Scheletul – M110, copil de circa 8 ani (*infans II*): fragmente din scheletul postcranian.

Fig. 5. Skeleton – M110, child of about 8 years old (*infans II*): fragments of the postcranial skeleton.

Segmentul cranian este reprezentat doar printr-un fragment din maxilarul superior și câțiva dinți izolați (fig. 4,a). Din segmentul postcranian sunt

prezente majoritatea oaselor lungi (unele oase sunt fragmentate) (fig. 4,b), clavicula dreaptă, fragmente din oasele bazinului, patru metatarsiene (membru inferior drept), astragale și calcaneae.

Apreciind după dezvoltarea molarului 2 definitiv și a lungimii diafizelor oaselor lungi (lungime femur = 320 mm; lungime humerus = 225 mm; lungime tibie = 250 mm) putem preciza vârsta acestui adolescent ca fiind de circa 13-14 ani. Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M110

Scheletul M110. Din acest schelet de copil (circa 8 ani – *infans II*; indeterminabil ca sex) s-au recuperat doar câteva oase din scheletul postcranian: femurele (incomplete), fragmente din tibia stângă și un fragment din clavicula stângă (fig. 5). Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M111

Scheletul M111, incomplet osificat și precar conservat, a aparținut unui adolescent cu vârsta de circa 15-16 ani, indeterminabil ca sex. Din scheletul cranian s-au recuperat majoritatea oaselor fragmentate și incomplete, maxilarul superior și mandibula cu o parte din dinți prezenți în alveole și șapte dinți superiori izolați (fig. 6,a). Scheletul postcranian este reprezentat de majoritatea oaselor postcraniene, dar incomplete și foarte

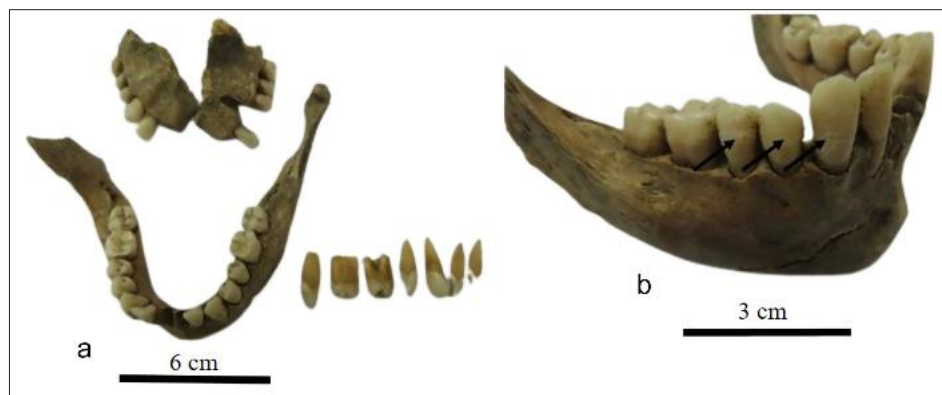


Fig. 6. Scheletul – M111; adolescent de circa 15-16 ani, indeterminabil ca sex: a. fragmente craniene: maxilar superior, mandibula și dinți izolați; b. hipoplazia smalțului dentar (gradul I) la nivelul caninilor inferiori stânga și dreapta (C), premolarilor 1, 2 inferiori stânga și dreapta (P₁, P₂).

Fig. 6. Skeleton – M111; adolescent of about 15-16 years old, indeterminable sex: a. cranial fragments: upper jaw, mandible and isolated teeth; b. dental enamel hypoplasia (grade I) at the level of the lower left and right canines (C), lower left and right premolars 1, 2 (P₁, P₂).

fragmentate. Pe dentiție este semnalată hipoplazia smalțului dentar (gradul I) la nivelul caninilor inferiori stânga și dreapta (C) și premolarilor 1, 2 inferiori stânga și dreapta (P_1 , P_2) (fig. 6,b). Hipoplazia smalțului dentar este o anomalie de structură/dezvoltare, care are la bază perturbații ale amelogenezei. Defectele hipoplazice fac parte din categoria indicatorilor cantitativi nespecfici ai stării de sănătate și/sau ai statutului nutrițional în timpul formării mugurilor dentari și apar drept răspuns al organismului uman la acțiunea unui stres fiziologic. Episoadele de stres cauzează deficiențe ale grosimii smalțului, numite hipoplazie a smalțului [King *et al.* 2005; Ritzman *et al.* 2008; Łukasik, Krenz-Niedbała 2014].

Mormântul – M112

Scheletul M112, materialul osos al acestui schelet este incomplet și deteriorat. După stadiul



Fig. 7. Scheletul – M112, copil de circa 4-5 ani (*infans I*): fragmente din scheletul postcranian și molarul 1 temporar inferior dreapta.

Fig. 7. Skeleton – M112, child of about 4-5 years old (*infant I*): fragments of the postcranial skeleton and the lower right 1st temporary molar.

de dezvoltare al molarului 1 temporar inferior dreapta și după lungimea diafizei femurului drept (180 mm) putem preciza că vârsta acestui subiect era de circa 4-5 ani (*infans I*), indeterminabil ca sex. Din scheletul cranian s-a recuperat doar molarul 1 temporar inferior dreapta.

Segmentul postcranian este reprezentat prin: femure (cel stâng – incomplet), fragmente din tibii, peronee, humerusuri, un fragment din osul coxal stâng și opt fragmente de coaste (fig. 7). Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M113

Scheletul M113, fragmentat, dar aproape complet, este atribuit unui bărbat cu vârsta cuprinsă între 55 și 60 de ani (adult bătrân). Inventarul osemintelor a pus în evidență o calotă craniană incompletă și fragmentată; este prezent maxilarul superior și mandibula cu o parte de dinți prezenți în alveole, dar și izolați; oase postcraniene reprezentate în special prin oase lungi (femurul drept, tibii, peronee, humerusuri, radiusuri, cubitusuri), oase coxale – incomplete, astragal, calcaneu, falange, metatarsiene (membrul inferior stâng), un fragment din os sacrum, clavicule, majoritatea vertebrelor, un fragment din stern, un fragment din omoplatul stâng și fragmente costale.

Relieful osos este moderat pe frontal (glabellar – gradul II; supraorbital – gradul I→II), dar apofiza mastoidă este dezvoltată (gradul III→IV). La nivel facial se poate aprecia forma paraboloid convergentă a bolții palatine și apertura piriformă de tip antropin. Malarul stâng, moderat ca dezvoltare, prezintă o dispoziție ușor frontalizată și relief proeminent, iar fosa canină este moderată (gradul II). Mandibula este gracilă ($69_{(3)}/69_{(1)}$: 33,33 u.i.). Înălțimea și grosimea ramului orizontal fiind mijlocie și respective mica la nivelul foramenului mentonier ($69_{(1)}$: 33 mm respectiv $69_{(3)}$: 11 mm). Ramul vertical are o înălțime de 59 mm și o lărgime de 27 mm. Regiunea mandibulară goniacă este slab dezvoltată. Dentiția este incompletă și prezintă un grad avansat de uzură (gradul III→IV). Scheletul postcranian este mediu ca robustețe. Femurul drept este platimer (78,78 u.i.), fără pilastru (92,59 u.i.) fără

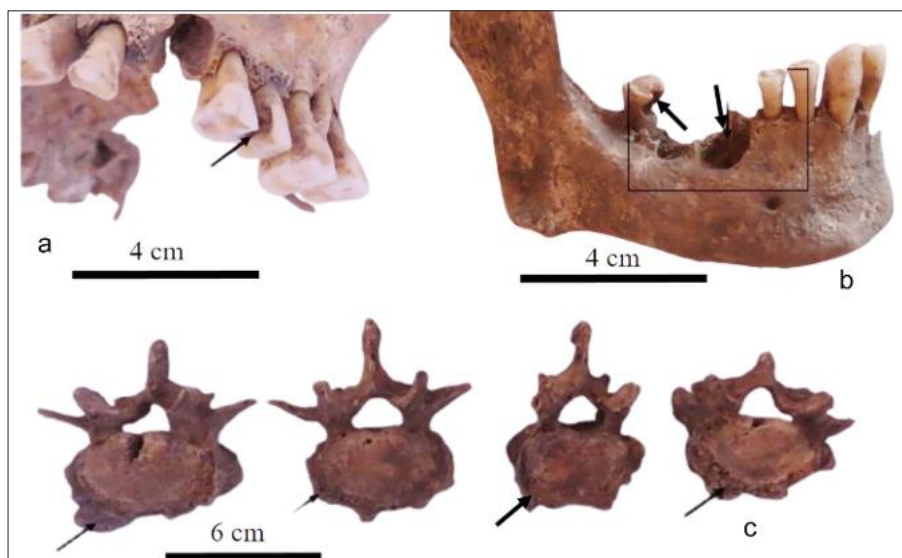


Fig. 8. Scheletul – M113; 55-60 ani, ♂: craniu: a. carie gradul I – premolar 2 superior stânga (P₂); b. carie gradul III – molar 3 inferior dreapta (M₃); granulom (chist radicular) – molar 1 inferior dreapta (M₁); c. vertebre dorsale cu osteofite marginale (osteoartrită degenerativă).

Fig. 8. Skeleton – M113; 55-60 years old, ♂: skull: a. caries, grade I – left upper 2nd premolar (P₂); b. caries grade III – right lower 3rd molar (M₃); granuloma (radicular cyst) - right lower 1st molar (M₁); c. dorsal vertebrae with marginal osteophytes (degenerative osteoarthritis).

creastă subtrohanteriană și trohanter suplimentar. Tibiile sunt euricneme (dreapta – 72,41 u.i., stânga – 73,68 u.i.), fără fațete suplimentare de articulație cu talusul. Humerusurile, prevăzute cu relief deltoidian slab dezvoltat, sunt platibrahice (dreptul – 73,91 u.i., stângul – 75,55 u.i.).

Talia, calculată după lungimea oaselor lungi, se situează în categoria de înălțime mică (157,19 cm). La nivel dentar sunt semnalte următoarele anomalii/patologii: carie gradul I – premolar 2 superior stânga (P₂), (fig. 8,a); carie gradul III – molar 3 inferior dreapta (M₃) și un granulom – molar 1 inferior dreapta (M₁) (fig. 8,b). Granulomul (chistul radicular) apare sub forma unei cavități mari în os, cu pereții regulați în jurul apexului dentar, fiind întâlnit mai des la nivelul maxilarului superior [Carrascal 2011].

La nivel postcranian sunt prezente vertebre dorsale cu osteofite marginale (osteoartrită degenerativă) (fig. 8,c). Osteoartrita, numită și osteoartroză, este o boală degenerativă a articulațiilor, caracterizată prin pierderea cartilajului care protejează suprafețele articulare. Osteoartrita este cea mai frecventă formă de artrită și afectează adesea articulațiile coloanei vertebrale, a membrilor superioare și inferioare fiind cauza principală a durerii și invalidității în rândul persoanelor

vârstnice. Pe măsură ce osteoartrita se agravează, se poate ajunge până la pierderea totală a funcției articulațiilor și pot apărea deformări articulare. Vârsta înaintată este cel mai important factor cauzal în dezvoltarea simptomelor de osteoartrită [Nevitt *et al.* 2006].

Mormântul – M114

Scheletul M114 este incomplet și deteriorat din cauze antropice și tafonomice. După stadiul de dezvoltare al dentiției și după lungimea diafizelor oaselor lungi putem preciza că vârsta acestui subiect este de circa 4-5 ani (*infans I*). Scheletul cranian este reprezentat prin fragmente din osul frontal, occipital, temporale, mandibula și maxilarul superior (dentiția temporară – incompletă) (fig. 9,a). Segmentul postcranian este reprezentat prin: femurul stâng (180 mm), femurul drept (incomplet), fragmente din tibii, fragmente din radiusuri și cubitusuri, fragmente din clavicule, o vertebra dorsală (fragment) și trei fragmente costale (fig. 9,b). Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M115

Scheletul M115, aparține unui subiect de sex masculin cu vârsta de 40-45 de ani (adult mijlociu).



Fig. 9. Scheletul – M114, copil de circa 4-5 ani (*infans I*): a. fragmente din scheletul cranian; b. fragmente din scheletul postcranian.

Fig. 9. Skeleton – M114, child of about 4-5 years old (*infant I*): a. fragments of the cranial skeleton; b. fragments of the postcranial skeleton.

Este reprezentat prin majoritatea oaselor craniene – fragmentate (mandibula și maxilarul - complete) (fig. 10,a) și printr-un schelet postcranian aproape complet (sunt prezente în special majoritatea oaselor lungi, oasele bazinului, fragmente din omoplați, clavicule, corpuri vertebrale, coaste, falange, metacarpiene, etc.). Mandibula, gracilă ($69_{(3)}/69_{(1)}$: 34,00 u.i.) are ramul orizontal scurt ($69_{(1)}$: 29 mm) și mijlociu ca grosime ($69(3)$: 12,50 mm), eminența mentonieră piramidală și gonioane slab dezvoltate. Bolta palatină este paraboloid convergentă și adâncă. Dentiția prezintă uzură de gradul II (șapte dinți la nivelul maxilarului superior, nouă dinți superiori izolați și toți dinții mandibulari în alveole). Scheletul postcranian, foarte robust prezintă femure platimere (drept – 80,88 u.i.; stâng – 80,79 u.i.), cu pilastru (drept – 101,75 u.i.; stâng – 101,00 u.i.) și tibii euricneme (stânga – 80,00 u.i.; dreapta – 81,00 u.i.). Humerusurile aparțin categoriei euri-brahice (98 u.i.). Sunt prezente inserții musculare accentuate pe humerusuri. Talia, determinată după lungimea tuturor oaselor lungi, se încadrează în categoria mare a staturilor masculine (170,01 cm).

La nivel dentar sunt prezente carii de gradul II și III la nivelul molarilor 1 inferiori (M_1) și

hipoplazia emailului dentar la nivelul caninului drept inferior (C) (fig. 10,b). Caria dentară rezultă în urma demineralizării smalțului de către produsele organice reziduale din bacteriile bucale [Temple 2011]. Această patologie are o etiologie multifactorială și se prezintă sub diferite grade de dificultate, pornind de la pete opace și ajungând până la cavități de mari dimensiuni ce afectează dentiția [Roberts *et al.* 1995].

Mormântul – M116

Scheletul M116, deficitar conservat este atribuit unui bărbat cu vârsta la deces cuprinsă între 55 și 60 de ani (adult bătrân).

Inventarul osemintelor a pus în evidență o calotă craniană incompletă; lipsesc și fragmente din masivul facial (este prezentă mandibula cu 10 dinți prezenți în alveole și dinți pierduți *in vivo*); sunt prezente majoritatea oaselor postcraniene, dar sunt fragmentate. Neurocraniul prezintă dimensiuni de categorie mică și mijlocie (lărgime – 8: 120 mm; 20: 115 mm) și respectiv un indice hipsicran ($20/1$: 95,83 u.i. – înalt). Dimensiunea maximă a frunții este mică (10: 93 mm), iar occipitalul este mijlociu de larg (12: 111 mm), de



Fig. 10. Scheletul – M115; 40-45 ani, ♂: a. fragmente craniene; b. carii – gradul II și III la nivelul molarilor 1 inferiori (M1) și hipoplazia emailului dentar la nivelul caninului drept inferior (C).

Fig. 10. Skeleton – M115; 40-45 years old, ♂: a. skull fragments; b. caries – grade II and III at the level of the lower 1st molars (M1) and dental enamel hypoplasia at the level of the lower right canine (C).

bombat și de înalt cu impresiile musculare șterse. Mandibula prezintă o robustețe medie ($69_{(3)}/69_{(1)}$: 40,00 u.i.). Înălțimea și grosimea ramului orizontal sunt mijlocii la nivelul foramenului mentonier ($69_{(1)}$: 32,50 mm respectiv $69_{(3)}$: 12 mm). Ramul vertical (70) are o înălțime de 61,50 mm și o lărgi-

me (71) de 27 mm. Regiunea mandibulară goniacă este slab dezvoltată. Dentiția este incompletă și prezintă un grad avansat de uzură (gradul III→IV).

Scheletul postcranian este robust. Femurele – cel drept platimeric (drept – 77,77 u.i.), stângul – hiperplatimeric (74,32 u.i.); femurul drept fără pi-

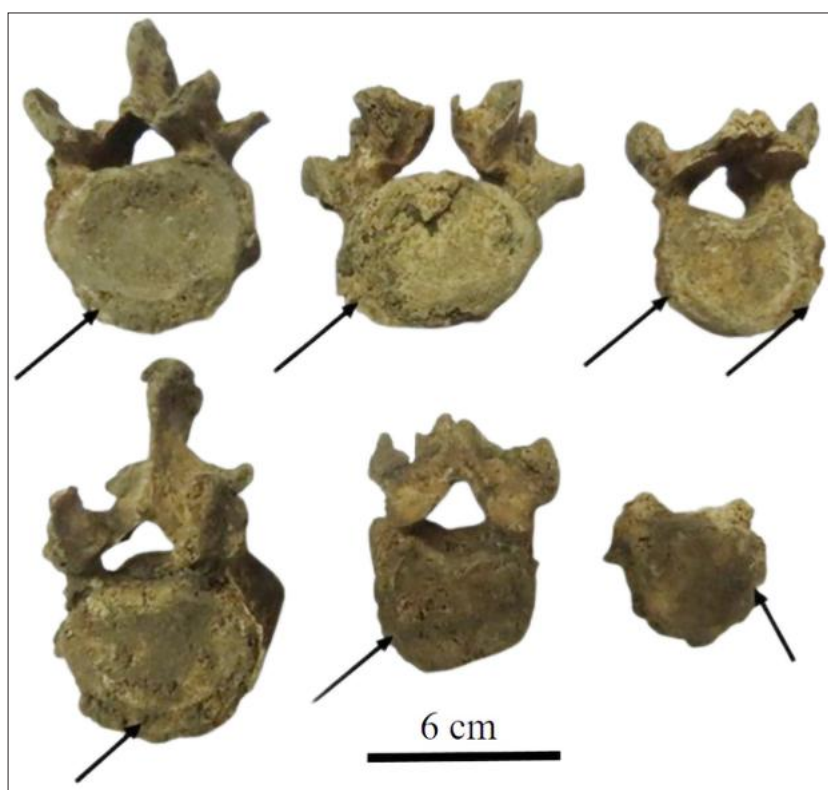


Fig. 11. Scheletul – M116; 55-60 ani, ♂: vertebre dorsale cu osteofite marginale (osteoartrită degenerativă).

Fig. 11. Skeleton – M116; 55-60 years old, ♂: dorsal vertebrae with marginal osteophytes (degenerative osteoarthritis).

lastru (96,55 u.i.); femurul stâng cu pilastru (105,5 u.i.) cu creastă subtrohanteriană și trohanter suplimentar. Tibiile sunt euricneme (dreapta – 71,66 u.i., stânga – 73,33 u.i.), fără fațete suplimentare de articulație cu talusul. Humerusurile, prevăzute cu relief deltoidian slab dezvoltat, sunt platibrahice (dreapta – 71,66 u.i., stânga – 73,33 u.i.).

Talia, calculată după lungimea oaselor lungi, se situează în categoria de înălțime supramijlocie (168,90 cm).

La nivelul segmentului postcranian sunt prezente vertebre dorsale cu osteofite marginale (osteoartrită degenerativă) (fig. 11).

Mormântul – M117

Scheletul M117, osemintele au aparținut unei femei cu vârsta de 40-45 de ani (adult mijlociu).

Menționăm că dimorfismul sexual al acestui subiect este slab exprimat la nivel osteologic, atribuirea sexului antropologic realizeazăndu-se cu precauție. Scheletul cranian este reprezentat prin fragmente din neurocraniu, maxilarul superior și mandibula (fig. 12,a-b). Din scheletul postcranian s-au recuperat majoritatea oaselor lungi (humerusurile și tibiile sunt incomplete), fragmente din oasele coxale, fragmente din omoplați, claviculele, sternul, fragmente de coaste, etc. Mandibula este robustă ($69_{(3)}/69_{(1)}$; 53,33 u.i.) cu ramul orizontal de înălțime medie ($69_{(1)}$; 30 mm) și grosime foarte mare ($69_{(3)}$; 16 mm). Mentonul este butonat, gonioanele șterse iar ramul vertical este scurt și ușor înclinat. Bolta palatină este paraboloid convergentă și adâncă.

La nivelul dentiției semnalăm pierderea *post mortem* a mai multor dinți superiori și inferi-

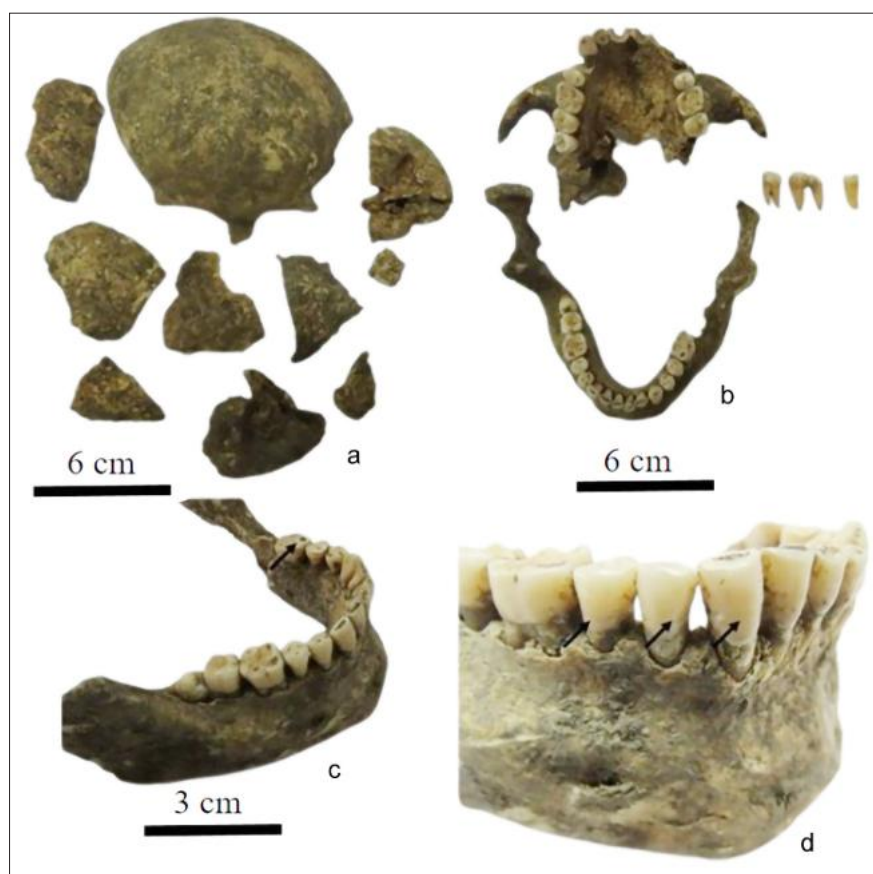


Fig. 12. Scheletul – M117; 40-45 ani, ♀: a, b. fragmente craniene (neurocraniu, masiv facial); c. carie gradul I – molar 1 inferior dreapta (M_1); d. hipoplazia smalțului dentar (gradul I) la nivelul caninului inferior drept (C), premolarii 1 și 2 inferioari dreapta (P_1 , P_2).

Fig. 12. Skeleton – M117; 40-45 years old, ♀: a, b. cranial fragments (neurocranium, facial massif); c. caries, grade I – lower right molar 1 (M_1); d. dental enamel hypoplasia (grade I) at the level of the lower right canine (C), lower right premolars 1 and 2 (P_1 , P_2).

ori. Scheletul postcranian este relativ gracil. Femurele sunt platimere (drept – 77,19 u.i.; stâng – 78,57 u.i.); femurul drept fără pilastru iar cel drept cu pilastru (drept – 92,00 u.i.; stâng – 102,00 u.i.) iar tibiile sunt euricneme (dreapta – 71,64 u.i., stânga – 70,14 u.i.), fără fațete suplimentare de articulație cu talusul. Humerusurile, prevăzute sunt euribrahice (dreptul – 80,85 u.i., stângul – 84,78 u.i.). Talia se încadrează în categoria mare (162,40 cm).

La nivelul craniului semnalăm următoarele anomalii/patologii: carie gradul I – molar 1 inferior dreapta (M_1), (fig. 12,c); hipoplazia smalțului dentar (gradul I) la nivelul caninului inferior drept (C), premolarii 1 și 2 inferiori dreapta (P_1 , P_2) (fig. 12,d).

Mormântul – M118

Scheletul M118, bine conservat dar, fragmentat, a aparținut, fără rezerve, unei femei mature (60-65 de ani – adult bătrân). Segmentul crani-an este reprezentat printr-o „calva” restaurat aproape complet fiind prezente și fragmente din masivul facial (fig. 13). Din scheletul postcranian sunt prezente majoritatea oaselor lungi (unele incomplete – tibiile, peroneele), fragmente din centuri, fragmente din vertebre, fragmente costale, falange, carpiene și metacarpiene.

Neurocraniul cu contur sfenoidal în norma superioară și de „casă” în norma occipitală este îngust (110 mm). Fruntea este mijlociu de largă prin valorile absolute – minimă (9: 93 mm) și maximă (10: 111 mm), dar eurimetopă prin indicele fronto-parietal (9/8: 84,54 u.i.), de formă ovală (9/10: 83,78 u.i.), prezentând o glabelă ușor marcată (gradul I).

Fața este incompletă. Bolta palatină este moderat de adâncă și are forma paraboloid convergentă. Malarele au înălțime medie cu dispoziție intermediară, fosele canine superficiale (gradul I), iar apertura piriformă nazală apare antropină. Mandibula este robustă, indicele de robusticitate ($69_{(3)}/69_{(1)}$) indicând o valoare de 44,64 u.i. Ramul orizontal este mijlociu de înalt (atât la nivelul fo-



Fig. 13. Scheletul – M118; 60-65 ani, ♀: calota craniană și fragmente din viscerocraniu.

Fig. 13. Skeleton – M118; 60-65 years old, ♀: cranial vault and viscerocranium fragments.

ramenului nutritiv – 28 mm, cât și la nivelul dinților jugali – 30,05 mm); regiunea mentonieră este ușor proeminentă cu aspect butonat iar torusul mandibular este slab conturat. Ramul vertical al mandibulei, scurt (70: 51 mm) și mijlociu de larg (71: 32 mm) prezintă o ușoară înclinație oblică. Dentiția reprezentată de 20 de dinți prezenți în alveole (șapte la nivelul maxilarului superior și 13 la nivelul mandibulei) prezintă un grad avansat de uzură (gradul IV). Scheletul postcranian este gracil. Femurele sunt eurimere (drept – 96,29 u.i.; stâng – 100 u.i.), cu pilastru (drept – 108,29 u.i.; stâng – 108,16 u.i.) și relief subtrohanterian moderat de dezvoltat. Tibiile sunt euricneme (dreapta – 71,43 u.i.; stânga – 72,72 u.i.), iar humerusurile aparțin categoriei platibrahice (drept – 71,42 u.i.;

stâng – 73,17 u.i.). Talia oferă o medie de 157,03 cm, valoare ce o încadrează în categoria staturilor feminine supramijlocii. Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Mormântul – M119

Scheletul M119, fragmentat și incomplet, a aparținut unui adolescent de 18-20 de ani (indeterminabil ca sex). Segmentul cranian este fragmentat și incomplet; este prezentă și jumătatea stângă a maxilarului superior și mandibula (fig. 14). Din scheletul postcranian sunt prezente majoritatea oaselor lungi, centurile (incomplete), astragalele, calcaneele, claviculele, sternul, corpuri vertebrale, fragmente de coaste, falange, etc. Masivul facial nu a putut fi restaurat. Mandibula este

îngustă (65: 109 mm), cu dimensiuni ale ramului orizontal moderate (înălțime – 27 mm, grosime – 13,05 mm), cu mentonul butonat și gonioanele șterse. Ramul vertical este scurt (70: 51 mm) și îngust (71: 34 mm). Dentiția – incompletă este reprezentată de doi dinți la nivelul maxilarului, nouă dinți la nivelul mandibulei și respectiv 18 dinți izolați.

La nivelul scheletului postcranian (gracil) - femurele sunt aplatizate, hiperplatimere (drept – 68,51 u.i.; stâng – 67,92 u.i.), fără pilastru (drept – 90,47 u.i.; stâng – 90,24 u.i.); tibiile sunt euricneme (dreapta – 72,72 u.i.; stânga – 72,09 u.i.). Menționăm că epifizele nu sunt sudate la nivelul diafizelor. Nu au fost semnalate patologii, anomalii și caractere non-metrice.



Fig. 14. Scheletul – M119; adolescent de circa 18-20 ani (indeterminabil ca sex): fragmente craniene (neurocraniu, viscerocraniu).

Fig. 14. Skeleton – M119; adolescent of about 18-20 years old (indeterminable sex): cranial fragments (neurocranium, viscerocranium).

Mormântul – M120

Scheletul M120, a aparținut unei femei de circa 35-40 de ani (adult mijlociu) și este reprezentat printr-o „calvaria”, jumătatea stângă a maxilarului superior, mandibula și malarul stâng (fig. 15,a). Scheletul postcranian este bine conservat, dar fragmentat. Fruntea care se încadrează în categoria foarte mică (lărgimea maximă și minimă – 10: 80 mm și respectiv 9: 78 mm). Relieful osos este moderat (glabellar – gradul II; supraorbital – gradul I; apofizele mastoid – gradul II).

Mandibula este moderată ca robustețe ($69_{(3)}/69_{(1)}$): 40,00 u.i.) cu ramul orizontal de înălțime și grosime medie ($69_{(1)}$: 27,50 mm și respective $69_{(3)}$: 11 mm), mentonul proeminent și butonat iar gonioanele șterse. Sunt prezente urme de oxidare la nivelul ramului orizontal stâng mandibular și solzul temporal stng (fig. 15,a). La nivelul dentiției a fost semnalată o singură pierdere *in vivo* (I^2 – incisivul lateral superior dreapta).

Sunt prezenți în alveole, trei dinți pe maxilarul superior și 14 dinți mandibulari. Abraziunea dentară prezintă gradul II→III. Scheletul postcranian este gracil fiind prezente majoritatea oaselor (unele sunt incomplete și fragmentate). Femurele sunt platimere (drept – 78,57 u.i.; stâng – 80,00 u.i.), cu

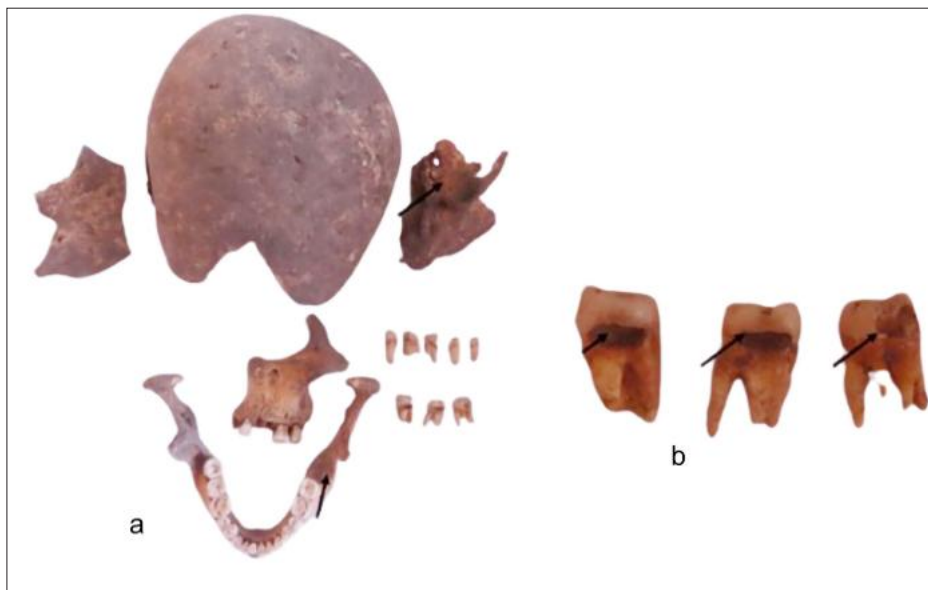


Fig. 15. Scheletul – M120; 35-40 ani, ♀: a. fragmente craniene (neurocraniu, viscerocraniu); b. carii gradul II și III la nivelul molarilor superiori.

Fig. 15. Skeleton – M120; 35-40 years old, ♀: a. cranial fragments (neurocranium, viscerocranium); b. grade II and III caries on the upper molars.

pilastru (drept – 117,39 u.i.; stâng – 117,77 u.i.), tibiile mesocneme (dreapta – 67,34 u.i.; stânga – 68,08 u.i.), iar humerusurile sunt euribrahice (drept – 78,94 u.i.; stâng – 78,37 u.i.). Talia este de 152,10 cm, valoare ce se încadrează în categoria submijlocie (la limita superioară a categoriei). La nivelul dentiției sunt prezente carii de gradul II și III la nivelul molarilor superiori (fig. 15,b).

Mormântul – M121

Scheletul M121, bine conservat, aparține unei femei, cu vârsta la deced de circa 20-22 de ani (adult tânăr). Craniul este aproape complet (lipsește baza craniului). La nivelul osului frontal sunt prezente urme de oxidare (fig. 16,a). Din scheletul postcranian s-au recuperat majoritatea oaselor. Neurocraniul este de formă sfenoidă privit în normă verticală; relieful cranian este slab marcat (glabellar – gradul I, supraciliar – gradul I), apofiza mastoidă (gradul I). Indicele orbital se plasează în categoria orbitelor hipsiconci (52/51: 93,58 u.i. – orbite înalte), iar nasul este leptorin (54/55: 44,11 u.i. – îngust și înalt). Regiunea nazală este prevăzută cu o apertură piriformă de tip antropin. Malarele, moderat dezvoltate, prezintă o dispoziție ușor frontalizată și relief slab marcat. Fosa canină nu este adâncă (gradul I), spina

nazală – gradul I iar bolta palatină este medie ca adâncime, cu un contur paraboloid divergent. Mandibula apare mijlociu de largă, prin diametrul intercondilar (65: 115 mm) și mare prin cel intergonian (66: 99 mm), cu corpul mandibular înalt și de grosime medie ($69_{(1)}$: 33,50 mm; $69(3)$: 11 mm), respectiv cu un indice de robusticitate foarte mic ($69_{(3)}/69_{(1)}$): 32,83 u.i. – mandibulă gracilă). Regiunea mentonieră este „butonată” și ușor proeminentă, iar regiunea goniacă ștearsă. Ramul vertical mandibular este ușor înclinat, îngust și scurt (70: 57 mm și respectiv 71: 30 mm). **Dentiția:** sunt prezenți în alveole doar șapte dinți pe mandibulă și șase dinți izolați cu suprafața masticatoare slab erodată (gradul I). Scheletul postcranian este gracil fiind prezente majoritatea oaselor (unele sunt incomplete și fragmentate). Femurele sunt platimere (drept – 74,13 u.i.; stâng – 75,43 u.i.), cu pilastru (drept – 102,00 u.i.; stâng – 102,27 u.i.), tibiile euricneme (dreapta – 72,00 u.i.; stânga – 71,42 u.i.), iar humerusurile sunt euribrahice (drept – 87,48 u.i.; stâng – 91,66 u.i.). Talia este de 156,20 cm, valoare ce indică o femeie de talie mijlocie (la limita inferioară a categoriei). La nivel postcranian semnalăm perforația olecraniană la nivelul epifizei inferioare a humerusului stâng (fig. 16,b).



Fig. 16. Scheletul – M121; 20-22 ani, ♀: a. fragmente craniene (neurocraniu, viscerocraniu); urme de oxidare la nivelul osului frontal; b. perforație olecraniană la nivelul epifizei inferioare a humerusului stâng.

Fig. 16. Skeleton – M121; 20-22 years old, ♀: a. cranial fragments (neurocranium, viscerocranium); traces of oxidation on the frontal bone; b. olecranon perforation at the level of the lower epiphysis of the left humerus.

Mormântul – M122

Scheletul M122, relativ bine conservat, a aparținut unui subiect adolescent de circa 17-18 ani, indeterminabil ca sex. Atât scheletul cranian (fig. 17,a-b), cât și cel postcranian este reprezentat de majoritatea oaselor (unele oase sunt fragmentate și incomplete). Măsurătorile de la nivelul craniului au fost realizate *in situ*. Craniul este hiperbrahican (8/1: 88,00 u.i.), prin diametrele sale: antero-posterior (1: 145 mm) și transvers de tip larg (8: 127 mm) – de tip foarte mic. Înălțimea craniului, atât bazio-bregmatică (17: 94 mm – foarte mică), cât și porio-bregmatică (20: 112 mm – mare), în funcție de lungime și lărgime, îl caracterizează ca hipsicran, acrocran (20/1: 78,00 u.i. și 20/8: 89,00 u.i.) și tapeinocran (17/8: 74,00 u.i.). Fruntea largă (9: 100 mm și 10: 111 mm) este euriometopă (9/8: 79,00 u.i.) și ovală (9/10: 90,00 u.i.), cu glabella moderată (gradul I→II). Occipitalul moderat de curbat este foarte larg (12/8: 93,00 u.i.), cu relieful osos slab marcat. Masivul facial nu a putut fi restaurat. Mandibula mijlocie ca robustețe ($69_{(3)}/69_{(1)}$): 42, 10 u.i.) este foarte largă (65: 123 mm), cu dimensiuni ale ramului orizontal moderate (înălțime – 28,50 mm, grosime – 12,00 mm), cu mentonul piramidal și gonioanele șterse. Ramul vertical este moderat de înalt (70: 65 mm)

și larg (71: 33,00 mm). Dentiția neerodată este reprezentată de 10 dinți izolați, trei dinți la nivelul maxilarului și 14 dinți la nivelul mandibulei. Scheletul postcranian, aproape complet este gracil iar epifizele nu sunt sudate la nivelul diafizelor. Humerusurile, prin diametrele sale sunt euribrahice (drept – 90,00 u.i.; stâng – 95,00 u.i.), femurele sunt aplatizate, platimere (75,00 u.i.), cu pilastru (drept – 104,00 u.i.; stâng – 102,00 u.i.), iar tibiile euricneme (dreapta – 75 u.i.; stânga – 76,37 u.i.). Talia este submijlocie (152,28 cm). La nivelul dentiției semnalăm hipoplazia emailului dentar (gradul I) la nivelul incisivului 2 inferior dreapta (I2), a caninului (C) și a primului premolar inferior dreapta (P₁) (fig. 17,c). La nivel postcranian semnalăm *spina bifida occulta* în segmentul S3-S5 a osului sacrum (fig. 17,d). Originea *spinei bifide* implică predispoziția genetică și factorii de mediu cu rol declanșator, dar cu toate acestea, cauza exactă este încă necunoscută. În ultimul deceniu, s-a constatat că deficitul de acid folic, zinc și seleniu din metabolismul matern poate determina apariția defectelor de tub neural la embrion [Barnes, 1994; Barnes 2012].

Mormântul – M123

Scheletul M123 (A) a aparținut unui copil de circa 9 ani (*infans II*). Scheletul cranian (fragmen-

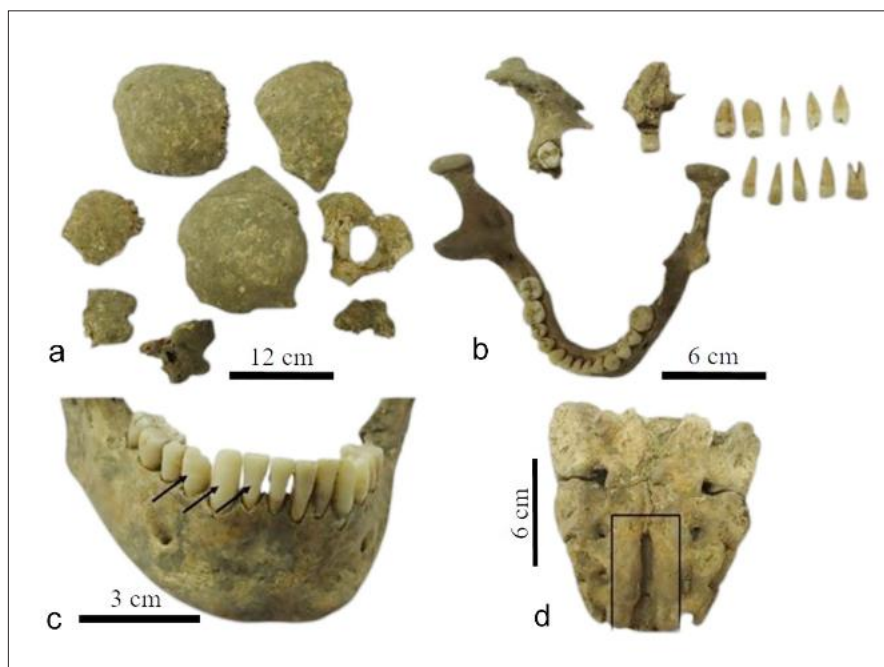


Fig. 17. Scheletul M122; adolescent de circa 17-18 ani (indeterminabil ca sex): a. fragmente din neurocraniu; b. fragmente din viscerocraniu; c. hipoplazia emailului dentar (gradul I) la nivelul incisivilui 2 inferior dreapta (I2), caninului (C) și a primului premolar inferior dreapta (P₁); d. *spina bifida occulta* la nivelul osului sacrum în segmentul S3-S5.

Fig. 17. Skeleton M122; adolescent of about 17-18 years old (indeterminable sex): a. fragments of the neurocranium; b. fragments of the viscerocranium; c. dental enamel hypoplasia (grade I) at the level of the lower right incisor 2 (I2), canine (C) and the lower right first premolar (P₁); d. *spina bifida occulta* at the level of the sacrum bone in the S3-S5 segment.

tat) este reprezentat prin majoritatea oaselor. Sunt prezenți dinți temporari și definitiv în alveole la nivelul maxilarului superior și a mandibulei, dar și dinți izolați (fig. 18,a). Scheletul postcranial este reprezentat de majoritatea oaselor lungi (comple-

te și incomplete) (fig. 18,b). Vârsta a fost apreciată după gradul de dezvoltare al dentiției și lungimea diafizelor oaselor lungi (femur = 270 mm; tibie = 215 mm; humerus = 195 mm). Nu au fost semnalate patologii, anomalii și caractere non-metrice.



Fig. 18. Scheletul – M123 (A), copil de circa 9 ani (*infans II*): a. fragmente craniene; b. fragmente postcraniene.

Fig. 18. Skeleton – M123 (A), child of about 9 years old (*infant II*): a. cranial fragments; b. postcranial fragments.



Fig. 19. Scheletul – M123 (B), copil de circa 6 ani (*infans I*): a. fragmente din scheletul cranian; b. fragmente din scheletul postcranian.

Fig. 19. Skeleton – M123 (B), child of about 6 years old (*infant I*): a. fragments of the cranial skeleton; b. fragments of the postcranial skeleton.

Scheletul M123 (B) a aparținut unui copil de circa 6 ani (*infans I*) și este prezent atât prin majoritatea fragmentelor craniene (fig. 19,a), cât și prin fragmente din scheletul postcranian (fig. 19,b). Vârsta a fost stabilită apreciind gradul de dezvoltare al dentiției și lungimea oaselor lungi (femur = 195 mm; tibie = 150 mm; humerus = 140 mm). Nu au fost semnalate patologii, anomalii și caractere non-metrice.

Concluzii

În urma analizei acestui eșantion osteologic deshumat în anul 2024 din necropola medievală (secolul XIV) de la Lozova-La hotar cu Vornicenii (raionul Strășeni, Republica Moldova) s-au identificat 18 schelete (provenite din 17 morminte de înhumare) dintre care șase au aparținut copiilor (33,33%), patru adolescenților (22,22%) și opt adulților – trei bărbați și cinci femei (44,45%).

Mortalitatea ridicată a copiilor împreună cu numărul adolescenților reprezintă o rată de mortalitate de 55,55% ceea ce indică faptul că peste jumătate dintre subiecți nu au atins vârsta de 20 ani. *Sex ratio* (indicele de masculinitate) în această serie osteologică este subunitar.

Menționăm că prezența anomaliilor, patologiilor și a trăsăturilor non-metrice este moderată. La nivelul segmentului cranian au fost identificate cariile dentare, hipoplazia smalțului dentar (câte patru cazuri) și chistul radicular (un caz). În segmentul postcranian a fost semnalată osteoartrita, perforația olecraniană (câte două cazuri) și *spina bifida occulta* (un caz).

Analiza paleoantropologică a întregului material osteologic descoperit în necropola de la Lozova va contribui, alături de documentația arheologică, la cunoașterea stilului de viață al populației medievale rurale din Republica Moldova.

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VIAȚA ȘTIINȚIFICĂ – SCIENTIFIC LIFE

Masa rotundă

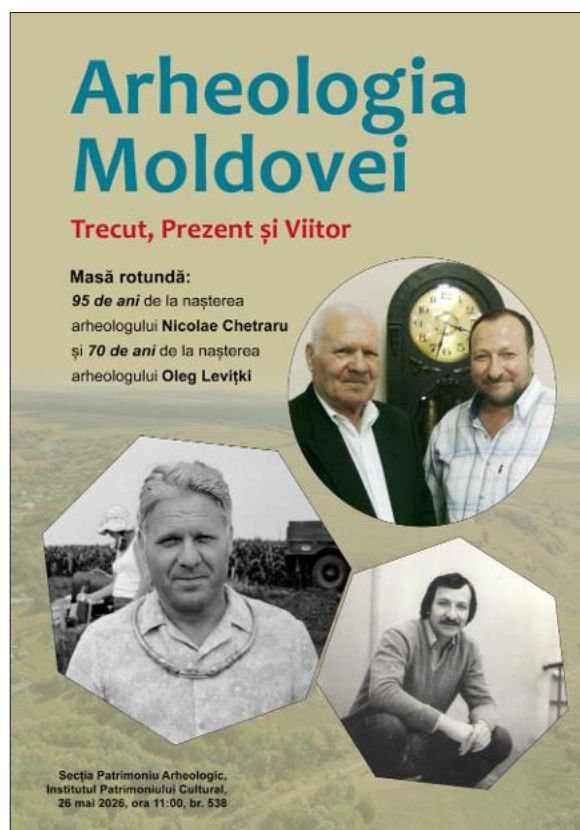
**95 de ani de la nașterea arheologului Nicolae Chetraru,
70 de ani de la nașterea arheologului Oleg Levițki***

Dorința de a învăța nu are limită de vârstă, iar discuțiile în amintirea predecesorilor merită o atenție aparte.

Așa se face, că după o perioadă de timp se revine la seria de manifestări științifice care are ca generic **Arheologia Moldovei: trecut, prezent și viitor**, inițiată și organizată, începând cu 1 aprilie 2014, de Centru de Arheologie din cadrul Institutului Patrimoniului Cultural (Chișinău) [Bacumenco-Pîrnău 2014, 2016; Sîrbu 2015, 2017; Pașenciu 2019], iar recent, continuată de Secția Patrimoniu Arheologic al aceluiași institut.

Astfel, la 26 mai 2026, a avut loc **Masa rotundă** consacrată împlinirii a **95 de ani de la nașterea arheologului Nicolae Chetraru** (24 octombrie 1931 – 24 noiembrie 2011) și **70 de ani de la nașterea arheologului Oleg Levițki** (26 mai 1956 – 18 mai 2020). Prin această reuniune se continuă activitățile inițiate în scopul omagierii unor cercetători cunoscuți în domeniul arheologiei din Moldova postbelică și din perioada recentă.

Această manifestare a fost deschisă prin cuvintele de salut adresate de către dr. Ion Ursu, Director interimar al Institutului Patrimoniului Cultural; dr.hab. Liliana Condraticova, Secretar științific general al Academiei de Științe a Moldovei; dr.hab., prof. Gheorghe Postică, Șef secție Istorie, Arheologie și Muzeologie al Muzeului Național de Istorie din Moldova și dr. Vlad Vornic, Director al Agenției Naționale Arheologice, remarcând aportul celor două personalități la dezvoltarea cercetărilor arheologice din spațiul dintre Prut și Nistru, totodată fiind relevate anumite aspecte și paliere de relaționare a acestora cu cercetători din țările învecinate.



Programul manifestării, de rând cu momentele de salut, conținea și o serie de comunicări prezentate de cercetători care i-au cunoscut și au lucrat o perioadă de timp împreună.

O primă comunicare intitulată *Nicolae Chetraru: omul de piatră* a fost prezentată de către, Vitalie Burlacu, care pune accentul pe activitatea științifică a cunoscutului cercetător al epocii Paleolitice, datorită cărei au fost descoperite mai multe situri arheologice, o parte dintre care au devenit

* Manifestare realizată în cadrul proiectului: 170101. *Cercetarea și valorificarea patrimoniului cultural construit, etnografic, arheologic și artistic din Republica Moldova în contextul integrării europene* (2024-2027).



etalon pentru epoca menționată – Trinca, Butești, Duruitoarea Veche, Gordinești, Buzdujeni etc. Un aspect al activității sale îl reprezintă colaborarea lui cu specialiștii din domeniul geologiei, palinologiei și paleontologiei, fapt ce i-a permis reconstituiri importante în ceea ce privește modul de viață al



comunităților umane din interfluviul pruto-nistrean în ultima eră glaciară. Acumularea și valorificarea unei bogate colecții de artefacte din piatră și os, au contribuit la o mai bună înțelegere a diverselor aspecte ale evoluției comunităților de vânători din Paleoliticul Superior din această zonă, în special de pe cursul mijlociu al Nistrului. De asemenea, autorul comunicării a scos în evidență importanța publicațiilor monografice ale lui Nicolae Chetradu consacrate epocii Paleolitice, dintre care pot fi menționate *Мерсына. Новое нижнепалеолитическое местонахождение в Молдавии* (Кишинев 1967) (în colaborare); *Памятники эпох палеолита и мезолита. Археологическая карта Молдавской ССР, Выпуск 1* (Кишинев 1971); *Поселение древнекаменного века на северо-западе Молдавии* (Кишинев 1981); *Первобытный человек в гротах Тринка I-III* (Кишинев 1986); *Paleoliticul timpuriu (turma omenească primitivă). Istoria RSS Moldovenești în șase volume. Volumul I* (Chișinău 1988); *Верхнепалеолитическая стоянка Рашков 7* (Кишинев 2007) (în colaborarea). La fel s-a menționat și despre interesele lui Nicolae Chetradu axate pe studierea istoriei arheologiei în Moldova, iar investigațiile sale prin arhivele mai multor țări au adus cititorului informații valoroase despre personalități notorii ale arheologiei pruto-nistrene ca I.C. Suruceanu, N. Moroșanu.

Un interes aparate a fost comunicarea prezentată de Denis Topal, care a avut ca temă *Nicolae Chetradu și arheologia funerară*, în care s-au discutat aspecte din activitatea de teren a cercetătorului, cu accent pe investigația mormintelor tumulare. Arhiva fotografică și schițele de șantier servesc și acum drept sursă importantă pentru reconstituirea ritului funerar practicat de comunitățile preistorice. Bineînțeles, că a atras atenția descoperirea renumitului torques de aur ca rezultat al cercetărilor întreprinse la Dubăsari în anul 1981. Despre care în unele surse putem găsi afirmații *Și azi, arheologii mai învârstă povestesc colegilor mai tineri cum umbla Nicolae Chetradu cu această podoabă inedită în geanta sa* [Mateevici 2011, 395].

Rezultatele cercetărilor întreprinse de către Nicolae Chetradu în complexele funerare sunt reflectate în mai multe articole publicate în reviste științifice sau culegeri, rezumate la conferințe științifice precum și în monografii, dintre care putem menționa *Necropola aristocrației scitice de la Dubăsari (sec. V-IV î.e.n.)* (Chișinău 2001).



O altă comunicare a avut ca temă *Oleg Levițki și paradigma arheologiei moldovenești* în care autorul Ghenadie Sîrbu aduce scurte informații din viața și parcursul științific al cercetătorului. Au fost remarcate cele mai importante momente din perioada de formare a lui Oleg Levițki de la laborant la director de centru, de la îndrumător în procesul didactic la coordonator de doctorat. Cercetătorul Oleg Levițki s-a remarcat pe plan profesional prin muncă depusă în colectarea și analiza unui volum mare de informație care s-a materializat prin susținerea tezei de Doctorat în Istorie (calificativul în rusă *Кандидат исторических наук*) la Institutul de Istorie și a Culturii Materiale din Leningrad (1991) și Doctor Habilitat în



Istorie la Institutul de Arheologie și Etnografie al Academiei de Științe a Moldovei (2002).

Concomitent, în anii de doctorat a continuat să activeze în funcția de cercetător științific în cadrul Secției de Arheologie și Etnografie a AȘM. Revenind la Chișinău, din 1991 până în 1999 a ocupat funcția de cercetător științific superior la aceeași instituție, reorganizată între timp și denumită inițial Institutul de Arheologie și Istorie Veche, apoi – Institutul de Arheologie și Etnografie.

Urmează o perioadă de colaborare științifică fructuoasă cu colegii de breaslă de la Institutul Român de Tracologie din cadrul Ministerului Învățământului din România, condus de distinsul profesor Petre Roman, și de materializare prin numeroase publicații (inclusiv a primelor patru studii monografice, trei dintre care au fost editate la București) a potențialului științific acumulat. În calitate de angajat, din 1994 până în 2002 beneficiază de finanțarea a nouă campanii arheologice, în decursul cărora efectuează investigații la câteva obiective din microzona satului Trinca: *Trinca-Izvorul lui Luca*, *Trinca-Drumul Feteștilor*, *Trinca-La Șanț*.

Cercetătorul Oleg Levițki a publicat, în răstimpul a 36 de ani de activitate, cca 150 de lucrări științifice, inclusiv șase monografii. A condus și coordonat patru proiecte de cercetare (dintre care două internaționale), a participat la realizarea altor trei proiecte (inclusiv unul internațional). Nu în ultimul rând, amintim aici numeroasele conferințe, simpozioane și alte manifestări științifice naționale și internaționale la care a participat. În calitate de profesor, a instruit numeroși studenți, pe unii ghidându-i spre lumea științei prin susținerea acordată în calitate de conducător al tezelor de licență, masterat și doctorat.

Experiența imensă și cunoștințele valoroase au făcut ca Oleg Levițki, de-a lungul timpului, să fie invitat în componența a mai multor seminare științifice de profil, comisii de specialitate, colegii de redacție, membru al Asambleei Academiei de Științe a Moldovei. Toate acestea au făcut ca numele savantului Oleg Levițki să fie binecunoscut atât în țară cât și peste hotare, să devină unul de referință în cercetarea perioadei hallstattiene.

Cu deosebit respect și prețuire, menționăm faptul că cercetătorul, directorul, colegul, profesorul, mentorul Oleg Levițki rămâne pentru noi mai întâi de toate omul onest și responsabil, conștiincios și înțelegător, binevoitor și modest,

care știe să susțină și să încurajeze pe alții cu sinceritate în momentele mai dificile.

Cea de a patra comunicare *Amintiri despre Nicolae Chetraru și Oleg Levițki*, prezentată de Sergiu Bodean (MNIM), a completat cele menționate despre activitatea ambilor cercetători, mai mult ca atât, autorul a dorit să pună accentul pe momentele care au marcat formarea sa sub îndrumarea lui Nicolai Antonovici, la Muzeul Național de Istorie a Moldovei și a lui Oleg Gheorghievici

în cadrul Centrului de Arheologie al Institutului Patrimoniului Cultural.

Ambii cercetători au plecat lăsând în urma lor un bogat patrimoniu scris despre arheologia preistorică din interfluviul Prut-Nistru, noi cei care le urmăm calea în plan profesional nu ne rămâne decât să continuăm cu același succes, poate chiar și mai bine, să promovăm valorile *Patrimoniului Arheologic* atât pe plan național cât și internațional.

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Ghenadie Sîrbu

LISTA ABREVIERILOR – LIST OF ABBREVIATION

Angustia	Angustia, Muzeul Național al Carpaților Răsăriteni, Sfântu Gheorghe
AM	Arheologia Moldovei, Iași
BAR	British Archaeological Records, Oxford
B.THR	Bibliotheca Thracologica, București
CCDJ	Cultură și Civilizație la Dunărea de Jos, Călărași
Dacia N.S.	Dacia, Recherches et Découverts Archeologiques en Roumanie, București, I (1924) – XII (1948). Nouvelle Série (1957-): Revue d'Archéologie et d'Histoire Ancienne, București
FA	Folia Archaeologica, Budapest, Hungary
MA	Memoria Antiquitatis, Acta Musei Petrodavensis, Revista Muzeului de Istorie, Piatra Neamț
MCA	Materiale și Cercetări Arheologice, București
MNIM	Muzeul Național de Istorie a Moldovei, Chișinău
MNIR	Muzeul Național de Istorie a României, București
RA	Revista Arheologică, Centrul de Arheologie al Institutului Patrimoniului Cultural, Chișinău
SCIV(A)	Studii și Cercetări de Istorie Veche (și Arheologie), Institutul de Arheologie „V. Pârvan”, București
Stratum plus	Stratum plus, Școala Antropologică Superioară, Chișinău
PZ	Praehistorische Zeitschrift, Berlin
TD	Thraco-Dacica, Institutul Român de Tracologie, București
Tyragetia	Tyragetia, Muzeul Național de Arheologie și Istorie a Moldovei, Chiși
ABY	Археологічні відкриття в Україні, Київ
ADY	Археологія і давня історія України, Київ
ADY	Археологічні дослідження в Україні, Київ
AKM	Археологическая карта Молдавской ССР, Кишинев
AMA	Античный мир и археология, Саратов
Археологія	Археологія. Інститут Археології НАНУ, Київ
АСГЭ	Археологический сборник Государственного Эрмитажа, Ленинград/Санкт-Петербург
Записки ИИМК РАН	Записки Института истории материальной культуры Российской академии наук, Санкт-Петербург
Изв. МФ АН СССР	Известия Молдавского филиала Академии Наук СССР, Кишинев
IA НАНУ	Інститут археології Національної Академії наук України, Київ
КСИА	Краткие сообщения Института археологии, Москва
КСИИМК	Краткие сообщения Института истории материальной культуры РАН, Москва
МАСП	Материалы по археологии Северо-Западного Причерноморья, Одесса
МИА	Материалы и исследования по археологии СССР, Москва-Ленинград
ОАК	Отчет археологической комиссии, Санкт-Петербург
РА	Российская археология, Институт археологии РАН, Москва
СА	Советская археология, Москва
САИ	Свод археологических источников, Москва
Сообщения ГАИМК	Сообщения Государственной академии истории материальной культуры, Санкт-Петербург
ТХАЭЭ	Труды Хорезмской археолого-этнографической экспедиции, Москва

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IV. Bibliography:

The bibliographic notes are to be made in Latin characters (for bibliography in Cyrillic script, which will be transliterated according to the US Library of Congress system) according to the model: [Petrache 1999, 15, fig. 3; Petrov 1999, ris. 4-6].

The *bibliographic list* shall be presented in alphabetical order at the end of the text, according to the following rules:

Sample of citation of monographs:

Bader 1978: T. Bader, Epoca bronzului în nord-vestul Transilvaniei. Cultura pretracă și tracă. (București 1978).

Sample of citation of articles published in collections of scientific papers:

Dergachev 1969: V.A. Dergachev, Poselenie epokhi bronzы u sela Slobodka-Shireutsy. In: (L.L. Polevoi ed.) Dalekoe proshloe Moldavii, (Kishinev 1969), 110-122 // В.А. Дергачев, Поселение эпохи бронзы у села Слободка-Ширеуцы. В сб.: (Л.Л. Полевой от.ред.) Далекое прошлое Молдавии, (Кишинев 1969), 110-122.

Sample of citation of works published in periodicals:

Zaharia 1990: E. Zaharia, La culture de Monteoru. La deuxième étape de développement a la lumière des fouilles de Sărata-Monteoru (dép. de Buzău). Dacia N.S. XXXIV, 1990, 23-51.

Sample of citation of abstracts published in volumes of symposia, conferences and scientific seminars:

Sava 1994: E. Sava, Investigațiile istorico-arheologice în microzona Rudi-Tătărauca Nouă-Arionești, raionul Dondușeni. Cronica cercetărilor arheologice. Campania 1993. A XXVIII-a Sesiune Națională de rapoarte arheologice, Satu Mare, 12-15 mai 1994 (Satu Mare 1994), 114.

Sample of citation of scientific reports and archive materials:

Larina et all. 1996: O.V. Larina, K.P. Wechler, V.A. Dergaciov, S.I. Kovalenko, V.M. Bicbaev, Perieghize arheologice în raioanele Dondușeni, Drochia, Singerei în anul 1996. Arhiva MNAIM. Nr.inv. 358 (Chișinău 1996).

V. List of abbreviations:

When abbreviations are used in the text, as well as in the bibliography, a list of abbreviations is attached.

VI. Author info:

Name, surname, scientific-didactic degree, function, institution, address, telephone, fax, e-mail.

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and for no. 2 – September 1, 2026.**

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L I S T A

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