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## ARTICLES



**ANNÄHERUNGEN AN EINE UNSICHTBARE VERGANGENHEIT:  
ETHNOARCHÄOLOGISCHE FORSCHUNGEN ZU DEN  
SALZWASSERQUELLEN DER MOLDAUISCHEN VORKARPATEN  
(RUMÄNIEN)**

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ROBIN BRIGAND, ROXANA-GABRIELA CURCĂ**

**Keywords:** Ethno-archaeology, recent Prehistory, modelling, salt, mineral springs, Romania.

**Zusammenfassung.** *Die Region Moldau (Rumänien), östlich der Karpaten, bildet den idealen Rahmen zur Durchführung einer umfassenden ethnoarchäologischen Untersuchung der Salzausbeutung, da hier über 200 Salzwasserquellen nachgewiesen sind, bei denen bemerkenswerte archäologische Funde gemacht wurden, die mit der Salzausbeutung dieser Quellen, besonders in der Jungsteinzeit (6000-3500 v. Chr.), in enger Verbindung stehen. Selbst gegenwärtig werden diese Salzquellen, die auch einen hohen Mineralgehalt aufweisen, von der ländlichen Bevölkerung auf unterschiedliche Weise und zu verschiedenen Zwecken von der Landbevölkerung ausgebeutet. Unsere Untersuchung hatte zum Ziel, ein ganzheitliches Bild dieser von den Salzquellen geprägten Landschaft in ethnoarchäologischer Hinsicht zu gewinnen und sowohl archäologische Feldarbeit (Survey zur Identifizierung der Salzwasserquellen) als auch ethnographische Untersuchungen durchzuführen (Ausbeutungsmethoden, Verwendung des Salzes, Verkehrswege, Handel, sozialer Kontext, symbolische Dimension etc.), mit dem Ziel neue Erklärungsmodelle für vorgeschichtliche Gegebenheiten zu gewinnen.*

**Abstract.** *The sub-Carpathian area of Moldavia (Romania) represents the ideal framework to perform extensive ethno-archaeological research as the area harbours over 200 salt springs near which are found remarkable archaeological deposits related to salt exploitation, in particular from Neolithic and Chalcolithic times (6000-3500 BC). Nowadays, these mineral springs are still exploited at an unexpected degree of intensity by members of rural as well as of urban communities. The main research focuses on the identification of all salt springs in sub-Carpathian Moldavia and on the completion of complex ethno-archaeological research (exploitation, uses, distribution networks, trade, social contexts, symbolism, etc.) in order to propose new and more varied models for explaining prehistoric situations.*

**Rezumat.** *Moldova subcarpatică constituie cadrul ideal pentru organizarea unor ample cercetări etnoarheologice asupra sării, întrucât în această zonă sunt cunoscute aproximativ 200 de izvoare de apă sărată, lângă unele dintre acestea fiind făcute importante descoperiri arheologice, datând din neolitic și eneolitic (6000-3500 î. Chr.). Chiar și în prezent aceste izvoare minerale sărate sunt exploatate de populația rurală și chiar urbană (în unele locuri) în moduri diferite și în scopuri diverse. Cercetarea noastră își propune formarea unei imagini globale a peisajului exploatării acestor izvoare sărate prin identificarea tuturor izvoarelor de apă sărată din arealul studiat, prin evidențierea tipurilor de așezări relaționate cu acestea, precum și prin cercetări etnografice complexe (metode de exploatare, utilizări ale sării, rute de circulație, schimburi, comerț, context social, dimensiuni simbolice etc.), cu scopul de a elabora modele explicative pentru contextele preistorice similare.*

Die vorbildliche archäologische Erforschung der Salzwasserquellen in Deutschen liefert seit geraumer Zeit exemplarische Studien von hohem Rang und internationaler Anerkennung, die für die internationale Forschung auf dem Gebiet prägend waren und sind<sup>1</sup>. Jedoch ist der archäologische Ansatz naturgemäß auf bestimmte Parameter limitiert. Gerade um das Phänomen der Salzgewinnung aus Salzquellen in seiner ganzen Komplexität zu erfassen und zu beschreiben, haben gerade auch die deutschen Archäologen als erste auf griechische literarische Quellen und auf ethnographische Analogien zurückgegriffen<sup>2</sup>. Diese eigentlich recht fruchtbaren Ansätze erwiesen sich als ungenügend, weil einerseits die antiken Quellen extrem begrenzt sind und andererseits die ethnographischen Vergleiche das Risiko bergen, sehr unterschiedliche ethnische Gegebenheiten und überaus große geographische Räume und Zeiträume in Betracht ziehen zu müssen. Aus diesem Grund sind wir der Auffassung, dass eine Publikation der Ergebnisse unserer in Ostrumänien durchgeführten ethnoarchäologischen Forschungen in deutscher Sprache durchaus nützlich sein könnte. Diese Forschungsergebnisse betreffen in

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<sup>1</sup> Siehe hierzu die jüngsten Überblicksarbeiten von FRIES-KNOBLACH 2010; HEES 2010; SAILE 2000.

<sup>2</sup> MATTHIAS 1961.

erster Linie die komplexen sozialen und ökonomischen Beziehungen in Verbindung mit in Wasser gelöstem Salz und seiner Ausbeutung, die archäologisch kaum evidenzierbar ist, jedoch allgegenwärtig im Alltagsleben vieler rumänischer Dorfbewohner. In diesem Sinne ist die Rede von Forschungen mit einem hohen Relevanzgrad für europäische Fragestellungen, das sie sich auf eine zentral- osteuropäische Gebiet beziehen, das darüber hinaus mit beachtlichen Parallelen zur deutschen Umwelt, Landschaft und den dortigen Befunden aufwartet.

### **VORLAGE IN STUDIUM**

Die an Salzwasserquellen (etwa 230) äußerst reichen moldauischen Vorkarpaten (im Osten Rumäniens), sind aus mindestens zwei Gründen von großem Interesse für ethnoarchäologische Untersuchungen, die sich der Rolle des Salzes im Kontext der Entwicklung der menschlichen Gemeinschaften widmen (**fig. 1**): Neben einigen salzhaltigen Quellen wurden die ältesten Spuren der Salzkristallgewinnung aus Salzwasserquellen in Europa und vielleicht der ganzen Welt entdeckt, und hier existieren auch gegenwärtig in ansehnlichem Umfang traditionelle Versorgungspraktiken mit Salz aus salzhaltigen Quellen<sup>3</sup>.

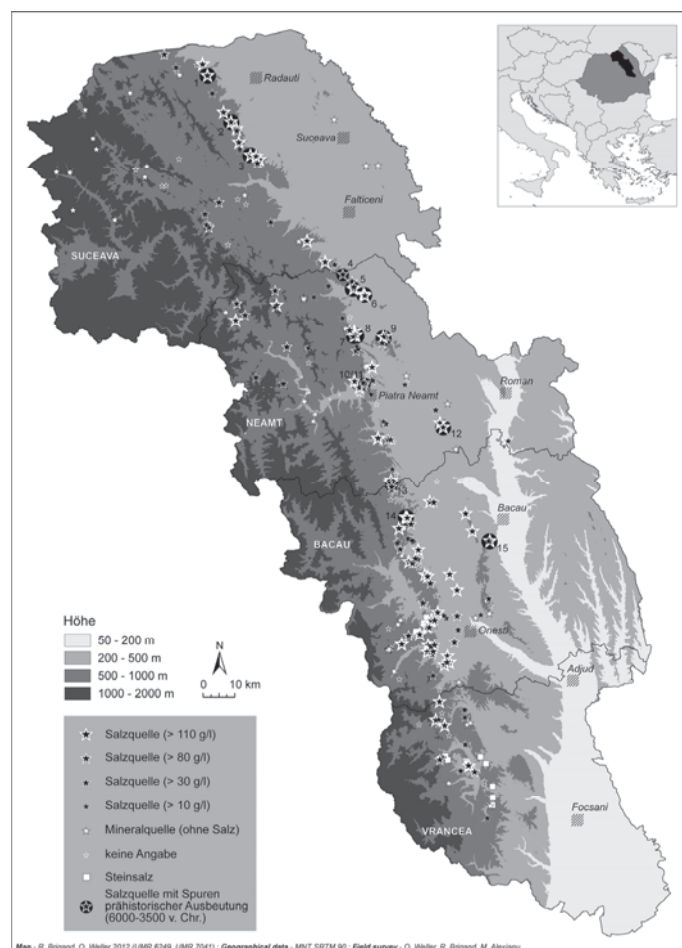
Während die durch die C14-Methode erfolgten Datierungen hinsichtlich der Ausbeutung von Salzwasserquellen seit prähistorischen Zeiten neuesten Datums sind (diese haben in Lunca-Vânători, Kreis Neamț, bestätigt, dass die neolithischen und chalkolithischen Gemeinschaften die Salzwasserquellen über eineinhalb Jahrtausende hinweg benutzt haben)<sup>4</sup> sind die ersten schriftlichen Erwähnungen der traditionellen Ausbeutung der Salzwasserquellen über zwei Jahrhunderte alt. Der älteste uns bekannte Beleg ist noch in Manuskriptform erhalten<sup>5</sup>;

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<sup>3</sup> ALEXIANU, DUMITROAIA, MONAH 1992; ALEXIANU, WELLER 2009; ALEXIANU ET AL. 2011.

<sup>4</sup> WELLER, DUMITROAIA 2005.

<sup>5</sup> PEITHNER 1784.



Figur 1. Untersuchungsgebiet mit den untersuchten Salz- und Mineralquellen, sowie Angaben über prähistorische.

- 1- Slatina, Voitineli, Gălănești, SV; 2- Slatina Mare, Solca, SV; 3- Salina, Cacica, SV; 4- Fântâna de Slatină de la Slătioara, Săcuța, Boroaia, SV; 5- Poiana Slatinei, Lunca, Vânători Neamț, NT; 6- Oglinzi Băi, Oglinzi, Răucești, NT; 7- Slatina, Bălțătești, NT; 8- Slatina, Ghindăoani, Bălțătești, NT; 9- Hălăbutoaia, Țolici, Petricani, NT; 10- Slatina III, Gârcina, NT; 11- Slatina C, Gârcina, NT; 12- Slatina Mare, Negritești, Podoleni, NT; 13- Slătioara, Tazlău, NT; 14- Slatina Veche, Cucuieți, Solonț, BC; 15- Băi Sărata, Sărata, Nicolae Balcescu, BC.

Einige Jahrzehnte später jedoch machten westliche Publikationen die Tatsache bekannt, dass in der Moldau und in Siebenbürgen die Gewinnung von rekristallisiertem Salz aus dem Wasser salzhaltiger Quellen durch ein Verfahren erfolgte, das so nur bei den Kelten und Germanen belegt war: das Tröpfeln des Salzwassers über glühende Zweige<sup>6</sup>.

Die eigentliche Erforschung der salzhaltigen Quellen im Zusammenhang mit ihrer Nutzung durch vorgeschichtliche Gemeinschaften setzte erst Anfang der 60er Jahre des letzten Jahrhunderts ein und erlebte dann beginnend mit den 80er Jahren eine zunehmende Intensivierung. Diese Forschungsrichtung besaß und besitzt auch weiterhin eine bedeutende und maßgebliche archäologische Komponente<sup>7</sup>.

Die anhaltende Existenz einer breiten Palette spezifischer traditioneller Anwendungen – wie zum Beispiel für die Lebensmittelkonservierung (Käse, Fleisch, Fisch, Gemüse, Früchte etc.), für die Gerberei, für die Aufbewahrung von Pergament, von Membranen verschiedener Tierorgane, von Holz sowie anderer verderblicher organischer Materialien – in diesem Gebiet, in dem die ältesten Spuren der Salzgewinnung Europas identifiziert worden sind, bietet die einmalige Chance, neue komplexe ethnoarchäologische Forschungen anzustellen.

Diese Forschungen erfuhren eine bemerkenswerte Intensivierung im Rahmen der 2003 begonnenen französisch-rumänischen Projekte, die auch heute unter der Leitung eines Mitglieds unserer Forschergruppe (O.W.) weiterlaufen. Seit 2007 wurden die Forschungen zwar im Rahmen eines rumänischen Projekts noch einmal dynamisiert und intensiviert, das von einer kleinen Forschergruppe realisiert wird (vgl. [ethnosol.uaic.ro](http://ethnosol.uaic.ro)).

Zu den wichtigsten Ergebnissen aus den Jahren 2003-2010 zählt die Entdeckung neuer Belege für die Produktion von rekristallisiertem Salz in der Nähe von Salzwasserquellen. Die bedeutendste Fundstelle ist dabei

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<sup>6</sup> TOWNSON 1797, 395; BRONGNIART 1807, 131.

<sup>7</sup> Siehe MONAH 2002.

Hălăbutoaia-Țolici (Kreis Neamț), wo sich in einer 6m tief gelegenen Fundschicht archäologische Spuren der Starčevo-Körös-Criș-Kultur, Prăcucuteni- und Cucuteni-Kultur (Phasen A, A-B, B, Cucuteni C), sowie aus der Bronzezeit (**fig. 2**). Die Forschungen sollen im Rahmen eines neuen Projektes zur Ethnoarchäologie der Salzquellen und der Salzlagerstätten auf das gesamte Areal außerhalb der Rumänischen Karpaten ausgeweitet werden (2011-2014, vgl. *ethnosol Ro*).



Figur 2. Prähistorische (6000-3500 v. Chr.) und gegenwärtige Ausbeutung von Salzwasserquellen in *Poiana Slatinei* (Lunca, Vânători) und *Hălăbutoaia* (Țolici, Petricani) (Kr. Neamț). Foto. O. Weller.

### **METHODOLOGISCHE ASPEKTE**

Da die rumänischen Ethnologen bislang nicht an die Erforschung der bereits in vorgeschichtlichen Zeiten genutzten Salzwasserquellen aus Sicht ihres Fachs gedacht haben, wurden von zwei der Autoren dieses Artikels (O.W. und M.A.) eine Reihe von umfassenden ethnologischen Umfragen durchgeführt, die die archäologische Problematik mit einbezogen. Dabei wurde unter anderem denjenigen Fragen, die die Prophylaxe und die Behandlung gewisser Krankheiten betreffen, eine besondere Aufmerksamkeit geschenkt.

Die Fragebögen haben dabei die Normen ethnologischer Umfragen respektiert, daneben aber auch spezifisch archäologische Herangehensweisen umfasst. Bei der Entwicklung und Gestaltung der drei Arten von Fragebögen konnte eine Raumanalyseexpertin (Laure Nuninger dann Robin Brigand, UMR 6249-CNRS, Besançon, Frankreich) zur Mitarbeit gewonnen werden, was es ermöglichte, die ethnologischen Informationen mit Hilfe des Geographischen Informationssystems (GIS) zu bearbeiten und so zu besonders interessanten Ergebnissen zu gelangen. Die Schaffung dieser Arbeitsinstrumente, die sich als äußerst effizient erwiesen haben, verlieh der Feldforschung einen systematischen Charakter. Auf diese Weise gelang es, umfassende und ethnologisch gestützte Einblicke aus archäologischer Perspektive zu gewinnen. Die Rubriken der speziell hierzu geschaffenen Fragebögen waren folgende: (1) Identifizierung der Salzwasserquellen, (2) die chronotopische Dimension der Ausbeutung, der Lagerung, der Handhabung und der Verwendung des Salzwassers, (3) die Transport- und Aufbewahrungsweise in den landwirtschaftlichen Betrieben (Bauernhöfen) (4) der Anwendungsbereich der Salzlake oder des Salzes in Form von Salzblöcken oder Steinsalz, von durch Mahlen zerkleinertem oder durch Rekristallisation gewonnenem Pulver, (5) das Anlocken von Wild sowie anderer wilder Tiere an die Quelle, (6) Jägerei in der Nähe der Quellen, (7) Rekristallisationsverfahren, (8) Häufigkeit der Versorgungstätigkeit in den Bauernhöfen (9) Verwendung in Handel und Tauschhandel, (10) Verhaltensweisen – Ethnowissenschaft in Verbindung mit der Quelle, (11) Salzsymbolik und -rituale.

Bis zum Abfassungsdatum dieses Beitrags wurden 176 ethnologische Umfragen durchgeführt (mit 235 Informanten), die eine riesige Datenmenge umfassen, für die es eine lange Bearbeitungszeit braucht. Die allgemeine und zusammenhängende Analyse bleibt der Zukunft vorbehalten. Aber einige Versorgungsraummodelle konnten bereits aufgestellt werden<sup>8</sup>.

Das erste Ziel dieses Beitrags ist es, die Hauptmodelle darzustellen, die aus den ethnologischen Erhebungen gewonnen wurden, Modelle, die für das Verständnis der Rolle der Salzwasserquellen in der Salzversorgung der menschlichen Gemeinschaften in prähistorischer Zeit von Nutzen sein können. Andererseits möchten wir darauf aufmerksam machen, dass die Salzwasserquellen und ihre Erforschung mehr Facetten aufweisen als nur jene der Ernährung und der Konservierung, auf die sich die Archäologen gewöhnlich beschränken, Tatsächlich beeinflussen die Salzwasserquellen auch heutzutage auf vielfältige Weise das Leben der Menschen, nicht zuletzt auch in spiritueller Hinsicht.

Die ethnographischen Forschungen zeigen drei Hauptmodi der Salzwasserquellenausbeutung auf, die nach dem Kriterium der Häufigkeit wie folgt klassifiziert werden können:

1. Abschöpfung, Transport und Verwendung des Salzwassers als solches;
2. Abschöpfung, Transport und Kochen des Salzwassers zur Gewinnung von rekristallisiertem Salz;
3. Abschöpfung, Transport und Verwendung des auf natürlichem Wege an den Salzwasserquellen kristallisierten Salzes.

### **SALZWASSERAUSBEUTUNG**

Die bis data erfolgten ethnologischen Forschungen weisen auf die Existenz von drei Arten der Verteilungsgebiete des aus salzigen Quellen stammenden Wassers hin, je nach der räumlichen Ausdehnung der Ortschaften, die das Salzwasser verwenden. Diese räumliche Ausdehnung

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<sup>8</sup> WELLER et al. 2011.

wird vom Wasservolumen, der Salzkonzentration und der Reinheit der salzigen Quelle bestimmt sowie von den geschmacklichen Charakteristika der Salzlake und vom Zugänglichkeitsgrad der Quelle (mit verschiedenen Transportmitteln oder ohne).

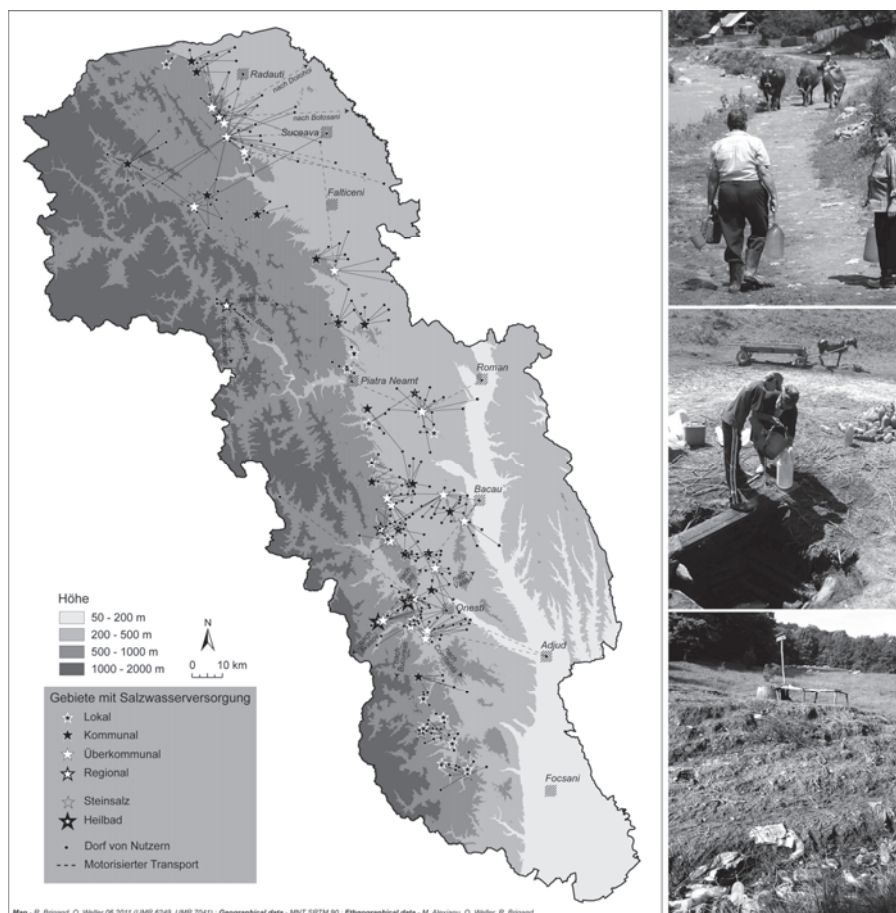
Die drei Arten von Verteilungsgebieten wurden wie folgt definiert (**fig. 3**, links):

1. *Dorfgebiet* im Falle der Quellen von strikt lokaler Bedeutung, die maximal von drei Dörfern genutzt werden, die höchstens 5 km weit entfernt liegen;
2. *Kommunalgebiet* im Falle der Quellen, die von vier oder mehr Dörfern genutzt werden, die bis zu 20 km weit entfernt liegen;
3. *Überkommunales Gebiet* im Falle der Quellen, die von zahlreichen – ländlichen wie auch urbanen – Siedlungen genutzt werden und deren Anziehungskraft über große Entfernungen hin wirkt.

Die herausragende Bedeutung der Versorgung mit Salzwasser im vorkarpatischen Raum der Moldau zeigt sich besonders zu solchen Zeiten, in denen aus unterschiedlichen Gründen (Krieg, temporäre Versorgungskrise zu Friedenszeiten) die Versorgung mit Steinsalz lahmgelegt ist. Die ethnologischen Untersuchungen haben für solche Situationen Transporte von Salzwasser bis zu Entfernungen von ungefähr 100 km aufgezeigt.

Durch die Anwendung der Methode der Raumanalyse (**fig. 3**, links) konnte geschlussfolgert werden, dass das Salzwasserquellennetz der vorkarpatischen Moldau den Untersuchungen gemäß praktisch den Bedarf aller ländlichen Siedlungen (und in manchen Fällen sogar der urbanen) aus dem erwähnten Gebiet deckt. Es ließen sich bisweilen auch Überschneidungen von Verteilungsgebieten zweier verschiedener Quellen beobachten. Desgleichen hat man festgestellt, dass die Entfernung einer Quelle zu den sie nutzenden Ortschaften für die Versorgung mit Salzwasser nicht so entscheidend ist wie die Qualität des Salzwassers. Entsprechend werden, wie sich beobachten ließ, manche sehr nahe gelegenen salzhaltigen Quellen nur von wenigen Dorfbewohnern genutzt,

während die Mehrheit der Bevölkerung eine weiter entfernte Quelle vorzieht, deren Wassermenge und Geschmacksqualität, Retentionskapazität oder Zugänglichkeitsgrad die näher gelegene übertrifft. Im Prinzip kann man von der Existenz eines kreisförmigen Schemas der Wasserverteilung von einer salzhaltigen Hauptquelle aus im gesamten umliegenden Habitat sprechen.



Figur 3. Nutzung und Versorgungsgebiete von Salzquellen (links). Salzwasservorrat und Müll (Coza, Tulnici, VN; Hălăbutoaia, Țolici, Petricani, NT; Poiana Slatinei, Lunca, Vânători, NT). Foto. O. Weller (rechts).

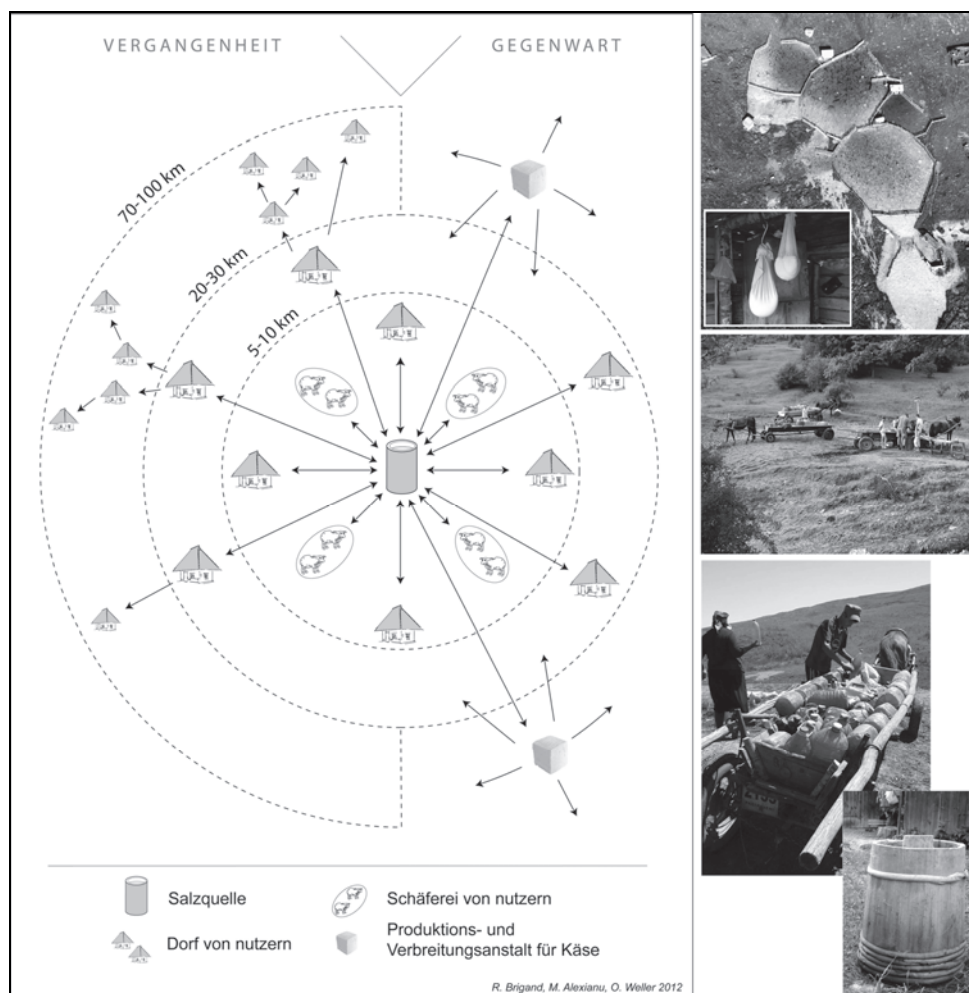
### DIE VERSORGUNG MIT SALZWASSER

Die Zusammenführung der ethnologischen Informationen mit den archäologischen Befunden konnte zeigen, dass zwischen der einfachen Versorgung mit Salzwasser und dessen Verteilung einerseits und der Produktion von rekristallisiertem Salz (der „huscă“, des Siedesalzes) aus dem Wasser der Salzquellen und dessen Verteilung andererseits unterschieden werden muss.

Was die Versorgung mit Salzwasser betrifft, so konnten wir aufgrund der ethnologischen Erkenntnisse das folgende, mehrgliedrige Bezugssystem, das die jeweilige Relation zwischen menschlichen Gemeinschaften und bestimmten Salzwasserquellen beschreibt, herausarbeiten und systematisieren:

1. Salzwasserversorgungsstelle, die sich praktisch mit dem unmittelbar der Quelle benachbarten Gebiet deckt; der Versorgungsakt ist von kurzer Dauer und hängt vom verfügbaren Fassungsvermögen der für den Transport benutzten Behälter, von der Wassermenge der Salzquelle und der Zahl der Personen ab, die sich an der Abschöpfung des Salzwassers und dessen Einfüllen in den Transportbehälter beteiligen (**fig. 3**, rechts). Es handelt sich um eine menschliche Tätigkeit, die keine Spuren hinterlässt, abgesehen von den Scherben leicht zerbrechlicher Behälter, die mitunter zu Bruch gehen. In diese Kategorie können alle Salzwasserquellen aufgenommen werden, in deren Umfeld keine anderen archäologischen Überreste gefunden wurden als sporadische Keramikfragmente aus einer oder mehreren Epochen.
2. Behausungen/Siedlungen, die sich direkt von einer Salzwasserquelle versorgen:

2.a. Saisonbehausungen in der Art der Sennereien; das von den Salzquellen stammende Wasser wird manchmal für die Käsezubereitung verwendet und dient nur der Verpflegung der Hirten (**fig. 4**, rechts). Derartige Saisonbehausungen im Rahmen von Surveys archäologisch zu identifizieren stellt zweifellos eine sehr schwierige Aufgabe dar, auf die Archäologen in den betreffenden Regionen gesondert hingewiesen werden müssen.



Figur 4. Salzwasserverteilungsmodell (Vergangenheit/Gegenwart) (links). Schäferei und Käse produziert unter Verwendung von Salzquellwasser (*Hălăbutoaia*, Țolici, Petricani, NT; *Mătăhuia*, Cășăria, Dobreni, NT); Salzwasserversorgung mittels Karren (*Poiana Slatinei*, Lunca, Vânători, NT; *Hălăbutoaia*, Țolici, Petricani, NT) und ein altes Fass für den Transport von Salzlake (Cucuieți, Solonț, BC). Foto. O. Weller (rechts).

Manche Anhäufungen von Keramikfragmenten, die denjenigen aus unmittelbarer Nähe einer Salzquelle ähneln und in einer

Entfernung von ungefähr 1 km gefunden werden, könnten gerade solche halbnomadischen Saisonbehausungen im Rahmen von Schaf- oder Rinderzucht belegen.

2.b. Eigentliche Siedlungen; die ethnologischen Umfragen ergaben, dass alle Dörfer aus der Umgebung einer Quelle das Salzwasser als solches nutzen. Es konnten zwei unterschiedliche Verwendungskontexte ausgemacht werden:

- im Falle einer einzigen Salzquelle in einem bestimmten Gebiet oder im Falle der Existenz einer Salzquelle mit überlegenen geschmacklichen Eigenschaften, großer Wassermenge und leichtem Zugang in einem Gebiet mit mehreren Salzquellen wird die Quelle von den Bewohnern solcher Siedlungen genutzt, die sich gewöhnlich in einer Entfernung von 10-15 km zur betreffenden Quelle befinden (**fig. 4, rechts**), aber die Distanz kann auch bis zu 25-30 km betragen;

- wenn es mehrere Salzquellen gibt, die über ähnliche geschmackliche Qualität, ausreichende Wassermenge und gute Zugangsmöglichkeiten verfügen und 5-6 km voneinander entfernt liegen, wird jede dieser Quellen gemeinschaftlich von 2-3 Dörfern genutzt, die nur 2-3 km von dieser entfernt sind. In diesem Fall sinkt die Versorgungsdistanz zu jeder der Quellen, aber das Versorgungsgebiet weist vergleichbare Parameter zur vorherigen Situation auf.

3. Siedlungen, die indirekt mit Salzwasser versorgt werden und die zwischen 40-50 km bis ca. 100 km von einer Salzwasserquelle entfernt liegen. Die Verteilungsrichtung geht von den direkten Nutzern zu den weiter entfernten Ortschaften hin. Gemäß den bislang durchgeführten Untersuchungen ist der Transport von Salzwasser in so weit entfernte Ortschaften nur für außergewöhnliche Situationen belegt, etwa für die Zeit nach dem Ende des Zweiten Weltkriegs und die darauf folgenden Jahre. In diesen Fällen wurde das Salzwasser zusammen mit rekristallisiertem Salz, das aus dem Wasser einer Salzquelle gewonnen worden war, transportiert.

Schlussfolgernd kann gesagt werden, dass die Nutzung des Salzwassers lediglich den Versorgungsakt voraussetzt und ein Verteilungsnetz generiert, aber seltener eines der Wiederverteilung (**fig. 4**, links). Gegenwärtig erfolgt die Versorgung mit Salzwasser in großem Umfang. Dabei stellt die Verwendung von Salzwasser für deren Nutzer keinen Indikator für eventuelle Armut dar, da das Salzwasser von Personen und Gruppen von unterschiedlichem wirtschaftlichen und sozialen Status genutzt wird – vor allem dank seiner Qualität als Konservierungsmittel für Gemüse und Käse. Im Falle der Käsekonservierung verwenden sogar manche Kleinhersteller einer Käsesorte namens *telemea* (in Salzlake gereifte rumänische Käsesorte, Anm. d. Üb.) in intensivem Maße Salzquellwasser.

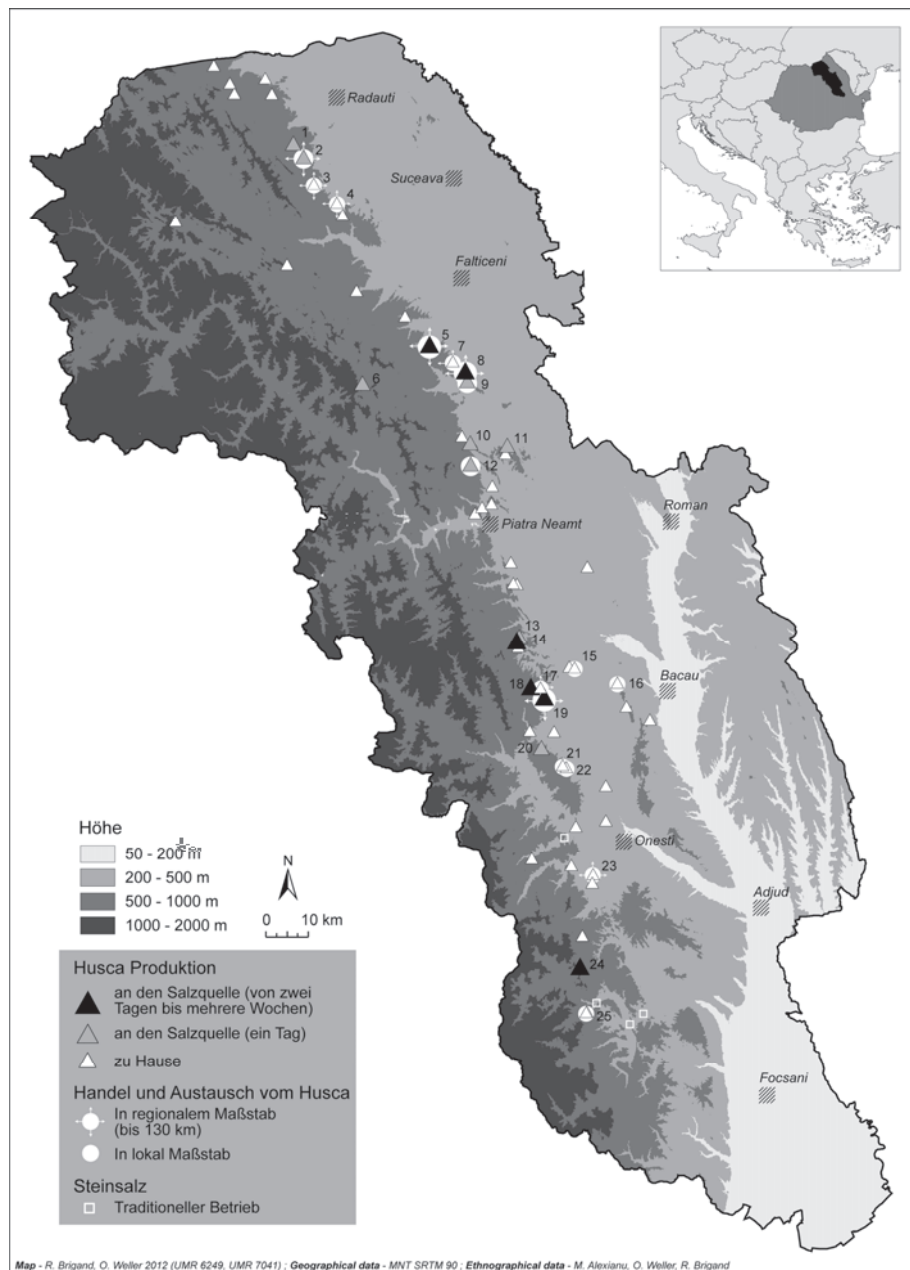
#### **DIE PRODUKTION VON SIEDESALZ**

Im Falle der Rekristallisation des Salzes durch das Kochen der natürlichen Quellsalzlake, ein Verfahren, das seit 1995-1996 aufgegeben worden ist, konnte festgestellt werden, dass es drei Hauptstrategien gab:

- Die Gewinnung von rekristallisiertem Salz (im Volksmund *huscă*, also Siede/Solesalz) in der Nähe der Salzquelle;
- Die Gewinnung von Solesalz in Saisonbehausungen nach Art der Sennereien;
- Die Gewinnung von Solesalz in Dörfern (im Hof oder – seltener – im Hausinnern) (vgl. fig. 6, rechts).

#### **DIE VERSORGUNG MIT SIEDESALZ**

Was die Verwendung des rekristallisierten Salzes aus Salzquellwasser betrifft (regional, vor allem in der nördlichen Hälfte des untersuchten Gebietes *huscă* genannt), können drei Phasen unterschieden werden die Versorgung mit Salzwasser, die Gewinnung von rekristallisiertem Salz und die weitere Verteilung desselben (**fig. 5**). Das Verhältnis des Menschen und der menschlichen Gemeinschaften zur Salzwasserquelle wird komplexer. Also unterscheiden wir folgende vier Szenarien:



Figur 5. Verteilungskarte der Produktionsanstalten von kristallisiertem Salz (*husca*).

1. Salzhaltige Quelle – Versorgungsstelle mit Salzwasser. Das Wasser wurde über eine sehr kleine oder größere Entfernung transportiert – die ethnologischen Untersuchungen brachten zutage, dass das aus der Quelle abgeschöpfte Wasser entweder gleich in der Nähe der Salzquelle oder in geringer Entfernung davon (30-50 m) gekocht wurde. Entweder erfolgte die Rekristallisation durch abkochen in den beschriebenen Saisonbehausungen oder in den umliegenden Dörfern, die zwischen 5-7 km von der Salzquelle entfernt lagen.

2. Produktionsstellen zur Rekristallisation des Salzes durch Kochen mit reinem Saisoncharakter in der Nähe einer Salzquelle. Es ist bemerkenswert, dass die meisten Informationen gerade im Zusammenhang mit diesen temporären Produktionsstellen gewonnen wurden.

Die Dauer des Aufenthaltes einer Person/ der Personen, die Siedesalz an einer Salzquelle herstellte/n, hängt von mehreren Faktoren ab (Entfernung, Zugänglichkeit etc.), in erster Linie jedoch von der gewünschten Quantität an rekristallisiertem Salz. Die gewöhnliche Aufenthaltsdauer an der Quelle beträgt gemäß unseren Daten einen vollen Tag von Sonnenaufgang bis Sonnenuntergang (wie etwa in Oglinzi, Boboiești, Rucăreni-Soveja, Slătioara-Groși). In anderen Fällen blieben die Bauern 2-3 Tage. Dieser Sachverhalt lässt sich darauf zurückführen, dass man vorhatte für jeden in der 3-4 Individuen umfassenden Gruppe ungefähr 100 kg Siedesalz zu gewinnen. Für den Kristallisationsprozess einer Kesselfüllung Salzwasser sind 6-7 Kochstunden nötig, was die längere Verweildauer der Salzsieder erklärt (die war der Fall bei den Bewohner von Orăști in der Zeit nach dem Zweiten Weltkrieg sowie bei denjenigen des Dorfes Râșca). Was die Salzquelle von Stroi (Kreis Bacău) betrifft, so konnte sogar nachgewiesen werden, dass eine Familie 2-3 Wochen lang in einer *Ad-hoc*-Saisonbehausung lebte, um Siedesalz zu gewinnen.

Gemäß unserer Erhebung waren gewöhnlich 2-3 Personen an der Gewinnung von Siedesalz an einer Quelle beteiligt, falls die Ortschaft relativ nahe an der Quelle lag (etwa in Rucăreni-Soveja). Im Falle von Ortschaften, die weiter von der Quelle entfernt lagen, ergab sich, dass die

Gruppen von Salzsiedern größer waren (etwa bei der Salzwasserquelle von Râșca), was auf wirtschaftliche Rentabilität dieser Tätigkeit hinweist. Im Falle der Ortschaft Neagra jedoch weist die Existenz mehrerer Gruppen, die Siedesalz herstellten, auf eine konstante Kleinproduktion hin, die zwischen den beiden Weltkriegen von den Bewohnern des Dorfes Tazlău (in der Nähe der betreffenden Quelle) in einigen Dörfern und Städten der Kreise Neamț und Bacău verkauft wurde.

Der Fall dieser Quelle von Neagra zeigte, dass Siedesalz sowohl unmittelbar neben der Quelle als auch in den umliegenden Dörfern gewonnen wurde. Die Salzsieder sind sich der Vor- und Nachteile der jeweiligen Produktionsstätte bewusst. Im Falle der Siedesalzgewinnung direkt neben einer Quelle, die sich in größerer Entfernung von der Nutzungsortschaft befand, konnten folgende Vorteile benannt werden: Die Produzenten konnten Brennmaterial an Ort und Stelle zurückgreifen, und es war möglich größere Mengen von rekristallisiertem Salz zu transportieren. Zu den Nachteilen eines mit dieser Form der Salzgewinnung vor Ort verbundenen längeren Aufenthalts gehörten Probleme bei der täglichen Versorgung (bes. mit Lebensmitteln) sowie das Krankheitsrisiko infolge des eingeschränkten Komforts der Saisonbehausungen. Bei der Herstellung von Siedesalz in den Dörfern gehörte umgekehrt die angenehmere und sicherere Wohnsituation zu den von den Befragten genannten Vorteilen, während als Nachteile das schwierige Heranschaffen von größeren Salzwassermengen und die zusätzlichen Bemühung um Brennstoff zu Buche schlugen.

Das Salz ist in der Regel in seiner Gesamtheit für den Tauschhandel oder den Verkauf in Ortschaften vorgesehen, die a) 20-30 km oder; b) 70-200 km entfernt liegen.

3. Produktionsstelle für rekristallisiertes Salz befindet sich neben einer Saisonbehausung nach Art einer Sennerei. Das Salz wird komplett für die Deckung des Bedarfs an Ort und Stelle verwendet, vor allem für die Schafzucht.

4. Bei Produktionsstellen für rekristallisiertes Salz in einer Siedlung lassen sich folgende Kategorien unterscheiden.

- a. Das Salz ist ausschließlich für die Deckung des häuslichen Bedarfs bestimmt;
- b. Das Salz ist teilweise für die Deckung des häuslichen Bedarfs bestimmt;
- c. Das Salz ist teilweise für den Tauschhandel oder den Verkauf in Ortschaften bestimmt, die bis zu 20-30 km weit oder in solchen, die 70-200 km weit entfernt liegen.

Abbildung 6 stellt zwei Arten Angebotsverhalten in einer synoptischen Weise dar, d.h. auf der einen Seite die normalen, und auf der anderen Seite die außergewöhnliche Situation, wenn die Verteilung des Salzes durch die kommerzielle Netze gestört ist. In der zweiten Situation (Kriegfall, Korn Krise wegen der Dürre, Krise der Geschäftsversorgung), die erhebliche Ausdehnung der Handelsbereich von Husca ist eindeutig. Wir halten, dass dieses letzte Modell nah an den neuer prähistorischen Situationen ist, wenn es von keinem zentralisiertem Salzverteilungsgeschäftssystem die Rede ist (**fig. 6**, links).

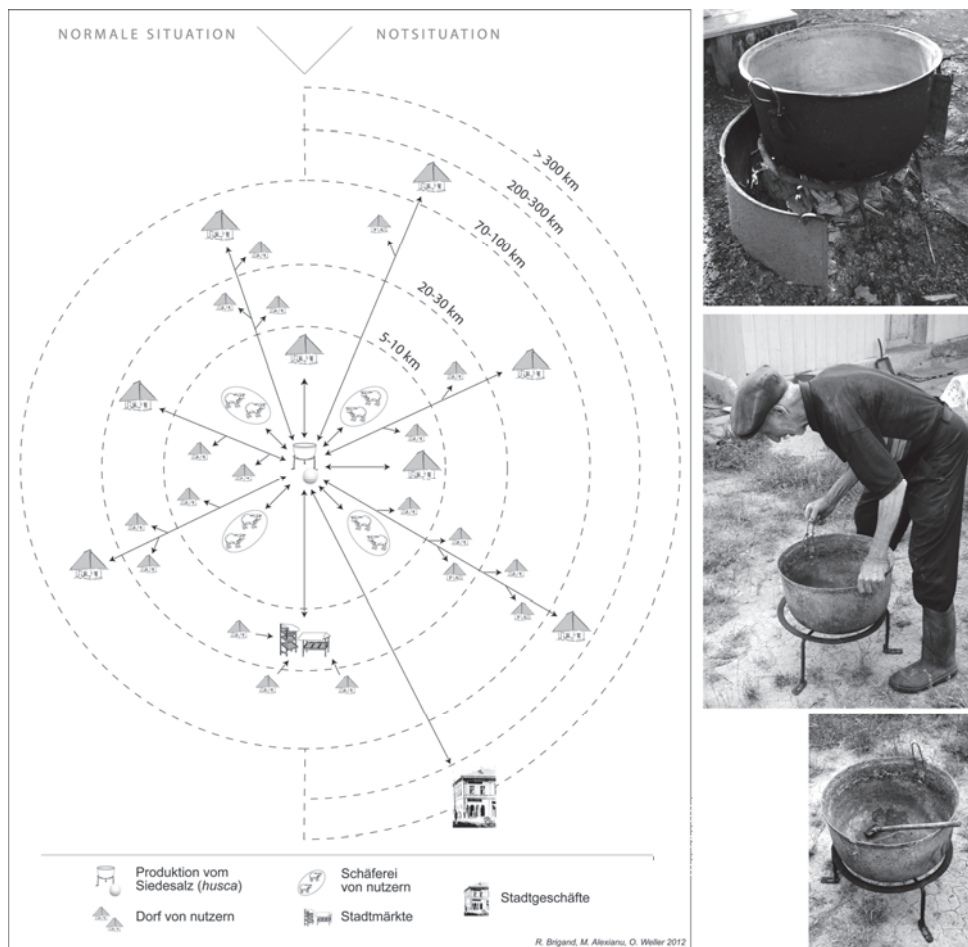
### **SALZHANDEL UND SALZAUSSTRAHLUNG**

Es kann geschlussfolgert werden, dass der Verteilungsradius für rekristallisiertes Salzes im Allgemeinen bedeutend größer sind als jener für das schwerer zu transportierenden Salzwasser. In der Regel wird ein Umkreis von bis zu 80-100 km erreicht. Die 2009 durchgeführten Untersuchungen verweisen jedoch auf viel weitere Handelswege von bis zu 300 km (z.B. Suceava – Galați).

Was Tausch oder Verkauf des Siedesalzes betrifft, konnten zwei unterschiedliche Szenarien beobachtet werden, je nach dem, ob es sich bei den Herstellungsumständen um permanente und organisierte Salzproduktion handelte, oder ob die Herstellung nur spordisch erfolgte (**fig. 7**).

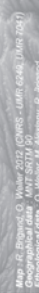
Unter den normalen Bedingungen einer konstanten Gewinnung von Siedesalz wird dieses in relativ regelmäßiger Häufigkeit über kürzere Entfernungen von 15-40 km hinweg transportiert. Die Bewohner von Poiana-Negrești etwa, die Siedesalz herstellten, beförderten die

Siedesalzblöcke zu den jüdischen Händlern auf der Strada Mare (Große Straße) in Piatra Neamț.



Figur 6. Verteilungsmodell des kristallisierten Salzes (links). Kessel und Feuerdreifuß zur Salzgewinnung im Hof (Groși, Brusturi, NT; Cucuieti, Solont, BC). Foto. O. Weller (rechts).

Für die Siedesalzblöcke erhielten sie im Gegenzug Brot, Oliven, Öl, Fisch, Johannisbrot oder landestypische Bundschuhe. Das Siedesalz wurde jedoch auch direkt auf dem Markt von Piatra Neamț verkauft.



Figur 7. Produktion des kristallisierten Salzes aus Salzwasser (*husca*) und Tauschhandel in Friedens- und Kriegszeiten während des 20. Jahrhunderts.

Die Salzsieder aus Poiana-Negrești tauschten ihr Salz auf Bestellung auch gegen Getreide aus den benachbarten Dörfern ein. In der Regel kümmerten sich die Salzsieder selbst um den Transport und den Verkauf ihrer Ware. Die Hersteller waren damit sowohl Spediteure als auch Händler ihrer eigenen Ware, was ihren Profit natürlich vergrößerte. Das Siedesalz aus den Salzwasserquellen von Neagra und Slătioara (Tazlău), wurde in Form von Pulver verhandelt und gewöhnlich verkauft, aber auch gegen Öl bei den jüdischen Händlern in den Städten Piatra Neamț, Buhuși und Bacău und in den Dörfern Roznov und Rediu eingetauscht, die es dann ihrerseits verkauften.

Unter außergewöhnlichen Umständen wie etwa im Falle des Zusammenbruchs der Steinsalzversorgung am Ende des Zweiten Weltkriegs oder während der Dürreperiode zwischen 1945-1946 können wir eine Intensivierung der Gewinnung von rekristallisiertem Salz sowie eine bemerkenswerte Ausdehnung des Verteilungsgebietes zwischen 100 und gar 300 km feststellten. Das bei Slatina Culeșa (zum Dorf Poiana gehörig) gewonnene Siedesalz wurde über größere Entfernungen von 70 bis 100 km hinweg transportiert, in die großen Kreisstädte Iași und Botoșani. Das geschah mit Pferde- oder Ochsenwagen (letzteres besonders zu der Zeit als die Pferde für die Front requiriert worden waren). Glücklicherweise konnten wir noch Informationen zu den quantitativen Aspekten des Tauschhandels gewinnen. So etwa wurde 1 kg Siedesalz gegen 2-3 kg Weizen oder 4-5 kg Mais eingetauscht. Aber der Kreislauf des Handels endete nicht immer mit diesem Tausch, denn manchmal wurde ein Teil des auf diese Weise erhandelten Weizens in den Gebirgsgegenden Bistrițatala verkauft, wo der Getreideanbau aus klimatischen und geographischen Gründen fast unmöglich war. Praktisch erzielte man durch die Ausbeutung einer natürlichen und damit kostenlosen Ressource sowohl die Deckung des Bedarfs an Weizen und Mais, als auch einen finanziellen Gewinn. Erwähnenswert ist auch die Tatsache, dass mit den gleichen Wagen oder Karren, mit denen man das rekristallisierte Siedesalz transportierte, bei Bedarf auch mit Salzwasser gefüllte Fässer mit einer Gesamtkapazität von ca. 1000 Litern transportiert werden konnten. Anhand der Umfragen ließ sich an mehreren Orten der

moldauischen Vorkarpaten das gleiche und damit weit verbreitete Modell eines derartigen Transportwagens identifizieren. Der Tauschhandel mit Siedesalz wurde 1946, als es zu einer großen Hungersnot gekommen war, endgültig eingestellt. Einerseits gab es wegen der Dürre kein Getreide mehr für den Tausch, andererseits hatte der Import von rötlichem Steinsalz in Form von 5 kg schweren Stücken aus der UdSSR begonnen.

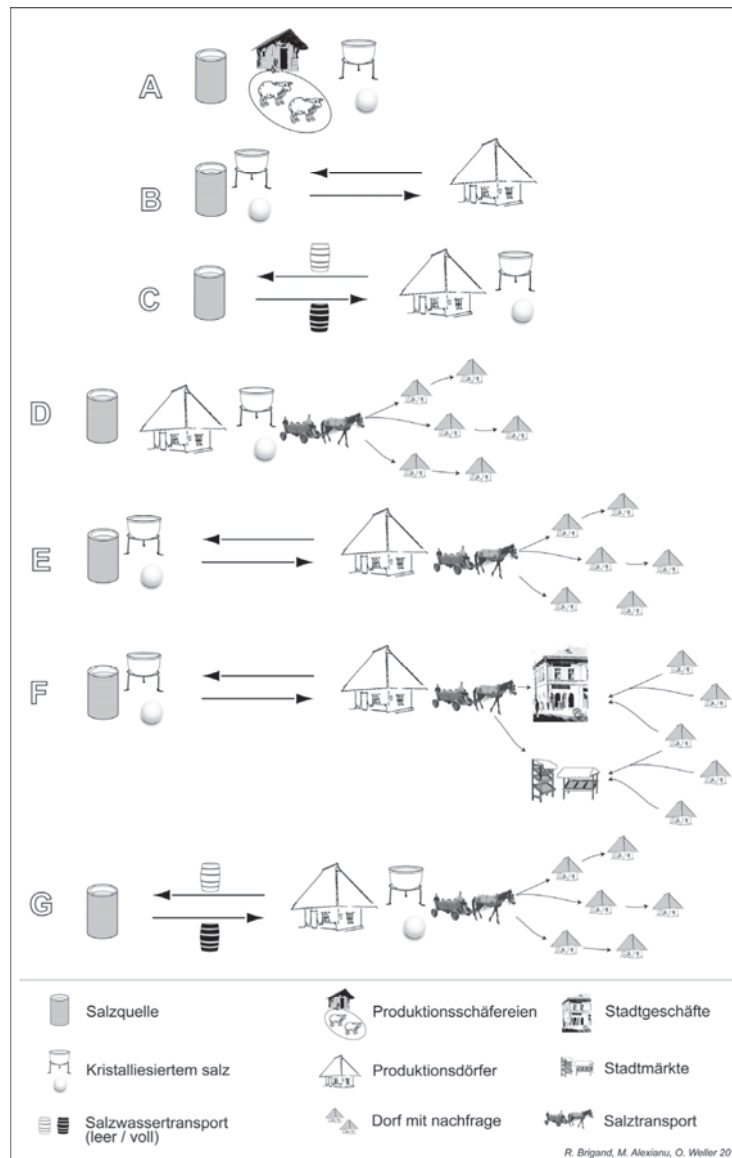
Eine gewisse Beachtung für die archäologische Zeit verdient sogar der Transport von kleineren Siedesalzmengen (ca. 20 kg) mit der Bahn in große Entfernungen während der Dürrezeit, um sie gegen Weizen und Mais für den Familienbedarf einzutauschen; illustrativ in diesem Sinne sind die Transporte von Cucuieți-Solonț (über den Bahnhof von Moinești) bis ins Banat oder von Solca bis hinunter nach Constanța (Schwarzes Meer).

#### **PRODUKTIONS- UND VERTRIEBSWEGE VON KRISTALLISIERTEM SALZ**

An dieser Stelle sei eine kurze Typologie der Verhaltensweisen (zeitliche und räumliche Dimension) skizziert, die gewöhnlich im Umfeld der Salzgewinnung und –verbreitung des aus Salzwasser gewonnenen Rohstoffs anzutreffen sind (**fig. 8**):

- A. Hirten begeben sich zu einer in der Nähe ihrer Senne gelegnen Salzquelle, von wo sie sich mit kleinen Mengen Salzwassers versorgen (etwa 10 l), aus dem sie in der Sennhütte das erwünschte Endprodukt sieden.
- B. 2-3 Personen begeben sich zu einer Salzquelle und gewinnen vor Ort durch Sieden in ungefähr einem Tag Salz in bescheidener Menge, das ausschließlich für den Hausgebrauch verwendet wird.
- C. 2-3 Personen begeben sich mit großen Behältnissen zur Salzquelle, befüllen diese dort und kehren in ihr Dorf zurück, um dort im Hof ihres Anwesens oder im Winter auch im Haus für den Eigenbedarf Salz zu gewinnen.
- D. Im Falle dass die Salzquelle sich im Ort selbst befindet, wird das Salz vor Ort gesiedet. Das so gewonnene Endprodukt wird auf

Pferdekarren geladen und zum Verkauf oder als Tauschware in die umliegenden Dörfer und Gemeinden verbracht.



Figur 8. Produktions- und Verteilungsmodellierung von kristallisiertem Salz.

- E. Kleinere Gruppen oder auch ganze Familien begeben sich zur Salzwasserquelle und schlagen dort ein Lager für 2-3 Wochen auf, gewinnen in der Nähe der Quelle das rekristallisierte Salz, das sie nach der Rückkehr in der Umgegend verkaufen oder gegen andere Waren tauschen.
- F. 2-3 Personen begeben sich mit sehr großen Behältern zur Salzquelle, produzieren nach Rückkehr ins Dorf mit den befüllten Behältern auf eigenem Grund und Boden das Solesalz, das danach auf Karren verladen in den umliegenden Dörfern zum Verkauf oder Tausch kommt.
- G. Identisch mit E., aber die Solesalzproduktion findet ununterbrochen statt, während der Verkauf bzw. Tausch von jüdischen Händlern oder auf den umliegenden Märkten besorgt wird. Von den Händlern und Märkten beziehen die Bewohner der benachbarten Dörfer ihr Salz. Es handelt sich also um ein geordnetes und dauerhaft angelegtes Verteilungs- und Vertriebsnetz.

#### **DIE VERWENDUNG DES NATÜRLICH EKRYSTALLISIERTEN SALZES**

Im Rahmen der jüngsten ethnologischen Erhebungen im Untersuchungsgebiet konnte noch eine weitere Form der Ausbeutung identifiziert werden, nämlich das Einsammeln des auf natürlichem Wege im Bereich der Salzquellen rekristallisierten Salzes. Auch das auf diese Weise gewonnene Salz dient der Ernährung von Mensch und Tier, als Konservierungsmittel etc. Wenn dieser Art der Ausbeutung im Verhältnis zu den beschriebenen Ausbeutungsformen im letzten Jahrhundert eine durchaus geringe Bedeutung zukam, so erscheint gerade diese einfachste Form der Salzgewinnung besonders aufschlussreich für das Verständnis der prähistorischen Befunde zu sein. Vor diesem Hintergrund lässt sich folgende These formulieren: Der prähistorische Mensch nutzte zuerst das Salzwasser, dann das im Bereich der Salzquellen auf natürlichem Wege rekristallisierte Salz. Dieser natürliche Verdunstungsprozess lieferte das Modell zur Gewinnung von größeren Mengen rekristallisierten Salzes durch gesteuerte Verdunstung (unter Sonneneinwirkung) bzw. den

beschleunigten Prozess der Salzgewinnung durch Sieden. Mit anderen Worten ging dem Verfahren zur Gewinnung des Siedesalzes jenes der natürlichen anthropischen Verdunstung voraus, ein Verfahren das nach dem Vorbild der natürlichen Verdunstung entwickelt wurde.

Verallgemeinernd kann gesagt werden, dass die uns vorliegenden Daten hinsichtlich des lange praktizierten Tauschs von Siedesalz gegen Getreide in der Region die Tatsache belegen, dass die Produktion von rekristallisiertem Salz in den Kreisen Suceava, Neamț und Bacău den Salzbedarf der anderen Landkreise der Region Moldau abdeckte (Botoșani, Iași, Vaslui und Galați). Das von uns rekonstruierte Modell der Versorgung mit Siedesalz über relativ große Entfernungen hinweg verweist auf interessante Interpretationsmöglichkeiten für prähistorische Epochen, stützt es doch – zumindest teilweise – die Hypothese, dass ein bemerkenswerter Anteil des rekristallisierten Salzes für den Tauschhandel *in natura* über große Distanzen hinweg bestimmt war.

Die unlängst durchgeführten Forschungen im Landkreis Vrancea (2010, 2011), wo es Salzwasserquellen, aber auch ausgebeutete Steinsalzausstriche gibt, die bis heute in primitiver Weise ausgebeutet werden, warfen die Frage nach dem Verhältnis zwischen der Ausbeutung der Salzwasserquellen und jener der Steinsalzausstriche auf. Die Ergebnisse dieser Untersuchungen waren überraschend, da die Herstellung von rekristallisiertem Salz durch Kochen auch in jenen Gebieten üblich ist, in denen Ausstriche von Steinsalz vorhanden sind (dieses Steinsalz wird übrigens in der Regel ausschließlich für die Versorgung der Tiere verwendet). Diese Situation erklärt sich dadurch, dass das durch Kochen rekristallisierte Salz bessere Geschmackseigenschaften und einen höheren mineralischen Reinheitsgrad aufweist, weswegen es in erster Linie für die menschliche Ernährung und nur selten für die Salzversorgung der Tiere verwendet wird.

### **VORLÄUFIGE SCHLUSSFOLGERUNGEN**

Drei Argumente sprechen für unseren ethnoarchäologischen Ansatz: Am gleichen Ort finden wir archäologische Spuren der

Salzgewinnung aus prähistorischen Zeiten, verfügen oftmals auch über historische Zeugnisse aus vergangenen Jahrhunderten sowie über Informationen zur gegenwärtigen Nutzung bzw. über reente Praktiken der Salzwassernutzung im 20. Jahrhundert). Vor diesem Hintergrund plädieren wir für eine konsequente Nutzung ethnologischer Forschungsergebnisse zum besseren Verständnis archäologischer Befunde in der Moldau. Entsprechend möchten wir auf die offenbar über Jahrhunderte gleichbleibenden Versorgungsstrategien und Versorgungsmodalitäten der bodenständigen Bevölkerung mit Salzlake aus den Salzwasserquellen verweisen. Der eingangs bereits zitierte über zweihundert Jahre alte österreichische Bericht<sup>9</sup> belegt eindeutig, dass sich die alltäglichen Aktivitäten zur Deckung des Salzbedarfs in den letzten zwei Jahrhunderten keineswegs wesentlich verändert haben und ganz im Gegenteil realistische und von den Zeitläuften unbeeinflusste ökonomisch geprägte Verhaltensweisen darstellen, obwohl sich Rumänien in dieser Zeit, die durch ungeheure Modernisierungsschübe und Transformationen geprägt war, an deren vorläufigem Ende der EU-Beitritt 2007 steht, in entscheidendem Maße sozial und ökonomisch gewandelt hat. In bestimmten Kontexten, vor allem im Bereich der Halotherapie oder der Tierernährung, aber auch in jenem der Techniken (zum Beispiel die Eiprobe zur Einschätzung des Salzgehaltes der Salzlake, die zur Konservierung von Käsesorten verwendet wird), haben sich die Praktiken seit der Antike wenig weiterentwickelt, wie der Vergleich mit griechischen und römischen Texten belegt<sup>10</sup>.

Die im gesamten Vorkarpatenraum der Moldau (in den Kreisen Suceava, Neamț, Bacău und Vrancea) durchgeführten Feldforschungen haben sogar bereits vor Abschluss unseres Projektes ein beeindruckendes Volumen an ethnologisch relevanten Informationen geliefert. In Modelle umgesetzt und umfassend interpretiert, werden diese zusammen mit weiteren Daten (Chemie der Salzwässer, Bevölkerungsverteilung und -dichte, Verbreitung gewisser Vogelarten usw.) einen soliden

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<sup>9</sup> PEITHNER 1784.

<sup>10</sup> SANDU ET AL. 2010.

Bezugsrahmen liefern. In diesem Sinne glauben wir eine neue und bislang einzigartige Herangehensweise für ein besseres Verständnis der Geschichte der traditionellen Salzwasserquellenausbeutung entwickelt zu haben, die außer in der Moldau gegenwärtig in Europa fast völlig verschwunden ist. Tatsächlich kann das Erforschen dieser in der Moldau noch existenziellen und fast lebenswichtigen Wirtschaft auf viele Fragen die archäologische Funde sowie antike Texte aufwerfen, die oftmals allzu kurz gefasst sind und zahlreiche wertvolle Details auslassen, Antworten liefern.

Die wichtigste Schlussfolgerung für den Bereich der archäologischen Forschung ist jedoch die folgende: Die Ausbeutung der Salzquellen darf nicht lediglich auf die Gewinnung von rekristallisiertem Solesalz reduziert werden, obwohl nur diese archäologische Spuren im eigentlichen Sinne hinterlässt. Wie aus allen unseren vorangegangenen Untersuchungen und Befragungen ersichtlich wurde, spielte und spielt gerade die Nutzung des Salzwassers an sich ohne jedwede weitere Verarbeitung eine ganz herausragende Rolle bei der Befriedigung des Salzbedarfs in den unterschiedlichsten Bereichen der menschlichen Gemeinschaften in unserem Untersuchungsgebiet. Wenn sogar im ländlichen Raum Rumäniens im 21. Jahrhundert, in dem es keinerlei Versorgungsprobleme mit günstigem Salz aus dem Einzelhandel gibt, die Salzwasserquellen in einer unerwarteten Intensität und keinesfalls aus Armutsgründen nach wie vor ausgebeutet werden, lässt sich kaum bestreiten, dass in prähistorischen Zeiten die Quellen ganz ähnlich ausgebeutet wurden. Mehr noch: Ausgehend von diesem durch unsere ethnographischen Daten gewonnenen Befund, bislang von archäologischer Seite leider vernachlässigt, können wir in der Zukunft die Rolle, die Salzwasserquellen im Rahmen der Ausbildung diverser archäologischer Kulturen und bei der Entwicklung bestimmter Siedlungen von herausragender Bedeutung für die gesamte Vor- und Frühgeschichte in Mitteleuropa besser einschätzen und würdigen.

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**INHUMATION VERSUS CREMATION IN TRANSYLVANIAN  
NEOLITHIC AND ENEOLITHIC\***

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**Keywords:** *Neolithic, Eneolithic, Transylvania, mortuary practices, inhumation, cremation, usual-unusual burials.*

**Abstract.** *The current paper aims to present and discuss a series of funerary discoveries which indicate specific mortuary practices by the communities of the Transylvanian Neolithic and Eneolithic, both older and more recent. A special attention was given to the cremation rite, still considered an unusual practice for the period and area under research. We believe that these new funerary discoveries confirm the practice of cremation of the N-W Romanian Neolithic communities.*

**Rezumat.** *Arheologia funerară preistorică cunoaște o perioadă de dezvoltare și de acumulări în plan calitativ și metodologic. Lucrarea de față își propune să prezinte de o manieră sintetică cele mai relevante manifestări privind practicile funerare specifice neoliticului și eneoliticului transilvănean, cu accent pe descoperirile recente. Am acordat atenție tratării cu predilecție a practicilor mortuare considerate neobișnuite, între care includem complexul funerar aparținând grupului Foeni din situl de la Alba Iulia-Lumea Nouă și dovezile privind ritul incinerăției la comunitățile de tip Suplac din N-V României.*

**Introduction**

Compared to the number of settlements taken into consideration, the funerary discoveries from the Transylvanian<sup>3</sup> Neolithic and Eneolithic are less in number. The people researching this period have searched for

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<sup>3</sup> By 'Transylvania' we have taken into account, as a geographical-political aspect, the meaning that refers to the central part of Romania and, by extension, also to Maramureș, Crișana and Sătmăr (area also known as Partium).

explanations for this situation. In a synthetic manner, we can discuss the current stage of knowledge, the research methodology used in approaching the archaeological sites, as well as a particular funerary behaviour of the human communities from this geographical area.

Any steps taken into studying, classifying and interpreting burials—starting from the funerary rite and ritual—are subject to the researcher's subjectivism<sup>4</sup>. Archaeological research has shown that inhumation was the dominant rite in Neolithic and Eneolithic communities' mortuary practices. The inhumation rite has been associated with the fertility and fecundity cult, which is specific to the agricultural societies of that time. Thus, inhumation is considered the usual funerary practice of the period, with the body either in a crouched position or lying on its back, in a necropolis or part of a settlement.

By usual we mean the normal practice, the most widespread one and the most evidenced by archaeological research. By unusual we refer to all the funerary discoveries which do not represent the standard mortuary practices for the period, all the exceptions (collective burials, multiple burials, deviant burials, secondary burials, ossuary etc.). In our case, due to the limited number of known findings, cremation can be included in this category for the Romanian Neolithic and Eneolithic ages.

Below we will try to illustrate the current state of research by presenting a number of relevant funerary discoveries, without intending to make an exhaustive study.

### **Necropoleis**

A brief inventory of the Neolithic and Eneolithic inhumation necropoleis known so far in Transylvania allows us to identify four such appropriate places for burials: Iclod<sup>5</sup> (Cluj County) with its two cemeteries

<sup>4</sup> MASSET 1993, 99–130; JEUNESSE 1996, 268–282; 1997, 29–100; BLAIZOT *et al.* 2001, Tabl. III; GATTO 2007, fig. 12–13; LAZĂR 2006–2007, 26–52; 2009, 181–190; 2012, 7–17, 19–40, 49–60, 67–97, 109–163; 2012a, 406–424; CHAPMAN 2010, 32–44; REBAY-SALISBURY 2010, 15–16, 24–25; LAZĂR, BĂCUEȚ CRIȘAN 2011, 5–48; LAZĂR *et al.* 2012, 107–115; KOGĂLNICEANU 2012, 2–39; BISTÁKOVÁ, PAŽINOVÁ 2010, 147–157; BORIC 2014.

<sup>5</sup> LAZAROVICI 1983, 50–60; 1991, 8–16; LAZAROVICI, KALMAR 1986, 31–39; 1987, 11, Fig. 2; LAZAROVICI, MAXIM 1990–1993, 24; LAZAROVICI *et al.* 1995, 508; MAXIM 1999, 88–89; GEORGESCU, GEORGESCU 1999, 357–363; MAXIM *et al.* 2003, 146–147; 2006, 177–

(A and B) belonging to the eponymous group from the Late Neolithic, Decea Mureşului<sup>6</sup> (Alba County) belonging to the eponymous group from the Middle Eneolithic, Cămin–Podul Crasnei<sup>7</sup> (Satu Mare County) and Urziceni–Vamă<sup>8</sup> (Satu Mare County) belonging to the Late Eneolithic Bodrogkeresztúr culture.

The main characteristic of these necropoleis is that the dead have been buried in the vicinity of the settlement, close to but outside the inhabited area. For each of them there have been identified specific rituals, together with typical funerary inventories.

#### **Graves inside the settlement**

Archaeological research has also provided evidence for funerary practices involving burials inside the settlements. The deposition of the deceased nearby the living area or even under the floor of the dwelling has also been documented. The position of the deceased is almost exclusively crouched, on the left or on the right, while the funerary inventories consist mostly of pottery, lithic tools and bone, horn or shell artefacts.

In the settlement of Gura Baciului (com. Baci, Cluj County) dated in the early Neolithic, eight graves have been identified belonging to the Starčevo-Criş culture<sup>9</sup>. Another 5 inhumation graves have been excavated inside the settlement of Tăşnad–Sere (Satu Mare County); they also belong to the Starčevo-Criş culture, phases IIIB–IVA<sup>10</sup>.

In Tărtăria (Alba County) human remains from a woman's skeleton, deposited in a ritual pit, have been found, close to a fragmented *Spondylus* bracelet; this discovery is dated to phase A<sub>2</sub>–A<sub>3</sub> of the Vinča

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178; DUMITRU-KOGĂLNICEANU 2009, 14–18, 94–97, 110–111, 116–117, 138, 142, 153, 158–159, 209, 251–255 ; DIACONESCU *et al.* 2013, 48–53, Img. 1–6.

<sup>6</sup> KOVÁCS 1928–1932, 90–100; OPRÎTESCU 1978, 91; GOVEDARICA 2004, 62–76, Abb. 5–8, Taf. 1–5, IV/2, V/6, V/1–2, 4, 6–7, VII/3, 6, VIII/2, 4, 7–8; LUCA 1994, 10–15; 1999, 39; ENEA 2009, 92–93, Annex 6.

<sup>7</sup> IERCOŞAN 1992–1993, 77–78, NÉMETI, 1999, 75.

<sup>8</sup> VIRAG 2004, 42–45; VIRAG *et al.* 2006, 383–386; ENEA 2009, Annex 5.

<sup>9</sup> LAZAROVICI, MAXIM 1995, 37–39.

<sup>10</sup> ASTALOŞ, VIRAG 2006–2007, 78–81, Pl. II/1–4.

culture<sup>11</sup>, and is considered a proof of a secondary mortuary practice<sup>12</sup>. In Limba-Vărăria (Alba County) two graves from the B phase of Vinča culture have been studied, containing skeletons in a crouched position, each close to remains of a dwelling<sup>13</sup>: (M1) belongs to a 7–8 year-old child (*infans* I-II), without being able to specify its gender; (M2) contains the skeleton of a male pre-adult (*juvenilis*), aged 18–20<sup>14</sup>.

In Zau de Câmpie (Mureș County), seven inhumation graves have been discovered in the Middle Neolithic layer, out of which three are certainly children (aged between 1 and 3.5 years). The graves were found on the dwelling floor, in the hearth area or within the general area of the dwelling<sup>15</sup>.

In Săcueni-Horo (Bihor County), Pișcolt group, Middle Neolithic, an inhumation grave has been discovered. The child skeleton was laid on the right side in a crouched position on top of a layer of ceramic shards belonging to large-sized pots. The funerary inventory consists of a painted bowl<sup>16</sup>.

The M1 grave from Urziceni-Vamă (Satu Mare County) contains disarticulated human remains: their deposition inside the filling of a ditch within the settlement was dated to the Pișcolt group<sup>17</sup> of the Middle Neolithic.

In Turdaș-Luncă (Hunedoara county), a child grave of the eponymous culture has been found. The skeleton was laid on the floor of a dwelling, in a crouched position, oriented N-S and facing westwards<sup>18</sup>. Another inhumation tomb found here contains an adult woman skeleton<sup>19</sup>.

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<sup>11</sup> LAZAROVICI, MERLINI 2005, 207–214, Fig. 17a; MERLINI, LAZAROVICI 2008, 143–144, 155–156, 160–175, Image 20–21, 32–33; LAZAROVICI *et al.* 2011, 210–211.

<sup>12</sup> LAZAROVICI *et al.* 2011, 213–218.

<sup>13</sup> PAUL *et al.* 2002, 517–518.

<sup>14</sup> ROȘU, GLIGOR 2011, 346–348.

<sup>15</sup> BODEA 1997, 737–739, Fig. 1–2.

<sup>16</sup> COMȘA, NANASI 1971, 633–635.

<sup>17</sup> ASTALOȘ, VIRAG 2006–2007, 80, 82, Pl. III/3.

<sup>18</sup> LUCA 1997, note 110.

<sup>19</sup> MAXIM-KALMAR 1991, 4–5.

An important funerary discovery was made at Orăștie–Dealul Pemilor (Hunedoara County). The author of the discoveries, S. A. Luca, considers the graves to be part of a necropolis<sup>20</sup> belonging to Turdaș culture. Archaeological research revealed five graves very close to the margin of the fortified settlement. Due to the occupation dynamics<sup>21</sup> we are not able to tell whether these graves were placed inside or outside the settlement<sup>22</sup>.

Grave M1 had the skeleton in a crouched position, on the right side, with the hands on the pelvis and with the skull orientated towards the east. On the knee and skull area traces of red ochre were noticed<sup>23</sup>. Grave M2 was found 3 m away from M1. It contained an adult in a moderate crouched position, with the skull oriented towards East. The entire skeleton presented traces of red ochre, and in the head area there was a pot<sup>24</sup>. Grave M3 belongs to an adult male, crouched on the right side and which was found oriented E-W close to the remains of a river rock dwelling platform. The grave goods consist of two ceramic bowls and two stone axes. The entire grave presents traces of red ochre, and some bones and pottery fragments have obvious traces of fire<sup>25</sup>. Graves M4 and M5 are considered to be cenotaphs<sup>26</sup>. We also note the two pieces of human calotte found in the B2/1994 hut pit, which have been interpreted either as containers for libation<sup>27</sup>, or as proof of cannibalism<sup>28</sup>.

In Peștiș (Bihor County), in the “Piatra Jurcoaiei” cave, a grave containing an 8–9 years old child, dated in the Herpály group, has been discovered. The skeleton, partially destroyed, was in a crouched position,

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<sup>20</sup> LUCA 1997, 34–35; LUCA 2000, 59–66; 2006, 13–20.

<sup>21</sup> LUCA 1997, 35.

<sup>22</sup> DUMITRU-KOGĂLNICEANU 2009, 224.

<sup>23</sup> LUCA 1997, 34; 2006, 15, Fig. 1/6.

<sup>24</sup> LUCA 1997, 35; 2006, 15, Fig. 1/3.

<sup>25</sup> LUCA 2006, 15, Fig. 3.

<sup>26</sup> LUCA 2006, 16–17.

<sup>27</sup> LUCA 2003, 217–218.

<sup>28</sup> LUCA 2006, 18.

on the right side, and oriented East-West. The grave goods comprise 5 small bone beads<sup>29</sup>.

In 2006, two Late Neolithic archaeological complexes were discovered in the Halmeu-*Vamă* settlement (Satu Mare County). The authors have interpreted them as symbolic graves, possibly cenotaphs, with a rich collection of artefacts belonging to the first phase of the Iclod group<sup>30</sup>.

In Gligorești-*Holoame* (Cluj county), from the Late Neolithic layer, most probably of the Suplac group, human remains of an infant (*infans I*) have been recovered: they were deposited in a bowl decorated with bitumen ornamental motives<sup>31</sup>. It is a very unusual inhumation burial, in having the bones placed in a ceramic container for unknown reasons<sup>32</sup>. It might have been a secondary burial<sup>33</sup> and the painted bowl can be interpreted as a burial pot.

In Alba Iulia-*Lumea Nouă* (Alba County) in ditch no. 2/S I (Trench VI/2005), part of the Foeni enclosure, a human skeleton (M1) without grave goods has been found. It was oriented SW-NE, laying on the right side, the left foot displaced from the pelvic area. The position of the skeleton leaves the impression that the deceased was more likely thrown in the open ditch<sup>34</sup>. It belongs to a 1.56-1.57-m tall woman aged 25-30 (*adultus*) at the time of death<sup>35</sup>. The radiocarbon data (Poz-58209) indicates the intervals 4694-4591 calBC (1 $\sigma$ ) and 4716-4546 calBC (2 $\sigma$ )<sup>36</sup>.

In the Petrești Eneolithic culture the funerary discoveries are also not many. Until now, no information about graves belonging to a necropolis from this culture has been published<sup>37</sup>.

<sup>29</sup> IGNAT 1977, 17.

<sup>30</sup> ASTALOȘ, VIRAG 2006-2007, 75-78, 83-84, Pl. IV-VII.

<sup>31</sup> GOGĂLTAN *et al.* 2004, 70-71, Fig. 3; POPA, ALDEA 2014, 64-65, Fig. 2.

<sup>32</sup> GOGĂLTAN *et al.* 2004, note 25.

<sup>33</sup> POPA, ALDEA 2014, 62-63.

<sup>34</sup> GLIGOR 2009, 40, Pl. VII/1, XIV/2, CXCVI/2.

<sup>35</sup> ROȘU, GLIGOR 2011, 350.

<sup>36</sup> GLIGOR 2014, 92, Tab. 1.

<sup>37</sup> From the research of M. Rusu in the '60s close to the Petrești settlement from Noșlac-*Peșes* (Alba County), the excavation reports (unpublished) mention six inhumation graves

Inside the Daia Română–Părăuț (Alba County) settlement there has been discovered a skeleton in a crouched position, laid on the right side, with the face oriented towards the SE. Close to the skeleton was a jaw of an ox, and the bottom of the pit was partially covered with sandstone pieces<sup>38</sup>. In the Ocna Sibiului–Fața Vacilor (Sibiu County) settlement a SE–NW orientated skeleton was found in a crouched position laying on the left side. In the area of the nape and of the shoulders was a piece of sandstone<sup>39</sup>.

On the hearth of a dwelling in Tărtăria–Gura Luncii human remains belonging to a child have been found<sup>40</sup>. The grave is considered a ritualistic inhumation as part of the A-B phase of the Petrești culture<sup>41</sup>.

Two inhumation graves belonging to the Petrești culture were recently discovered within the Petrești–Groapa Galbenă settlement (Alba County).

The first human remains were identified in square D (Trench I/2011), at a depth of approximately -0.50m. Grave M1 was arranged as a rectangular cist, by reusing adobe pieces from dismantling the remains of the L1 surface dwelling<sup>42</sup>. The skeleton was found in a crouched position, lying on the left side, with a NNW–SSE orientation<sup>43</sup>. The anatomically connected skeleton was incomplete, but not disturbed by subsequent anthropic activities. The presence of animal bones inside the cist, as well as in the feet area, could indicate that they were offerings. As funerary inventory, we include a fragment of unpainted fragment of pedestal vessel, found next to the hip. The skeleton belongs to an *Infans II* (4–6 years) of undetermined sex<sup>44</sup>.

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belonging to Petrești culture. According to I. Paul, four inhumation tombs were found in a crouched position (PAUL 1992, 115, 159, note 42).

<sup>38</sup> PAUL 1992, 116, Pl. LIV/1–1.

<sup>39</sup> PAUL 1992, 115–116, Pl. LIV/2–2.

<sup>40</sup> HOREDT 1949, 51, Fig. 7.

<sup>41</sup> PAUL 1992, 115, 159, note 41.

<sup>42</sup> GLIGOR *et al.* 2013, Pl. VII/1, VIII/1.

<sup>43</sup> GLIGOR *et al.* 2013, Pl. VII/2–3.

<sup>44</sup> GLIGOR *et al.* 2013, 68–69, Pl. VII/1–3.

The grave M2 was identified in square C, at a depth of approximately -0.60m, obviously anthropically disturbed, probably in this area being placed one of the poles of the L1 dwelling from the upper layer. This grave was also arranged as a cist from adobe pieces. From the skull position, the individual was placed oriented SSV–NNE. No artefacts that can be associated with the inhumation could be identified. The skeleton belongs to an adolescent/*Juvenilis* (16–18 years) of unknown sex<sup>45</sup>. The radiocarbon data (Poz–58216) indicates the intervals 4448–4369 calBC (1 $\sigma$ ) and 4486–4348 calBC (2 $\sigma$ )<sup>46</sup>.

Petrești painted pottery at ‘Groapa Galbenă’ is typically for the A-B phase<sup>47</sup>. The main shapes comprised carinated bowls, bowls with rounded rims, pedestal vessel; the geometric motifs are painted dark-brown and brownish, with the typical patterns: thin lines, curvilinear motifs and network patterns<sup>48</sup>.

#### **Human remains from Alba Iulia–Lumea Nouă (Alba County)**

The Lumea Nouă settlement is part of a ‘chain’ of Neolithic and Eneolithic sites on the middle Mureș valley, one of the most important sites from Transylvania. Research from past years has shown that the most intense habitation belongs to Foeni group<sup>49</sup>, to whom we attribute a distinct funerary complex that has been the focus of recent excavations.

Archaeological diggings from 2003 (Trench II) revealed a pit in square C (G1/2003) 1.50–1.70 m in diameter, marked by stones placed around its exterior. Inside were found a large number of human skulls, together with of bone remains, randomly distributed in the upper levels (Pl. I/1), with many long bones found in a slanting position<sup>50</sup>.

The MNI (Minimum Number of Individuals) was calculated by counting the number of repeated skeletal elements within the sample, with the most recurrent bone in the assemblage equalling the absolute

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<sup>45</sup> GLIGOR *et al.* 2013, 69, Pl. X/1–2, XI/1.

<sup>46</sup> GLIGOR 2014, 93, Tab. 1.

<sup>47</sup> PAUL 1992, 76–90, Pl. XXIX, XXXIV–XLI; GLIGOR 2004, Pl. I; 2009, Pl. CXLII–CXLIII.

<sup>48</sup> GLIGOR *et al.* 2013, 68, Pl. II–V.

<sup>49</sup> GLIGOR 2009, 25–58, 71–86.

<sup>50</sup> GLIGOR 2009, 31–32, Pl. X/2, CCII–CCIV.

MNI. The most recurrent bone among the adult disarticulated material was the left mandible, and it gave an MNI of 13 adults. The left mandible was also the most recurrent bone among the sub-adult material and gave an MNI of 4 sub-adults. Therefore, the total MNI for the whole assemblage is 17<sup>51</sup>.

Two years later, in Trench III/2005 (square B), an agglomeration of disarticulated human bones (Pl. I/2) was found<sup>52</sup>, some of which have traces of burning<sup>53</sup>. The skulls were positioned mainly inside the pit, while the long bones were found towards the upper part of the pit and at ground level. Similar to the G1/2003 discovery, most of the bones were found in a slanting position, indicating that they were most probably thrown into the pit without much care. Evidence for an intense fire takes the form of a thick layer of ashes and brick-red coloured traces of fire over the sides and down to the bottom of the pit<sup>54</sup>.

The right maxilla was the most recurrent bone among the adult disarticulated material and gave an MNI of 33 adults. The right mandible was the most recurrent bone among the sub-adult material and gave an MNI of 17 sub-adults. Thus, the total MNI for the whole assemblage is 50<sup>55</sup>.

The most prominent discovery from the 2011 excavation is the complex from Trench I/2011, square D, from a depth between -0.20 and -0.40m. Several human crania, mandibles and maxillae, long bones and vertebrae were found in an area of about 2×2m<sup>56</sup>. The human remains represent a population with an MNI of 9 adults and 9 children<sup>57</sup>.

Ceramic fragments from large vessels mark the outer limits of the funerary complex. Disturbance of the general deposition of the remains by later anthropic activity has yet to be identified. Long bones were lying on the ground (not slanted) in rectangular arrangements enclosing skulls,

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<sup>51</sup> GLIGOR, MCLEOD 2014.

<sup>52</sup> GLIGOR 2009, 36–37, Pl. X/1, CCVIII–CCIX.

<sup>53</sup> GLIGOR 2009, Pl. CCXI/1–2.

<sup>54</sup> GLIGOR 2009, Pl. CCXII/3.

<sup>55</sup> GLIGOR, MCLEOD 2014.

<sup>56</sup> GLIGOR 2012, 284–285.

<sup>57</sup> GLIGOR, MCLEOD 2014.

suggesting an intentional disposition (Pl. II/a–d). Bones of various fauna were also identified along with the human remains. This funerary complex is part of the Foeni layer, which overlaps the pit of a large Vinča B hut<sup>58</sup>.

The skeletal remains have not been discovered in anatomical connection. Furthermore, no entire skeleton was identified. Compared to the previous funerary discoveries from 2003 and 2005, the complex researched in 2011 presents some particularities as well. We observe that there are no bones in oblique position, no adobe is present among the skeletal remains, and there is no trace of fire on the human bones. At the same time, the archaeological context allowed us to discover the disposal of the long bones in rectangular-shaped structures, and that the area inside them was used to deposit the skulls<sup>59</sup>.

The 2011 funerary discoveries reveal a large quantity of defleshed bones. Ethno-archaeological analogies indicate defleshing and placement of human remains in mass graves<sup>60</sup>.

Some of the skulls discovered during the 2003, 2005 and 2011 excavations present several particular features. We refer to the oval-shaped depression fractures and abrasion areas<sup>61</sup>. Due to the lack of bone remodelling, these injuries probably occurred around the time of death and it is possible that they were made by an experienced individual with a dedicated tool, as part of a ritual. The fact that the skull caps and mandibles are intentionally detached is one aspect of the unusual mortuary practices of this site. It cannot be ruled out that there has been a selective process of particular skeletal elements collected purposely for burial<sup>62</sup>.

Osteological analyses have determined the presence of children, male, and female adults<sup>63</sup>. It is suggested that the human remains were not

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<sup>58</sup> GLIGOR 2012, foto 1; 2013, 204, Fig. 6–7.

<sup>59</sup> GLIGOR 2012, 284–285.

<sup>60</sup> GLIGOR 2013, 209.

<sup>61</sup> GLIGOR 2009, Pl. XII; 2013, 206–207, Fig. 8–9.

<sup>62</sup> GLIGOR 2013, 207–209.

<sup>63</sup> GLIGOR *et al.* 2012, 58–64, Tab. 1, 3.

interred during an epidemic; moreover, collective death as a result of violence is unlikely since there are no traces of interpersonal violence such as wounds inflicted by arrows or lithic weapons. In addition, no arrow tips or axes have been found in connection with human bone material. Post mortem manipulation has been noticed not only on the skulls, but also on the postcranial skeleton.

The processing of the archaeological material associated with the funerary discovery allowed for a cultural classification under the Foeni group<sup>64</sup>. The chronological timeframe given by the AMS dating of the bone material taken from skeletal remains<sup>65</sup> spans between 4600 and 4450 calBC<sup>66</sup>. Using Bayesian approach we have obtained a model (Pl. III) that evidences the very short time interval (less than 50 years) which includes all data from the three funerary complexes<sup>67</sup>: start 4587–4492 BC (95.4%), *mean* 4534 BC; end 4535–4448 BC (95.4%), *mean* 4493 BC.

### Cremation

In the past decades, excavations in Europe have provided irrefutable evidence of cremation rite practices, even from the Mesolithic. Cremation may have been chosen because it was a hygienic method of taking care of the dead, or maybe because the urns could have been placed within more convenient perimeters, or even to handle space issues<sup>68</sup>, or cremation-used for allogeneous population, they or their families have chosen to be treated differently, to distinguish them from the rest of the community<sup>69</sup>, age or sex, social statuses<sup>70</sup>.

Gil-Droz examines the history of the problem and indicates the main ideas: fire as a force which cleanses and liberates the soul from the body; a result of fear of the deceased who might have come back from the grave; as an expression of agrarian beliefs of Neolithic agricultural

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<sup>64</sup> GLIGOR 2009, 38, 213, Pl. CIII/1–2, CIV/2, CXIV/4–5, CXV/3, CXVI/1, 4, 7, CXVIII/2–4, CXXXI/1a–1b, CLII/11a–11c, 12a–12c, CLIX/1, CLX/1a–1b, CCXI/4.

<sup>65</sup> GLIGOR 2014, Tab. 1.

<sup>66</sup> GLIGOR 2010, Fig. 8; 2012, Fig. 3.

<sup>67</sup> GLIGOR 2014, Fig. 6a–6b.

<sup>68</sup> BISTÁKOVÁ, PAŽINOVÁ 2010, 148.

<sup>69</sup> TRAUTMANN 2006, 177–179.

<sup>70</sup> PESCHEL 1992, 199.

communities, cremation as a result of ‘drying the body’, cremation as a result of coincidence<sup>71</sup>.

As K. Rebay-Salisbury suggests, cremation—a deliberate transformation, fragmentation and destruction of the body—appears to be a very drastic way to handle the body after death; at the same time, it is just one of the many ways of addressing burials<sup>72</sup>.

In any case, the use of fire as a purifying element is a pattern that often comes across in mortuary practices.

Mesolithic cremations from Iron Gates Vlasac (Serbia) are an important part of secondary mortuary rites<sup>73</sup>.

Many discoveries about cremation practices have been found in the territory of present-day France. The oldest incineration traces found have been dated to the Mesolithic, at Chaussée-Tirancourt<sup>74</sup>. Another discovery, in the Early-Neolithic Neuvy-en-Dunois<sup>75</sup> (Eure-et-Loir) site, presents a collective burial, with the calcined human bone remains of 22–24 individuals, out of which 15 were adults. Other cremated collective burials from the Late Neolithic are known at Reichstett-Mundolsheim<sup>76</sup>, Vaise<sup>77</sup>, Gardon<sup>78</sup>, and Peyrolebade<sup>79</sup>.

In Italy, the Early Neolithic (Impresso culture) has indications of cremation at Grotta Continenza<sup>80</sup>, while for the SMP culture (Square Mouthed Pottery) there is a cremation burial of a woman in Ponte Ghiara<sup>81</sup>.

The oldest cremation evidence in Slovakia is traced to graves of Lužianky group<sup>82</sup>.

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<sup>71</sup> GIL-DROZ 2011, 32–44.

<sup>72</sup> REBAY-SALISBURY 2010, 24.

<sup>73</sup> BORIC *et al.* 2009, 251–274, Fig. 3–31.

<sup>74</sup> MASSET 1993, 102.

<sup>75</sup> MASSET 1968, 205–218, Fig. 1–8.

<sup>76</sup> BLAIZOT 2005, 4–21, Fig. 4–8; BLAIZOT *et al.* 2001, 196–200, Fig. 9.

<sup>77</sup> JALLET *et al.* 2005, 284–295.

<sup>78</sup> GATTO, BUQUET 2000, 305–330; GATTO 2007, 199–202.

<sup>79</sup> GATTO 2007, 202–208, Fig. 7.

<sup>80</sup> MALONE 2003, 297.

<sup>81</sup> BERNABÒ BREA *et al.* 2010, 131.

<sup>82</sup> BISTÁKOVÁ, PAŽINOVÁ 2010, 149.

In Hungary, at Aszód (Lengyel culture) mostly inhumation graves were investigated, but also cremation graves<sup>83</sup>. Two other finds are from Öcsöd-Kovácsshalom<sup>84</sup> (Tisza culture). Of the 436 graves, 72 burials (16.5% of them) from the Copper-Age cemetery at Budakalász were cremation burials<sup>85</sup> (scattered cremation and in-urn graves).

An Early Neolithic incineration necropolis has been researched at Soufli Magoula<sup>86</sup>, in Greece. An adult and an adolescent grave were found covered by a layer of ash in a burial mound in the Middle Neolithic site of Chaeroneia<sup>87</sup>. The evidence indicates that the area was used as a crematorium. For the Late Neolithic, we know of the discoveries in Platia Magoula Zarkou<sup>88</sup> (where urn graves have been found), in the Alepotrypa-Diros<sup>89</sup> cave, the site of Avgi<sup>90</sup>.

Having an overall image of the Neolithic discoveries we can state that most of cremations graves belong to LBK communities (500 graves of 2500),<sup>91</sup> burials discovered in settlements or which are part of the bi-ritual necropolises like the one in the Czech Republic at Kralice na Hané where from 78 graves, 69 were cremation graves<sup>92</sup> and the cremations cemetery from Modlniczka near Cracow, with 38 tombs<sup>93</sup>.

The existence of Neolithic incineration practices in the present-day territory of Romania was viewed with reluctance by some Romanian archaeologists, supported by a lack of anthropological analyses for some of the discoveries.

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<sup>83</sup> KALICZ 1972, 67–68.

<sup>84</sup> RACZKY 1987, 80.

<sup>85</sup> BONDÁR, RACZKY 2009, 232–243, Fig. 15–16.

<sup>86</sup> GALLIS 1996, 172, Fig. 306; KARALI, GKIONI 2006, 71.

<sup>87</sup> KARALI, GKIONI 2006, 71.

<sup>88</sup> GALLIS 1996, 172–173, Fig. 307–310; KARALI, GKIONI 2006, 72.

<sup>89</sup> GALLIS 1996, 173; PAPATHANASSOPOULOS 1996, 175–177, Fig. 49.

<sup>90</sup> STRATOULI *et al.* 2010, 96–99.

<sup>91</sup> TRAUTMANN 2006, 93.

<sup>92</sup> ŠMÍD 2008, 241.

<sup>93</sup> CZEKAJ-ZASTAWNY *et al.* 2009, 179–180; CZEKAJ-ZASTAWNY, PRZYBYŁA 2012, 11–110, 275–280.

The oldest incineration grave is M7 from Gura Baciului<sup>94</sup> (Starčevo-Criș culture). Until now, it is the only certain discovery for the Carpathian-Danubian Early and Middle Neolithic.

The Late Neolithic of the Romanian north-western area also presents some discoveries that show cremation practices. In the past decades, cremation graves were found at Tășad<sup>95</sup>, Suplacu de Barcău–Corău I<sup>96</sup> (Bihor County), Zalău–Uroikert<sup>97</sup>, Zalău–Dealul Lupului<sup>98</sup> and Porț–Corău<sup>99</sup> (Sălaj County). We note that Suplacu de Barcău and Porț are parts of the same archaeological site, separated by administrative reasons<sup>100</sup>.

Late Neolithic funerary discoveries from Porț–Corău (Pl. IV/1) stand above the others in terms of numbers and diversity of the ritual. The research carried out in different areas of the site, even if they are not completed, provided important information on various funerary behaviours: on one hand we have a peripheral location with multiple cremation burials placed on two lines<sup>101</sup>, identified during the research from 2003 and on the other hand, we have a number of graves spread around the site<sup>102</sup>.

Both cremation and inhumation<sup>103</sup> were identified as funerary practices in the Suplac communities from Porț. The location of the inhumation graves does not follow any clear rule, the tombs being discovered inside the inhabited areas and in a concentration within the southern area, where four of them were examined. Three of those were placed on one line (M1–M2, M7/2010) and the other one (M3/2010) on another parallel line (Pl. IV/2, V/3–4).

<sup>94</sup> LAZAROVICI, MAXIM 1995, 189–190.

<sup>95</sup> IGNAT 1998, 57.

<sup>96</sup> IGNAT 1998, 57–58.

<sup>97</sup> BEJINARIU 1996–1997, 9–12, Pl. I–II.

<sup>98</sup> BĂCUEȚ CRIȘAN *et al.* 2006, 400–401.

<sup>99</sup> BĂCUEȚ CRIȘAN 2008, 25–26, 65, Pl. 78–79; LAZĂR, BĂCUEȚ CRIȘAN 2011, 7–8.

<sup>100</sup> LAZĂR, BĂCUEȚ CRIȘAN 2011, 7, note 50.

<sup>101</sup> BĂCUEȚ CRIȘAN 2008, 25–26, Pl. 78.

<sup>102</sup> BĂCUEȚ CRIȘAN *et al.* 2011, 222.

<sup>103</sup> RADU *et al.* 2013, 74–76.

The most recent (2010–2012) research from the Poř site—presented below—adds new information about the cremation rites.

The M4/2010 (C.163) cremation grave was found in S 4/2010<sup>104</sup>. The pit has an approximate rectangular shape outlined at -1m. Three pots, two cups without feet and in between a quadrilateral bowl with straight rim painted in black both in the interior and on the exterior (Pl. IV/5) were found towards the Eastern margin. In front of the vessels at -1.10m a group of burnt bones covered with a red dye were found (Pl. V/1).

The M3/2011 (C.180) cremation grave was found in S 13/2011, within a rectangular pit, extremely difficult to detect, at a depth of 1m. In the S-W corner of the pit at -1.10m were deposited two cups without feet and a group of bones. All bones are coloured with a red dye (Pl. V/2).

A similar grave M4/2011 (C.256) has been investigated in S 15/2011, but in this case the cremation remains, highly coloured in red, were accompanied by only a ceramic fragment. Regarding the graves M5 (C.273) and M7 (C.277) from S 17/2011, the cremation remains were deposited in the vessel. For M6 (C.276) from S 17/2011 we do not have enough information, only one small vessel being recovered, because of disturbance by later features.

Of the three tombs investigated in S 17, only in the case of M7/2011 was noticed the red colouring of the cinerary remains. The most interesting aspect is the location of the three tombs S 17/2011 identified on the same line, at a distance of approximately 10 m apart. The remains from M5/2011 were deposited in a bowl. M7/2011, the last grave excavated in the 2011 campaign, consisted of a bowl for depositing the cinerary remains, the vessel being afterward covered with another bowl. In these two cases of bowl-deposited remains no sepulchral pits were noticed.

A notable exception is M5/2010 (C.68/1) without grave goods, where the cremation remains were deposited on the bottom of a ditch identified as a property boundary (?). On the contrary, the richest grave was discovered in 2012 (M5/2012); ten pots and two chisels were deposited in the grave<sup>105</sup>.

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<sup>104</sup> BĂCUEȚ CRIȘAN *et al.* 2011, 222.

<sup>105</sup> BĂCUEȚ CRIȘAN *et al.* 2013, 173–174

### Discussion and Conclusions

Inhumation inside the settlement is therefore a quite frequent practice in the Transylvanian Neolithic and Eneolithic. We note the situations in which the deceased are children or youngsters, close to the dwellings or even inside them, which give an unusual character to the discoveries, without considering them as particular funerary practices<sup>106</sup>.

The data provided by the archaeological and anthropological research allows us to claim that the Lumea Nouă funerary discovery has traits that set it apart both from multiple burials<sup>107</sup> and from cannibalism<sup>108</sup>. Analysed samples of the Lumea Nouă human skeletal remains demonstrate some particular aspects, which are broadly covered by the archaeological literature. For the present-day territory of Romania, there are no known analogies for the Neolithic and the Eneolithic period<sup>109</sup>. For the moment, all the archaeological and osteological evidence strengthens the idea that Lumea Nouă was a ceremonial centre where burial rituals were organized, including special treatment of human cranial remains.

These funerary discoveries from the past few years indicate with certainty the practice of cremation in the N-W Romanian Neolithic communities.

The synthetic presentation of the funerary discoveries of Porț-Corău made so far allows us to discuss 13 inhumation graves (M1/2002; M1-M3, M9/2010; M1-M2, M8/2011, M2-M4, M6-M7/2012) and 17 incineration graves (M3-M4/2002; M6-M9, M11-M12/2003; M4-M5/2010; M4-M7/2011, M1-M5/2012). 3 of the tombs are not certain (M6-M8/2010), only vessels have been found, most probably the bone remains have not survived because of the acidic soil.

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<sup>106</sup> KOGĂLNICEANU 2006, 192–198, Fig. 2–12.

<sup>107</sup> GLIGOR 2009, 124–126, 129–130.

<sup>108</sup> GLIGOR 2009, 126; 2010, 239–240.

<sup>109</sup> LICHTER 2001; SCHUSTER *et al.* 2008; DEBOIS 2008; KOGĂLNICEANU 2012; LAZĂR 2012; BORIĆ 2014.

The cremated remains were deposited in urns at Zalău–Dealul Lupului<sup>110</sup>, in M1/1984<sup>111</sup> at Suplacu de Barcău, and in M5/2011 and M7/2011 and M1/2012 at Porț. For most of the discoveries, the cremated remains were deposited directly in the pit. The archaeological context indicates that the incineration did not take place inside the pit, most probably somewhere nearby.

The graves were either placed within the perimeter of the settlements (Suplacu de Barcău, Tășad, Zalău–Uroikert), at their peripheral margin (Porț–Corău), or in distinct funerary spaces — necropolis (Zalău–Dealul Lupului).

The incinerated animal bones discovered in the cremation graves indicate that they were burnt at the same time as the deceased<sup>112</sup> and are being interpreted either as the remains of "funerary feasts" or as coming from the animals sacrificed during the funerary ceremonies<sup>113</sup>. The anthropological analyses made until now have indicated that there are also cremation graves that belong to children<sup>114</sup>.

Using a red-coloured organic substance for treating the human cremated remains is remarked as a novelty in practicing the funerary ritual. Given the recent nature of these discoveries, the red substance that colours the bones has not been analysed chemically. In some cases the substance has been observed also on the ground in the vicinity of the bones (M2/2010), giving the impression that it has been poured after depositing the remains. We can assume that it is red ochre, a substance that has been noticed sometimes on the surface of the bones recovered from the inhumation graves. Ochre marks on bones, especially on long bones, have been reported in several cases in Starčevo-Criș culture at Beșenova<sup>115</sup> or Szarvas Szappanos<sup>116</sup>. Among the vessels that were recovered from M1/2002, there were two cups in which lumps of red

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<sup>110</sup> BĂCUEȚ CRIȘAN *et al.* 2006, 400–401.

<sup>111</sup> IGNAT 1998, fig. 48/1.

<sup>112</sup> BEJINARIU 1996-1997, 10.

<sup>113</sup> LAZĂR, BĂCUEȚ CRIȘAN 2011, 39–47.

<sup>114</sup> BĂCUEȚ CRIȘAN 2008, 63.

<sup>115</sup> COMȘA 1960, 86.

<sup>116</sup> TROGMAYER 1969, 5.

ochre had been deposited. Perhaps the positioning of the two vessels may have meaning: one being near the pelvis and one in the chest area, parts of the human body that are highly vascularised. At least three inhumation graves discovered at Port had pots full of ochre. Even without a ritual context, we must note the occasional discoveries of pots containing ochre identified in households or dwellings. Nevertheless, a more credible hypothesis will only be issued after chemical analysis.

At the same time, these discoveries do not clarify whether or not the incineration can be considered a selective funerary rite which could have reflected differences of social status. An alternative approach to incineration in Neolithic could be the fact that it was a special funerary practice, regarding persons who were not yet members of the community (young people not old enough to be considered members of the community), strangers, or even pariah. These explanations can be appointed considering the ethnographic analogies regarding the funerary behaviour in special cases.

Initially considered exceptions, the number of cremation graves from Porț increased by each research campaign, eventually exceeding the number of inhumation graves. Up until now, 17 cremation graves and 13 inhumations have been discovered. Under these circumstances, we tend to believe that this funerary rite has become a common practice, occurring at a certain time, probably under external influences from LBK area or the Lengyel culture.

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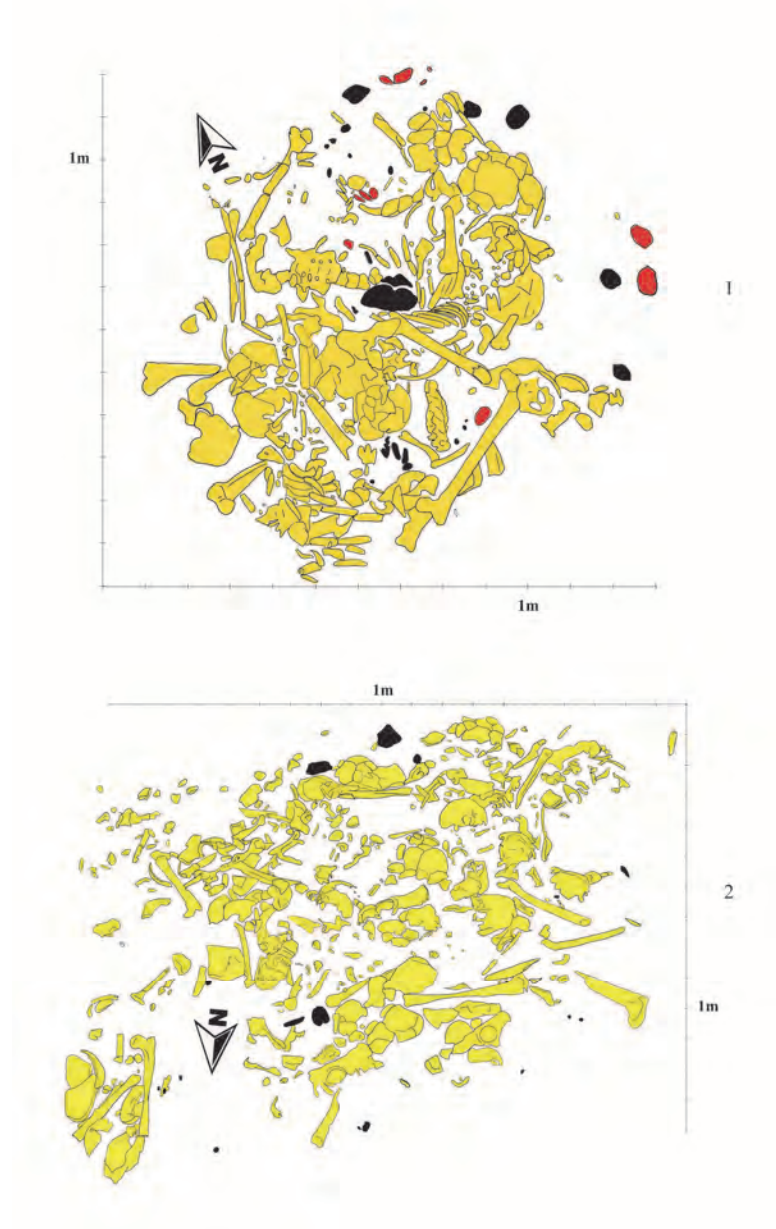


Plate I: Funerary discoveries from Alba Iulia–*Lumea Nouă*:  
(1) Grundriss G1/2003; (2) Grundriss Trench III/2005, square B.

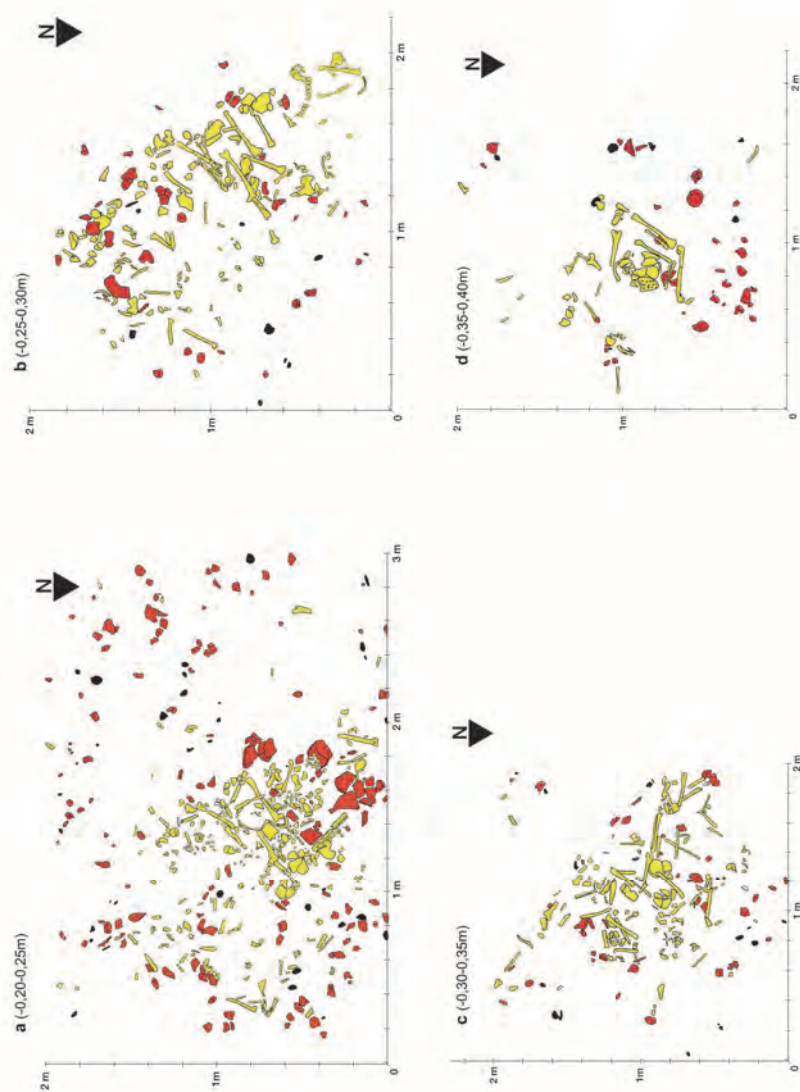


Plate II: Funerary discoveries from Alba Iulia–*Lumea Nouă*:  
Grundriss Trench I/2011, square D (a–d).

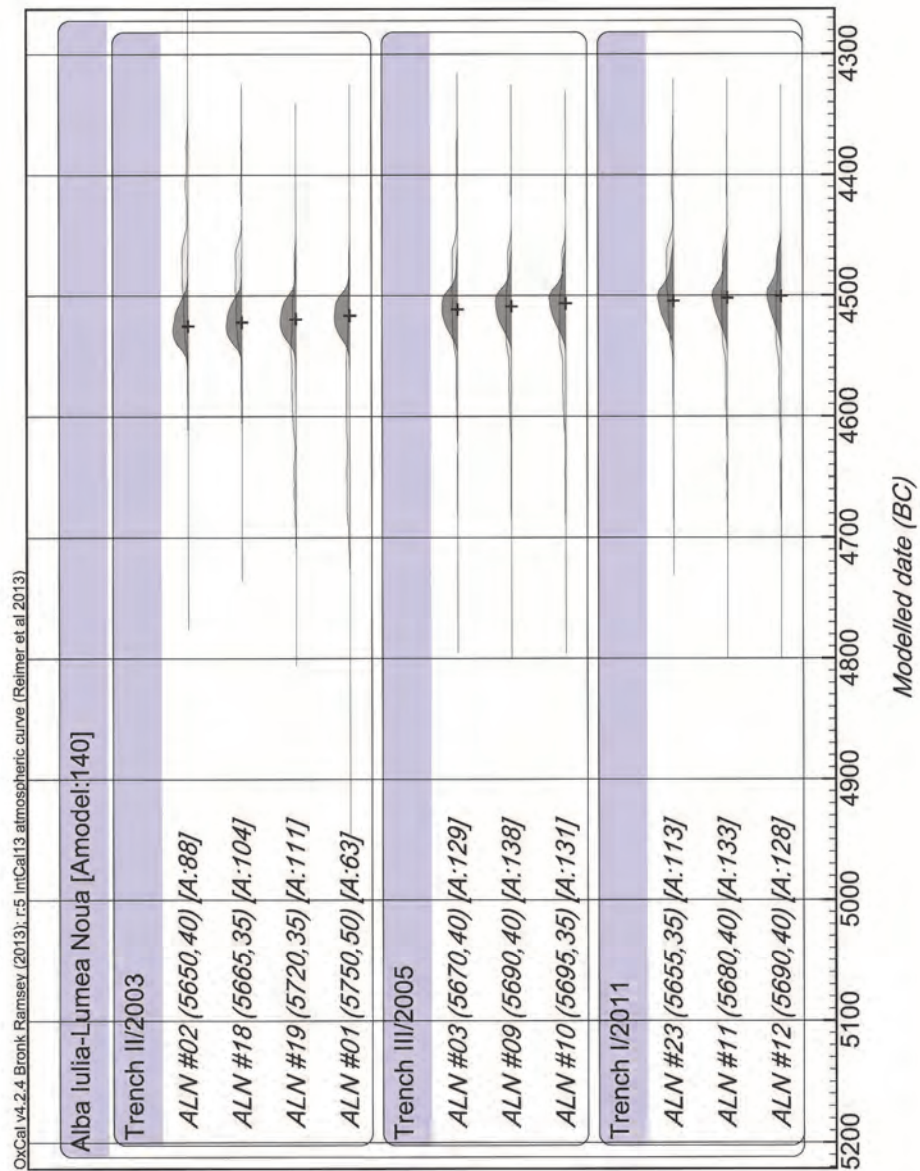


Plate III: Bayesian modelling to the  $^{14}\text{C}$  AMS data from Alba Iulia–Lumea Nouă funerary complex.

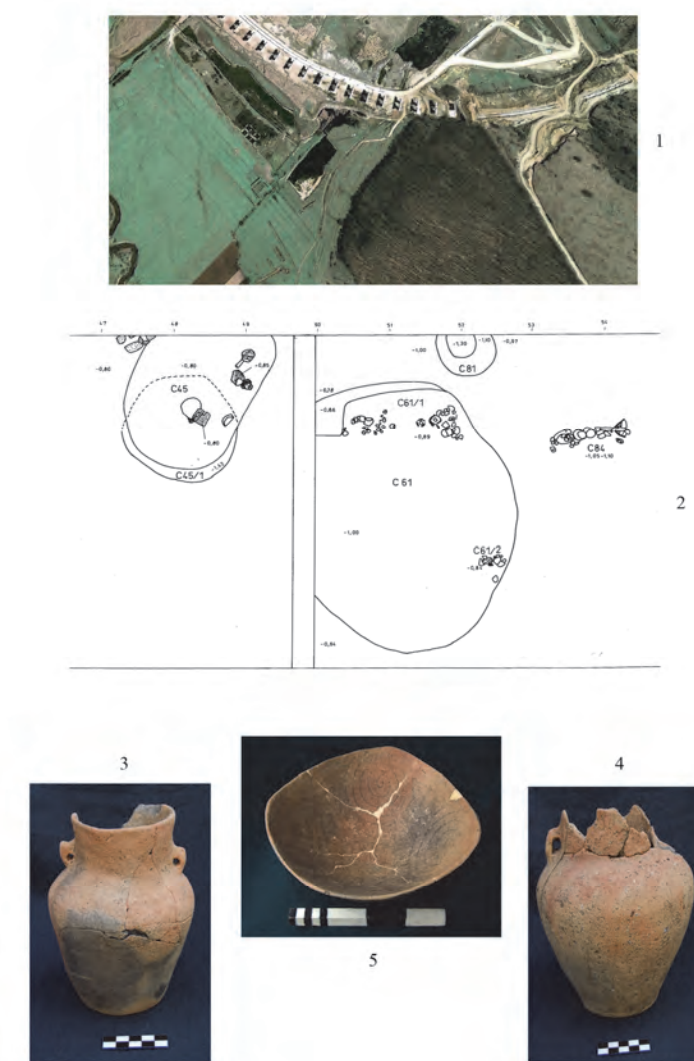


Plate IV: (1) Aerial view with excavations at Port-Corău site, image from Google Earth; (2) Grundriss with M1/2010 (C.45), M2/2010 (C.61-1), M3/2010 (C.61-2) and M7/2010 (C.84); (3-4) Amphorae from M1/2010 inhumation tomb; (5) Painted quadrilateral bowl (grave goods) from M4/2010 cremation tomb. Port-Corău (Sălaj County).



Plate V: (1) M4/2010 (C.163) cremation grave; (2) M3/2010 (C. 180) cremation grave; (3) M2/2010 (C.61-1) inhumation tomb; (4) M7/2010 (C.84) inhumation tomb. Porț-Corău (Sălaj County).



**OBLIQUE AIR PHOTOGRAPHY FOR CHALCOLITHIC SITES FROM  
EASTERN ROMANIA. ANALYSIS AND INTERPRETATION.  
SOME EXAMPLES\***

**ANDREI ASĂNDULESEI<sup>1</sup>**

**Keywords:** oblique aerial photography, prehistoric sites, GIS, Eastern Romania.

**Abstract.** *To intervene efficiently in protecting the archaeological heritage it requires precise information, as well as the exact location, the limits of the site or the geomorphological features of the area. As such, an interdisciplinary research based on non-destructive, complementary methods of investigation, which can provide precious information on the underground archaeological remains, is required. The most convenient (affordable) prospection methods employed by archaeologists are, on the one hand, surface research (fieldwalking), which provides the data necessary for a chronological setting, and, on the other, air photography, which offers the possibility to identify the buried structures. The present paper focuses on the use of oblique air photography in the study of prehistoric sites and a case for generalising such practices in archaeological research, with reference to preliminary results obtained for a number of sites from north-eastern Romania.*

**Rezumat.** *Pentru a putea interveni eficient în protejarea patrimoniului arheologic sunt necesare informații precise, precum poziția exactă, limitele sitului sau caracteristicile geomorfologice ale zonei. Astfel, se impune apelul la cercetarea interdisciplinară bazată pe metode de investigare non-distructive, complementare, ce pot oferi informații prețioase cu privire la caracteristicile arheologice îngropate. Cele mai la îndemână (ieftine) metode de prospectare aplicate de către arheologi sunt, pe de o parte, cercetarea de suprafață (periegheza) ce oferă datele necesare unei încadrări cronologice, iar pe de altă parte fotografia aeriană, ce oferă posibilitatea identificării structurilor îngropate. Lucrarea de față se concentrează pe utilizarea fotografiei aeriene oblice în studiul stațiunilor preistorice limitându-ne la prezentarea unor rezultate preliminare menite să argumenteze necesitatea și generalizarea unor asemenea demersuri în cercetare arheologică.*

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**Introduction**

The information from archaeological registries available for the eastern part of Romania reveals an extremely high density of (not only) prehistoric sites in this area<sup>2</sup>. The field investigations carried out by research teams from the Arheoinvest Platform within the “Alexandru Ioan Cuza” University of Iași of several micro-zones from the aforementioned area, have been focused in particular on identifying and accurately charting the archaeological sites<sup>3</sup> listed in older or newer archaeological registries, but which are often accompanied only by brief and lacunary descriptions, no longer corresponding to current realities. Another aim has been to closely monitor the state of these monuments<sup>4</sup>, alongside a collecting of as much information as possible on the threatened areas, using non-destructive techniques<sup>5</sup>. It became clear that the majority of sites identified on the field, particularly prehistoric ones, already known or newly identified, are strongly threatened by various destruction factors, of natural or anthropic origin.

To intervene efficiently in the protection of the archaeological heritage, precise information is needed, such as the precise location, the limits of the site, or the geomorphological characteristics of the area. As such, an interdisciplinary approach based on complementary non-destructive research methods that can provide precious information regarding the subterranean archaeological elements is required. The most convenient (financially affordable) methods of prospecting used by archaeologists are, on the one hand, surface research (fieldwalking), which provides the necessary data for a chronological setting, and, on the other hand, air photography, which offers the possibility to identify the buried structures. Definitely, the completion of this methodology with other possibilities for prospecting (e.g. geophysical measurements) can enlarge the body of information, crystallising into a detailed picture of the vestiges in question. The present paper focuses on the use of oblique air

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<sup>2</sup> AȘEZĂRI...; RAJI, I, II; MONAH, CUCOȘ 1985; VALEANU 2003; BOGHIAN 2004.

<sup>3</sup> BRIGAND *et al.* 2012; 2014; 2014.

<sup>4</sup> ROMANESCU *et al.* 2012.

<sup>5</sup> ASĂNDULESEI *et al.* 2012; 2013; ASĂNDULESEI 2014.

photography for the investigation of prehistoric sites, and makes a case for generalising such practices in archaeological research, with reference to preliminary results obtained for a number of sites from north-eastern Romania.

### **Brief historical foray**

Even though the use air photography in archaeological research is more than a century old, in Romania such initiatives started to take place, in a more consistent manner, only relatively recently<sup>6</sup>. Air photography is a branch of remote sensing, a term that designates a wide range of methods and techniques for detecting archaeological sites by means of measurements taken from afar<sup>7</sup>. It can be defined as a non-destructive methods used in identifying, photographic, charting, and interpreting traces that indicate the presence of old anthropic characteristics<sup>8</sup>.

The emergence and evolution of this method, considered the oldest and, at the same time, the most efficient of the archaeological prospection techniques is treated at large in countless works<sup>9</sup>. With specific use in archaeological research, the first initiatives date from the beginning of the last century, in England. During the early period, the photographs were taken from a balloon, and only after WW2 did the advancement in photographic and aviation technology allowed the thriving of this method<sup>10</sup>.

One of the first archaeological areas photographed was the Roman Forum, in 1897, from a balloon. A few years later, in 1908, the same area is photographed again, followed by the capture of the ancient port of Ostia<sup>11</sup>. Arguably one of the most famous applications was P.H. Sharpe's photographing of Stonehenge (Fig. 1) from an army balloon in 1906<sup>12</sup>.

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<sup>6</sup> PALMER *et al.* 2009.

<sup>7</sup> PALMER 2009, 9.

<sup>8</sup> OBERLÄNDER-TÂRNOVEANU, BEM 2009, 62.

<sup>9</sup> WILSON 1982; BEWLEY 2000, 2003; CERAUDO 2013; MUSSON *et al.* 2013; GIARDINO, HALEY 2006.

<sup>10</sup> WILSON 1982, 10; BEWLEY 2000, 3; GIARDINO, HALEY 2006, 48.

<sup>11</sup> PETRE 1966, 199.

<sup>12</sup> WILSON 1982, 11.

A substantial contribution is brought starting with 1921 by Osbert G.S. Crawford, who, alongside Alexander Keiller, publishes in 1928 the study entitled *Wessex from the Air*, a seminal work for air photography, in which he illustrates and interprets images from across Southern England<sup>13</sup>. Around the same time (1929), across the Atlantic, American aviator Charles Lindbergh photographs several ancient Maya settlements, including Tikal, Tulum and Chichén Itzá<sup>14</sup>. The interwar period was a particularly prolific one for air photography, applied in the most diverse places, such as the Middle East and northern Africa. Later, 1949, the Cambridge University Committee for Aerial Photography (CUCAP) commenced the program of air-surveying England and Europe for various purposes, including archaeology<sup>15</sup>.



Figure 1. Stonehenge — Aerial photography from a balloon, summer 1906 (Wilson 1982).

<sup>13</sup> BEWLEY 2003, 275.

<sup>14</sup> PARRINGTON 1983, 108; DONOGHUE 2005, 555.

<sup>15</sup> BEWLEY 2000, 4.

As stated above, even if the history of air photography for archaeological purposes is more than a century old, in the case of Romania initiatives of this kind can be best described as isolated for most of the 20th century. Across time, all attempts to establish structures with the goal of training archaeologists and developing programs of complex air investigations, eventually failed. From the interwar period, we have knowledge of an air photograph taken in 1938 of the running archaeological campaign in Histria, overseen by Scarlat Lambrino. It was not by happenstance that this occurred: one of Lambrino's student, Dinu Adameşteanu, who in 1939 left for a scholarship in Italy, will play an important role in promoting air photography first in Italy, and then in Romania<sup>16</sup>. Archaeologist, professor and ardent promoter of air archaeology, Adameşteanu will years later (1965) be invited to join other prominent figures from Italy and elsewhere, and deliver a lecture at the annual international course organised by the Lerici Foundation entitled *Air photography and archaeological research*<sup>17</sup>. Under the care of Professor Adameşteanu, who obtains the authorities' support for establishing an archive of photographs for archaeological use, and, more importantly, the consent to train a young archaeology student in this field, in Italy, air photography begins to entrench itself in Romania, so that the following years witnessed notable progress in this field<sup>18</sup>.

### Research area

The micro-zone comprising the sites for which air photographs were taken is defined by the hydrographic basin of the Bahluiet River (Fig. 2). This is an integrant part of the lower Jijia and of the Bahlui plain that occupy the southern half of the Moldavian Plain, with some morpho-sculptural particularities that fully argue for its delimiting as a distinct subunit<sup>19</sup>. The micro-zone has a geological foundation in which marls (less clayish than in the northern part) predominate, with sandy intercalations, of Bessarabian age.

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<sup>16</sup> OBERLÄNDER-TÂRNOVEANU, BEM 2009, 62.

<sup>17</sup> PETRE 1966, 198.

<sup>18</sup> OBERLÄNDER-TÂRNOVEANU, BEM 2009, 64.

<sup>19</sup> BĂCĂUANU 1968, 199.

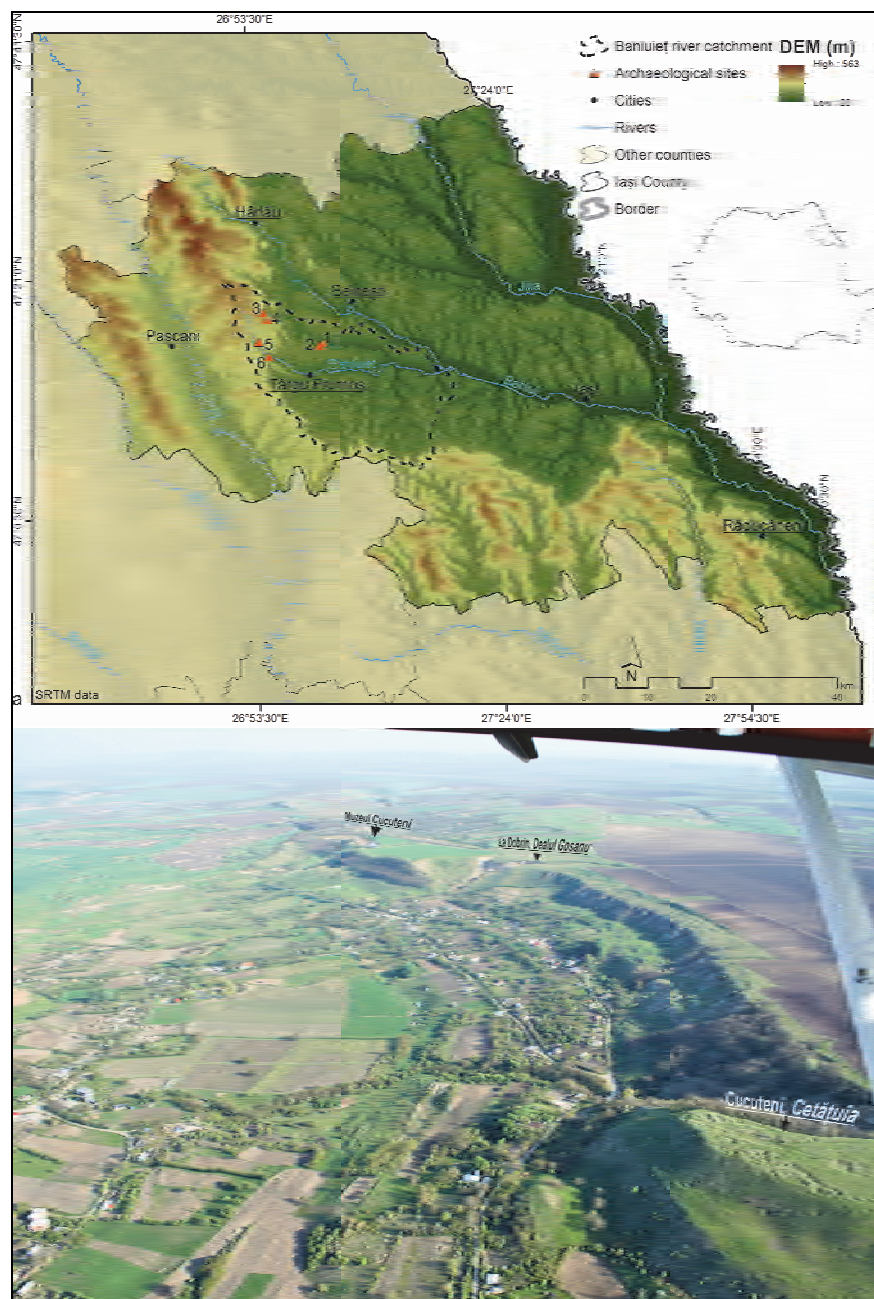


Figure 2. a: Location of the Bahluieț river catchment in Romania and Iași County; b: Aerial image for Valea Oii River valley (view from the North)

The hilly terrain is milder; the average height ranges between 100 m and 150 m, while the maximum ones, of over 200 m, are seldom encountered<sup>20</sup>. Unlike the northern part of the Moldavian Plain, the accumulation landforms (flood meadows, terraces, glacises) are much more extensive<sup>21</sup>.

The Bahluiet (S=558 km<sup>2</sup>; L=50.1 km) originates in the area of Poarta Ruginoasa, on the southern edge of the Mare Hill, from the altitude of 310 m. Up to the city of Târgu Frumos, the bed has rather steep slopes, around 7.8°/km. Along this upper sector, the Bahluiet collects several brooks, such as the Pășcănia (Chetrosu), Probota (Valea Bunei) and Cucuteni (Valea Oardei) on the left bank, and the Rediul from the right bank, all originating from the Ruginoasa–Strunga saddle. The Bahluiet is, likewise, the main collector of the affluents coming from the Bârlad High Plateau. These watercourses are generally small, have steep slopes and intermittent or semi-permanent flow. The only notable affluent of the Bahluiet from the left is the Oii (Brăscăria/Recea) brook, originating in the Mare Hill–Hârlău<sup>22</sup>.

### Methodology

To procedures for taking photographs can be listed for archaeology: vertical (Fig. 3, 4) and oblique (Fig. 5a). The former refers to a series of specialised activities addressed to both archaeologists and to geographers and geologists, which is rather complex and expensive. The oblique photography technique is usually more accessible for archaeological research, requiring only a regular camera and capturing images with it from a small airplane, such as the Cessna 150/152 or 172<sup>23</sup>.

Archaeological characteristics can be identified in air photographs from the shadows, the differences in soil colouration and humidity, or the marks visible in snow or in crops<sup>24</sup>. It is seldom the case that a single photograph provides all the information about a site or an area. The

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<sup>20</sup> BĂCĂUANU *et al.* 1980, 297.

<sup>21</sup> BĂCĂUANU 1968, 199.

<sup>22</sup> UJVARI 1972, 542–543.

<sup>23</sup> BEWLEY 2000, 6.

<sup>24</sup> SCOLLAR *et al.* 1990, 33–75; RENFREW, BAHN 1991, 70.

visibility of the marks depends on the changes in the direction and height of the sun, and even in the case of sites visible on the surface of the soil the deep shadows mask the information. Similarly important is the season during which the image is captured. In this sense, archaeologists elaborate maps based on air images captured at different moments of the day and year, in order to extract as much information as possible from them<sup>25</sup>. The forming of detectable marks in crops or due to differences in soil colour can be easily explained. For instance, a ditch dug in the parent rock will subsequently fill with sediments that in terms of composition differ from the surrounding deposits by having a greater porosity that favour waterlogging, which translates to more a thriving vegetal cover. In the case of marks ascertainable from differences in soil colour, they are most conspicuous in images captured in winter, fall or spring, often brought about by tilling<sup>26</sup>. It is particularly noteworthy that any of these types of marks can indicate, in some cases, complexes that are not of archaeological relevance, since any changes at the level of the parent rock can be ascertained in air photographs<sup>27</sup>.

The methodological approach of this study relied on multiple successive work stages. The first consisted of a necessary documentation stage in which archaeological registries and specialised works treating our study area were consulted, and the sites belonging to the Eneolithic Cucuteni culture were selected<sup>28</sup>. For obvious reasons, only ten of them were selected for air photographing. In total, around 600 photographs were taken for these sites. The present paper presents several preliminary results obtained after the processing of the images for the following case studies: (1) Bălțați, Filiași–*Dealul Mare*; (2) Bălțați, Filiași–*La SV de Dealul Mare*; (3) Cucuteni–*Cetățuia*; (4) Băiceni–*La Dobrin / Dealul Gosanu*; (5) Giurgești–*Dealul Mănăstirii / Sub pădure*; (6) Costești–*Vatra satului / Lângă școală* (Fig. 1).

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<sup>25</sup> DOUGLAS, NICKENS 1991, 87–88; DONEUS *et al.* 2007; PALMER 2009, 28–29;

<sup>26</sup> BEWLEY 2000, 7.

<sup>27</sup> PALMER 2009, 29.

<sup>28</sup> AȘEZĂRI...; RAJI, I, II; MONAH, CUCOȘ 1985; VALEANU 2003; BOGHIAN 2004.



Figure 3. View from NNE of the *Dealul Mare* archaeological site.

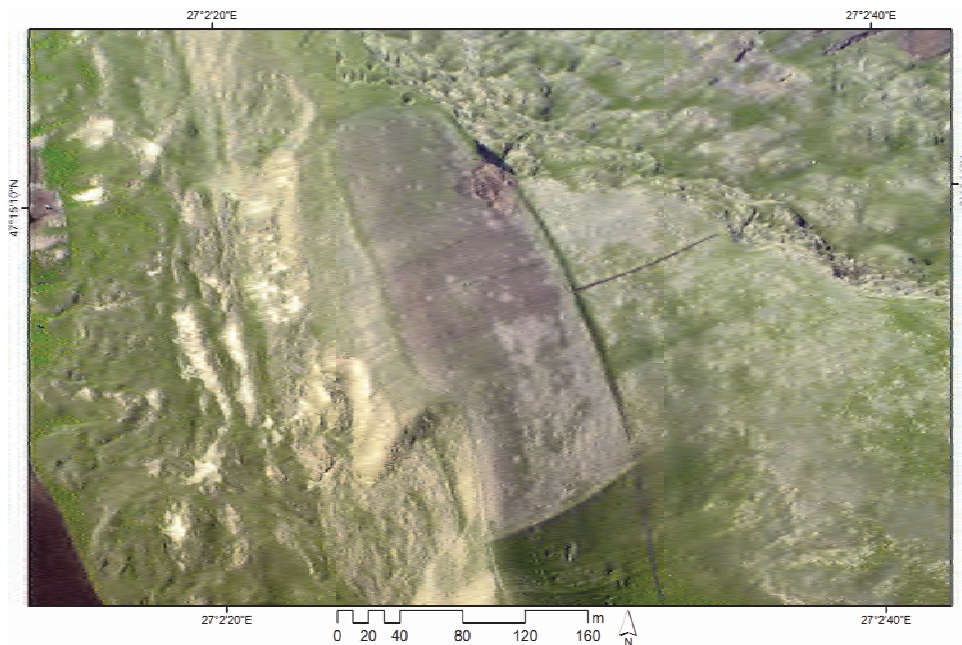


Figure 4. View from SSW of the *Dealul Mare* archaeological site.

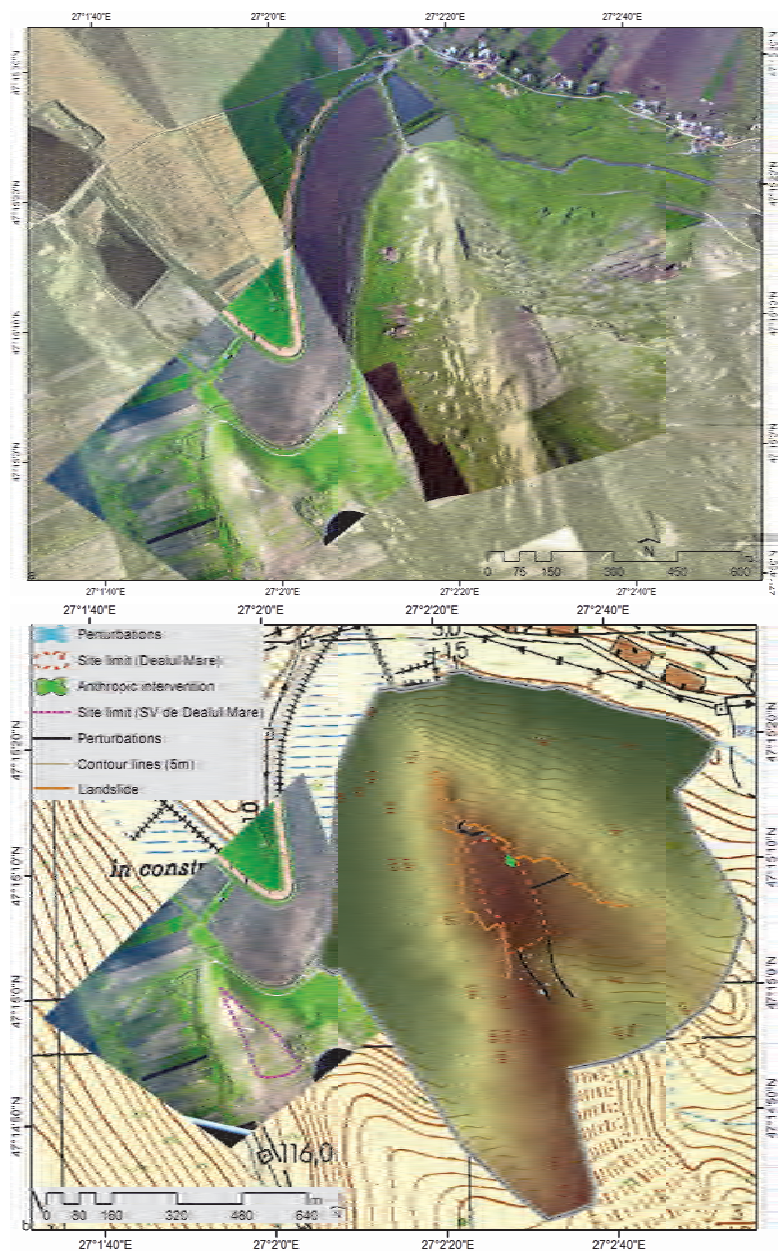


Figure 5. a — Georeferenced aerial pictures for the *Dealul Mare* and *La SV de Dealul Mare* archaeological sites overlaid on a orthorectified image;  
 b — Results of interpretation overlaid on detailed topographic map.

After the identification of the sites on the ground, their GPS positioning and their charting, the flight path was easily set, in agreement with the pilot (Fig. 6). The moment for capturing the images was an afternoon in late May; the approximate height was 500 m, and the photographing angle was 30–45°. A Nikon D300 digital camera was used for this task.



Figure 6. Small aircraft (up) and the flight route (down).

For such a study, of essence is to be able to extract all the information of archaeological nature that can be obtained from oblique photographs or orthorectified images, in order to produce maps with the distribution of

identified structures that are easy to understand by those without specialisation in this narrow field. Thus, the high-quality images in which it was possible to read archaeological clues regarding the state of degradation of the sites or the presence of active hydro-geomorphological processes, were graphically processed, incorporated into a GIS, and geo-referenced (Fig. 5). Referencing to the national coordinates system (STEREO 70) was achieved by introducing correspondence points in the orthorectified images. To obtain the best results, the alignment of these images was combined, where the possibility presented itself, with known points on the ground or with the detailed topographic surveys of the sites (Fig. 5b). All this data was imported, layer by layer, into a GIS project, for interpreting it.

### Discussions

Even though the first results of our study appear to be promising, we still have to proceed with caution in interpreting the aerophotograms, having in mind that any prospection method has advantages and disadvantages.

On account of the incipient stage of our research, the present paper analyses by means of oblique aerial photography, besides the elements of archaeological interest, a component of the landscape evolution with regard to the identification, evaluation and impact of natural and anthropic risks affecting the archaeological sites. Unfortunately, it emerged that all six case studies presented in these pages are affected by at least one type of risk.

Thus, the Cucutenian settlement *Dealul Mare* (Fig. 3, 4), for which a positive anomaly can be identified, representing a fortification work<sup>29</sup> (a noteworthy element for this time period), is immediately threatened by landslides in its northern, eastern and western side. While site itself has not yet been affected, an immediate intervention is necessary to stop this erosional process from damaging it. More concerning is a recent anthropic destruction caused by an open clay quarry inside the site's perimeter, in the north-eastern corner (Fig. 5a, b). The presence of trenches, probably from during WW2, fortunately only in the proximity and not crossing the

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<sup>29</sup> We mention that this defensive system has not yet been clearly set chronologically.

site, contribute to the advancement and expansion of the erosion. We have to mention at this moment the Cucutenian site discovered by our team (Fig. 5), located at the foot of the versant on which *Dealul Mare* is found, in the south-western side, and similarly affected by landslips.

Hydro-geomorphological processes have also been registered in the case of the archaeological sites from Cucuteni–*Cetățuia* (Fig. 7), Băiceni–*La Dobrin* (Fig. 8, 9) and Giurgești–*Dealul Mănăstirii* (Fig. 10, 11), which are affected by landslides or gullying. At the same time, anthropic interventions can be seen in the form of military trenches or archaeological-looting pits. More than half of the settlement from Costești, on the right bank of the Bahluiet, has been destroyed by the erosion caused by this watercourse<sup>30</sup>. The series of both positive and negative anomalies registered for this site, caused by the presence of a defensive ditch at the base of the site or of possible stone structures (Fig. 12, 13, 14), were subsequently confirmed by archaeological excavations<sup>31</sup>.



Figure 7. View from E of the Cucuteni-*Cetățuia* archaeological site.

<sup>30</sup> ASĂNDULESEI 2014.

<sup>31</sup> BOGHIAN *et al.* 2014



Figure 8. View from S of the *La Dobrin / Dealul Gosanu* archaeological site.



Figure 9. View from E of the *La Dobrin / Dealul Gosanu* archaeological site.



Figure 10. View from SE of the Giurgești-*Sub pădure* archaeological site.



Figure 11. View from NW of the *La Dobrin / Dealul Gosanu* archaeological site.



Figure 12. Interpretation of aerial pictures of the Costești- *Lângă școală* archaeological site (Asăndulesei 2014).

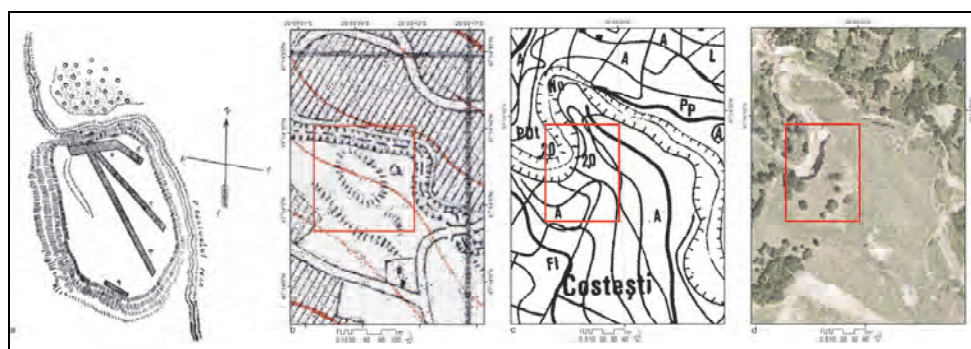


Figure 13. The evolution of the Costești archaeological site (cartographic analysis): a — excavations plan from year 1937; b — topographic map from year 1957 (scale 1:20,000); c — topographic map from year 1975 (scale 1:5000); d — orthorectified image year 2005 ([www.ancpi.ro](http://www.ancpi.ro)).



Figure 14. View from NW of the Costești–Lângă școală archaeological site.

### Conclusions

Our efforts to carry out such a study for the north-eastern part of Romania have been quite worthwhile, fully meeting our set goals. Following the methodological course demanded by the two main research facets (the analysis of the archaeological evidence, and the assessment of the level of damage sustained by the sites), we obtained a unitary image of the study area. The identification of archaeological characteristics in many of the case studies, referring, foremost, to fortification or boundaries works (Fig. 3, 4, 5), integrated and correlated with other types of results from non-invasive surveying, can efficiently work to develop a coherent plan for mitigatory or systematic intervention.

At the same time, the wide images, captured from various angles, both for the case studies and for the extended Bahluiet catchment (Fig. 2b, 8, 14), offers the extraordinary possibility to conduct ample research on the landscape from the study area. In the same train of thoughts, the comparison of the aerophotograms with older or newer imagery, accompanied by cartographic analysis, can provide key elements for studies on the evolution of the landscape (Fig. 15).



Figure 15. Bahlui river with a sector of meanders prior to entering in Iași.

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**ANIMALS IN THE ECONOMY AND RITUALS OF THE CUCUTENI  
SETTLEMENT FROM PODURI-DEALUL GHINDARU  
(BACĂU COUNTY, ROMANIA)\***

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**Keywords:** archaeozoology, Chalcolithic, Cucuteni culture, Poduri-Dealul Ghindaru, economy, rituals.

**Abstract.** *The present paper represents a synthesized archaeozoological approach to the Cucuteni site of Poduri-Dealul Ghindaru (Bacău County, Romania). This study explores various roles of animals in the economy and rituals of a Chalcolithic community. Animal remains are described in terms of frequencies, anatomy and taphonomy. Temporal analysis of several characteristics, including taxonomic frequency, indicates changes in the prehistoric local economy. Types of special animal deposits are described, as well as the interpretation of their ritual meaning.*

**Rezumat.** *Prezenta lucrare reprezintă o abordare arheozoologică sintetizată a sitului Cucuteni de la Poduri-Dealul Ghindaru (județul Bacău, România). Acest studiu analizează diferite roluri ale animalelor în economia și ritualurile unei comunități calcolitice. Resturile de animale sunt descrise în termeni de frecvențe, anatomie și tafonomie. Analiza temporală a unor caracteristici, incluzând frecvența taxonilor, indică modificări în economia locală preistorică. Sunt descrise tipuri de depozite speciale de animale, precum și interpretarea semnificațiilor rituale.*

### **Introduction**

This study concerns the site of Cucuteni culture, discovered in the Poduri-Dealul Ghindaru locality (Bacău County, Romania). The site of Poduri-Dealul Ghindaru, located in eastern Romania (46°27'59"N, 26°32'10"E),

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stands at 429 m.a.s.l. on a 30 m-high terrace on the right bank of the Tazlăul Sărat river and has a known extent of c. 1.2 ha.

Research at Poduri–*Dealul Ghindaru* began in the 1979–1996 period, under the direction of the archaeologist Dan Monah, and later, in 2000–2007, an extensive archaeological work was conducted, under the direction of the archaeologists Dan Monah and Gheorghe Dumitroaia. The site stratification contains levels belonging to the Chalcolithic and to the Early Bronze Age<sup>3</sup>. The first Chalcolithic inhabitants of Precucuteni culture settled Poduri–*Dealul Ghindaru* towards the 5820 BP, that would correspond to a Cal B.C. date ranging between 4780 and 4619. The Cucuteni A level has been dated between 4665–4050 Cal B.C.<sup>4</sup>.

The archaeozoological discoveries in the *Tell* of Poduri–*Dealul Ghindaru* come from different contexts. Archaeozoological analyses began in 2001–2002, being made by Bălășescu & Radu. Their research focused on the taxonomic frequency distributions of the remains in the faunal assemblages<sup>5</sup>. Later, Cavaleriu & Bejenaru<sup>6</sup>, Bejenaru *et al.*<sup>7</sup>, and Oleniuc<sup>8</sup> were interested in subsistence patterns associated with the Chalcolithic inhabitation in Poduri–*Dealul Ghindaru*. A ritual deposition of two pig skeletons in the Cucuteni A level of the site has been discussed by Bălășescu<sup>9</sup>. During the 2005 campaign, an unusual deposit of 25 astragali (twenty-one of the astragali were from cattle, three from red deer, and one from a sheep or goat) was discovered in the Cucuteni A level, dated to 4662–4465 Cal B.C.<sup>10</sup>; it was interpreted as a ritual deposit designed to bring good fortune to a new dwelling<sup>11</sup>.

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<sup>3</sup> MONAH *et al.* 2003.

<sup>4</sup> MONAH *et al.* 2003.

<sup>5</sup> MONAH *et al.*, 2001, 190–198; 2002, 242–246.

<sup>6</sup> CAVALERIU, BEJENARU 2009.

<sup>7</sup> BEJENARU *et al.* 2009, 223–227.

<sup>8</sup> OLENIUC 2010.

<sup>9</sup> BĂLĂȘESCU 2009, 69–78.

<sup>10</sup> MANTU 1998.

<sup>11</sup> BEJENARU *et al.* 2010.

**Animals in economy**

Among the animal resources, mammals constitute the majority (about 99% remains); birds, fish and molluscs are represented by less than 1% of the identified assemblages (Table 1).

In the group of identified mammals, Artiodactyls make up 97% of the total identified mammal assemblage. Fewer remains come from the other groups: Carnivores (2.5%), Perissodactyls (0.1%), Lagomorphs (0.3%) and Rodents (0.1%). Within the artiodactyl order there is an uneven representation of species. Domestic artiodactyls dominate the sample, and cattle remains are more numerous than sheep/goat and pig.

Order	Species		Cucuteni A <sup>12</sup>		Cucuteni B <sup>13</sup>	
			NISP	%	NISP	%
Artiodactyla	<i>Bos taurus</i>	Cattle	1895	58.13	3465	38.64
	<i>Ovis aries/Capra hircus</i>	Sheep/Goat	519	15.92	3029	33.76
	<i>Sus domesticus</i>	Pig	339	10.4	1402	15.63
Carnivora	<i>Canis familiaris</i>	Dog	57	1.75	134	1.49
<b>Total domestic mammals</b>			<b>2810</b>	<b>86.2</b>	<b>8030</b>	<b>89.56</b>
Artiodactyla	<i>Bos primigenius</i>	Aurochs	43	1.32	76	0.85
	<i>Cervus elaphus</i>	Red deer	170	5.21	359	4
	<i>Capreolus capreolus</i>	Roe deer	53	1.63	89	0.99
	<i>Dama dama</i>	Fallow deer	1	0.03	4	0.05
	<i>Alces alces</i>	Elk	0	0	2	0.02
	<i>Sus scrofa</i>	Wild boar	133	4.08	304	3.39
Rodentia	<i>Castor fiber</i>	Beaver	10	0.31	12	0.15
	<i>Sciurus vulgaris</i>	Squirrel	0	0	4	0.05
Lagomorpha	<i>Lepus europaeus</i>	Hare	3	0.09	30	0.34
	<i>Canis lupus</i>	Wolf	0	0	3	0.03

<sup>12</sup> CAVALERIU, BEJENARU 2009.

<sup>13</sup> OLENIUC 2010.

Carnivora	<i>Vulpes vulpes</i>	Fox	1	0.03	7	0.07
	<i>Ursus arctos</i>	Bear	24	0.74	16	0.18
	<i>Martes sp.</i>	Marten	2	0.06	6	0.06
	<i>Mustela putorius</i>	Polecat	1	0.03	2	0.02
	<i>Meles meles</i>	Badger	2	0.06	1	0.01
	<i>Felis silvestris</i>	Wild cat	0	0	14	0.16
Perissodactyla	<i>Equus caballus</i>	Horse	7	0.21	8	0.09
<b>Total wild mammals</b>			<b>450</b>	<b>13.8</b>	<b>937</b>	<b>10.44</b>
Total identified mammals			3260	100	8967	100
Mollusca+Fish+Aves			60		38	
Total identified remains			3320		9005	

Table 1. Frequency of mammalian taxa from Poduri–Dealul Ghindaru  
(NISP=number of identified specimens)

Domestic mammals present a slightly increase in time, from 86% in Cucuteni A to 89% in Cucuteni B, showing the animal husbandry as an important occupation (Table 1). The cattle remains (*Bos taurus*) are dominant with 58%/38%, while sheep & goat (*Ovis aries/Capra hircus*) come on the second place with 15%/33% and pig (*Sus domesticus*) on the third having 10%/15% remains. The predominance of cattle is a general pattern of the Cucuteni A sites<sup>14</sup>, while the sheep & goat prevalence to the end of Chalcolithic period (Cucuteni B culture) could be related to a changing in economy or/and in landscape.

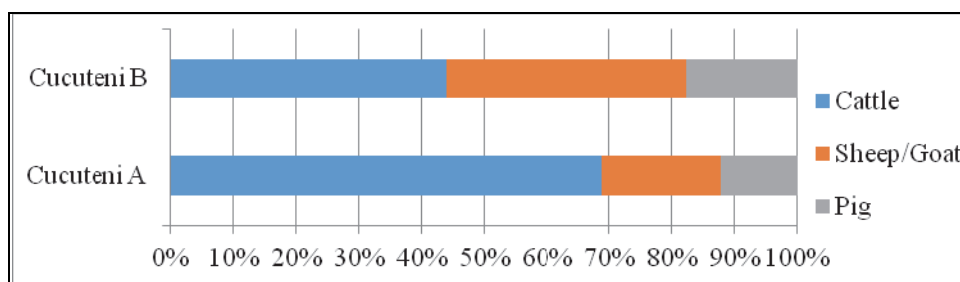


Figure 1. Frequencies of cattle, sheep/goat and pig remains (% NISP)

<sup>14</sup> HAIMOVICI 1987, 157–166.

Figure 1 indicates a change in the rapport cattle/sheep & goat to the end of Chalcolithic. In the Cucuteni B assemblage, the sheep & goat remains are more numerous indicating that this group contributed more to the subsistence economy. Probably, the expansion of open fields, with characteristic vegetation and dry climate, favoured sheep & goat husbandry and not that of cattle.

Wild mammals have a low proportion, decreasing in time from 13% in Cucuteni A level to 10% in Cucuteni B. They consist in 13 species in Cucuteni A, and 17 species in Cucuteni B (Table 1). As game species, red deer (*Cervus elaphus*) is dominant with 5%/4% remains. Wild boar (*Sus scrofa*) is on the second place as number of identified specimens (4%/3%). We have to mention that in many other Cucuteni A assemblages red deer is also the most frequent game species<sup>15</sup>. Considering the ecological characteristics, the forest species (*Cervus elaphus*, *Dama dama*, *Alces alces*, *Sus scrofa*, *Ursus arctos*, *Felis sylvestris*, *Sciurus vulgaris* and *Castor fiber*) are dominant in both the assemblages (Table 1).

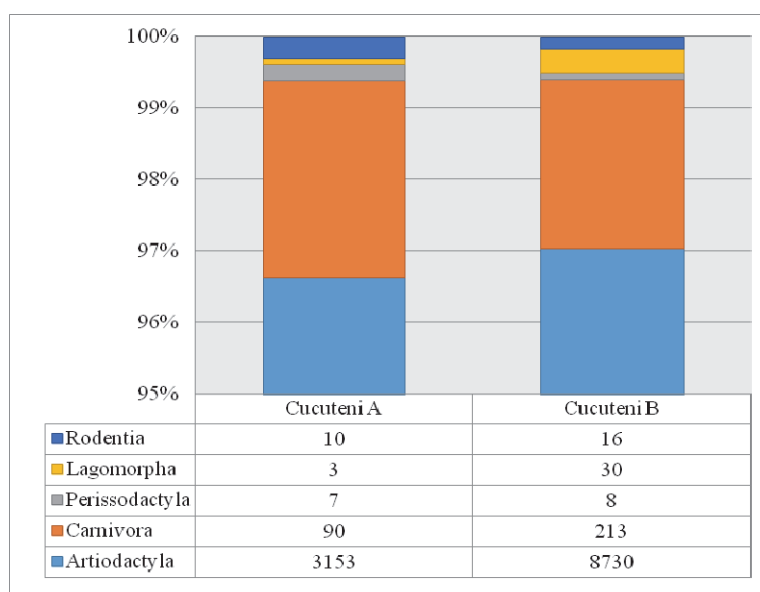


Figure 2. Frequencies of major taxonomic mammal groups (% NISP)

<sup>15</sup> HAIMOVICI 1987, 157–166.

A temporal taxonomic variability of the animal resources used in the Cucuteni settlement of Poduri–*Dealul Ghindaru* is shown in the Table 1. Similar proportions among the main mammal groups are evident in the three assemblages (Figure 2). Artiodactyls, the main group, served different economic (food, clothing, raw materials for tool manufacture) and ceremonial purposes. However, we have to remark a higher percentage of lagomorphs in the Cucuteni B assemblage that could be correlated with an expansion of open field. The horse, representing the perissodactyls, has a low frequency in the Cucuteni samples, being very probably a rarely hunted wild species. Many authors consider that the domesticated form was not yet widespread in Europe at Chalcolithic time, and it appeared later in Europe, in the Bronze Age<sup>16</sup>.

### **Animals in Rituals**

In the Cucuteni site of the Poduri–*Dealul Ghindaru* although the recovery of animal bones is rather limited, the animals seem to hold an important position in the religion of this ancient community. Different categories of animals, or animal parts, found in special archaeological contexts are identified, which allow an association with ritual practices to be delineated: burial of complete animals in settlements (e.g. skeletons of pigs discovered in the Cucuteni A level); parts of skeletons possibly used in divination or good fortune rituals (e.g. deposit of astragali in the Cucuteni A level).

#### *Burial of complete animals in settlements*

Evidences for intentional deposition of complete animals are rare in the Cucuteni area. Two pig (*Sus domesticus*) skeletons we discovered under the floor of a Cucuteni A<sub>2</sub> unburned house from the Poduri settlement<sup>17</sup>. The skeletons were deposited in two separate pits, and are interpreted by archaeologists as representing ritual depositions in foundation pits of the house. The animals were sacrificed at ages of approximately 10 months and 11–12 months respectively, at which they had not reached mature

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<sup>16</sup> BENECKE, VON DEN DREISCH 2003, 69–82.

<sup>17</sup> BĂLĂȘESCU 2009, 69–78.

weight. The individual of 11–12 months old was probably a female, as suggested by the finding of a pig foetus bone in the same pit<sup>18</sup>. The taphonomic study points to human interventions at the level of the rib cage — at least partial evisceration in the case of youngest individual and total evisceration for second one. Intentional human marks also indicate differences in the treatment of the two individuals, suggesting that oldest individual was skinned before deposition in the pit. It is worth mentioning that both animals, although probably cut into large pieces in order to fit the relatively small pits, were not fleshed prior to being deposited, as indicated by the absence of butchering marks<sup>19</sup>.

#### *Parts of skeletons*

**A.** In a ritualistic deposit, formed by a painted glass full of *Litospermum officinale* fruits and several other objects, there were also found two animal astragals. The pit, which contained this discovery, was researched in 2000 and was dated between 4450–4050 Cal B.C.<sup>20</sup>, being attributed to the Cucuteni A<sub>2</sub> phase. In the pit was found a medium-sized recipient, decorated with incisions and paintings. In this recipient there were three small chisels made of stone, two ceramic fragments, a small stone bead with a perforation start, two shells (one perforated), two astragals and several stones on a red ochre layer on the bottom of the recipient. The goblet had 160 g fruit of *Lithospermum officinale*. In the pit there were also several pieces of wooden coal<sup>21</sup>.

**B.** In the Cucuteni A<sub>1</sub> level, dated to 4662–4465 Cal B.C.<sup>22</sup>, a deposit of astragals was found in the 2005 campaign, directly underneath the clay platform of a house. It contained 21 astragals from cattle (*Bos taurus*), three from red deer (*Cervus elaphus*) and one from sheep/goat (*Ovis aries/Capra hircus*). The astragals were more or less altered, 13 of them have traces of polishing (blunting) on the anterior face. We mention obvious traces of

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<sup>18</sup> BĂLĂȘESCU 2009, 69–78.

<sup>19</sup> BĂLĂȘESCU 2009, 69–78.

<sup>20</sup> MONAH *et al.* 2003.

<sup>21</sup> MONAH, MONAH 2008.

<sup>22</sup> MANTU 1998.

red ochre on astragals, and the contact of certain pieces with copper artefacts may be suggested by the specific coloration (greenish) identified in the case of four astragals<sup>23</sup>.

Two hypotheses, use in divination and use in ritualistic games, could be valid for the Chalcolithic astragals. The astragals found in ritual deposits, together with another deposit having cultic character, seem to support their interpretation as objects laden with supernatural powers and permitting one to read the future and having a beneficent effect on their users and for the constructions in which were included<sup>24</sup>.

C. During the 2001 excavation, in a shallow pit beneath the floor of a burned dwelling a series of animal remains have been discovered: a fragment of an elk (*Alces alces*) antler and parts of a juvenile pig (*Sus domesticus*) skeleton — six skull fragments, right scapula, right tibia, a left coxal fragment, a phalanx, three cervical vertebrae and a thoracic vertebra<sup>25</sup>. These animal skeleton parts accompanied human remains (a foot skeleton in anatomical connection, a radius and a rib), as well as several small-sized ceramic fragments, the association being considerate as a ritual consecrating the inhabited space<sup>26</sup>.

### Conclusions

Relative large assemblages of animal remains was recovered and analysed from excavations in the Cucuteni site of Poduri–Dealul Ghindaru, being chronologically assigned to the cultural levels A and B.

The majority of animal remains originate from mammals, and only few pieces from birds, fish and molluscs. The Chalcolithic settlements of Poduri–Dealul Ghindaru have valorised a relative large faunal spectrum, especially in Cucuteni B (17 wild mammal species).

The subsistence economy was dominated in both phases by domestic mammals, especially cattle, a pattern similar to other Chalcolithic sites in the region. However, a change in the economy

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<sup>23</sup> BEJENARU *et al.* 2010.

<sup>24</sup> FOSTER 1984, 73–82; REESE 1989, 63–70; HILL 2011, 407–426; LEWIS 1988, 759–768.

<sup>25</sup> BĂLĂȘESCU 2009, 69–78.

<sup>26</sup> BEM *apud* BĂLĂȘESCU 2009, 74.

appears to the end of the Chalcolithic period (in Cucuteni B), and sheep and goat became more important, probably in correlation with an environmental drying. A Chalcolithic community with economic specialization in cattle husbandry has been estimated for the Cucuteni A phase. In this case, the frequency of pig is lower (10%) than in the next phase – Cucuteni B (15%).

Besides the role of animals as contributors to the local economy, they may also be assigned a symbolic function. In the Cucuteni settlement of Poduri–Dealul Ghindaru, animals (especially domestics – pig, cattle, sheep/goat – but also wilds – red deer, elk) were used in various ritual activities, and a number of deposits of faunal remains presented very different features from the skeletal refuse. These special deposits include complete animal burials and concentrations of skeleton parts. Various reasons, such as special discovery contexts, manipulation of animal body parts, and association with other special finds, seem to indicate that the described deposits have had a special function.

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**A CONTRIBUTION ON THE EARLY BRONZE AGE  
IN SOUTHERN ROMANIA AND SOME FRIENDLY NOTES**

**NECULAI BOLOHAN\***

**Keywords:** EBA, Southern Carpathians–Lower Danube area, pottery groups.

**Abstract.** *The Early Bronze Age in the area between the Eastern Carpathians and the Lower Danube constituted the topic of numerous attempts. A recent contribution concerning this theme was made by Radu Băjenaru, who presented me with the opportunity to have an updated reading of the manner in which archaeological monuments can be analysed. The critical scrutiny, rigorous analysis, direct access to sources, field experience, suggestions for classifying the impressive lot of artefacts analysed, are just some of the author's cards. In the following, the author of these lines has only the merit of bringing to a written conclusion a number of friendly observations.*

**Rezumat.** *Perioada timpurie a Epocii bronzului în spațiul dintre Carpații meridionali și Dunărea de Jos a constituit subiectul mai multor încercări. O contribuție recentă privind această temă a fost realizată de către Radu Băjenaru, care mi-a oferit posibilitatea unei lecturi actualizate a manierei în care pot fi analizate monumentele arheologice. Observația critică, analiza riguroasă, accesul direct la surse, experiența de teren, propunerile de clasificare pentru lotul impresionant de artefacte analizate sunt doar câteva dintre atuurile autorului. Autorul acestor rânduri are doar meritul de a desăvârși observațiile amicale în cele ce urmează.*

Expounding on a work published by a friend, a remarkable specialist in the field of prehistoric archaeology, is not a straightforward endeavour. I committed myself to this task having in mind a useful reading for those concerned with the beginnings of the Bronze Age, particularly with the transition towards the Middle Bronze Age in the area defined by the Southern Carpathians to the north and the Lower Danube to the south. In the Romanian language specialised literature there have already been such attempts to enlarge the database and, sometimes, to

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annotate on specific themes such as the periodization, chronology, cultural content, contacts, or even to provide some specific answers.<sup>1</sup> The governing tendency of these contributions was the scientific capitalisation of a database fleshed out from the valorisation of the “diggings” found in museum deposits<sup>2</sup>, from a new reading of the already-published data, and from the results of the archaeological investigations overseen by the authors themselves.<sup>3</sup> The next step consisted in the various types of taxonomies, as well as the referencing of these discoveries to a number of other contemporary finds, for a chronological approximation as efficient as possible. A good portion of these efforts was represented by the investigation of the bibliographic sources in which, however, a standard for publishing such discoveries was often not followed.<sup>4</sup>

During the last years, in the conditions of novel historiographic options, a need was felt for a closer proximity to the archaeological source, to the discovery context, to the story before and after the site’s uselife. A readdressing of a problematics marked by the too numerous levels of interpretation, which rather evinced the ego of the archaeologist, was and is necessary.

Radu Băjenaru propounds such a reading, part of these new efforts to decrypt the archaeological material. This came in the form of his PhD thesis entitled *Sfârșitul bronzului timpuriu în regiunea dintre Carpați și Dunăre / The end of the Early Bronze Age in the region between the Carpathians and the Danube*, published in 2014 under the aegis of the “Vasile Pârvan” Institute of Archaeology from Bucharest by the Argonaut publishing house in Cluj-Napoca.

In terms of the work’s structure, the author followed a classical approach, which is comfortable to many of those less accommodated to the

<sup>1</sup> CHICIDEANU 1977; 1982; PETRE GOVORA 1970, 1976, 1986, 1988, 1995; SCHUSTER 1989, 1992, 1996, 1997, 2001; SCHUSTER, POPA 2000, VULPE 1979, 1982, 1991, 1996, 1997, 2001. And the list is still open.

<sup>2</sup> See in this sense the recovery and valorisation of the data from the research in Branet 1972–1976, 1979, 1981, Odaia Turcului 1979–1988.

<sup>3</sup> Odaia Turcului 1995–1996.

<sup>4</sup> For conformity, see the subchapter *Stratigrafia siturilor-cheie / The stratigraphy of the key sites*, BĂJENARU 2014, 146–157.

postmodernist discourse. This type of approach ensures a known continuity of the text, easy to follow by those prepared for such an enterprise. The references used reveal the diversity of preoccupations, as well as an easiness to navigate through the bibliographical constraints. The access of foreign specialists to the inner aspects of Early Bronze Age from the Lower Danube area was facilitated by an ample summary, as well as by a list of figures properly translated into English. The text is completed by statistical representations thoroughly commented, by well-made illustrations, as well as by cartographic representations specific to such works. Lastly, I compliment the concise and elastic style of the text, a known trait of the author.

The foreword by Professor Alexandru Vulpe, who is at the same time the Former supervisor of Băjenaru's PhD thesis, exhorts on the difficulties to tackle the period in question, in-between the diffusionist or migrationist ideas and the newer explanation attempts, which try to bring under the same roof several concurrent sciences. The partial answer is also found in the work at hand, which breaks from the older interpretation rigors, and which attempts to formulate some predictive judgments much closer to what is researched.

Without drawing attention to the details concerning the brief presentation of the geographic units and subunits, I believe that a more efficient valorisation of these data is necessary, which would provide more suggestions on the importance of the geographical factor in configuring the activities of some communities. I'm referring here to the introduction and employment of parameters such as altitude, visibility, slope exposure, proximity to raw-materials and water sources, etc., which would have allowed producing models of internal structuring of the communities or their hierarchisation.

There are a number of representations that remain to be explained. The three maps containing the discoveries discussed (Maps 1–3) show their concentration towards higher landform units, more distant from the Danube, case in which the latter ceases to be the main movement route along the East–West axis. In the same context it also remains to be explained the very limited number of discoveries on the left bank of the

Jiu River<sup>5</sup>. I believe this distribution of finds represents, besides an expected feature of local archaeological research, a preference for communicating along a West–East axis, towards the northern half of the study area. A natural propensity to avoid areas difficult to access or visit, such as the Danube Valley or the great waterways converging towards the Danube. Those are areas with rather recent surface sedimentary formations, which must have hindered their occupation by the Early Bronze Age communities. This will gradually change towards the Middle Bronze Age (Tei, Verbicioara, Gârla Mare)<sup>6</sup>, or will become a favoured choice of the Late Bronze Age communities (Coslogeni, Zimnicea-Plovdiv, Gârla Mare).

A final remark concerns the character, quantity and distribution of finds from the Early Bronze Age from the Bărăgan Plain. The first observation in this sense relates to the fact that a good part of the discoveries discussed come from the Romanian Plain. For example, Glina discoveries know three areas of distribution<sup>7</sup>, of which the most consistent one is located in the south-eastern part of the area under discussion, occupying a type of paleo-environment that is typical for plain areas. The second area, found west of the Argeş River, occupies a different paleo-environment. Finally, the third area is located in the Carpathian piedmont. Most certainly, a future reconsideration of the distribution of discoveries, combined with observations on the various pedo-phyto-climatic zonings, will augment the conclusions concerning the behaviours of prehistoric communities.<sup>8</sup> Returning to the promised musing, one is intrigued by the scarcity and the character of the discoveries from the Bărăgan Plain (only around 40 funerary and four metallic discoveries). This area was, most definitely, not just an immense funerary area in which multiple funerary practices from north of the Black Sea and the Lower Danube basin

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<sup>5</sup> It remains to be argued the author's statement on "cu o mobilitate destul de mare în anumite microzone, de regulă de-a lungul unei ape / ... human communities, not very numerous, with a rather high mobility in certain areas, generally along a watercourse". See BĂJENARU 2014, 145.

<sup>6</sup> Observation also made by the author; Băjenaru 2014, 139.

<sup>7</sup> See Map 4 in the volume.

<sup>8</sup> A perspective and discourse also found necessary in this volume; BĂJENARU 2014, 15.

converged. Analogies with some of the discoveries from south of the Danube (Batin, Ezerovo, Dubene-Sarovka IIB)<sup>9</sup> could justify the character of movement couloir of this area.

The review of the problems raised by defining the terminology shows the persistence of several older criteria for understanding humanity's early historical periods, technology *versus* culture. Interesting is Radu Băjenaru's proposal, namely the use of seven criteria (type of habitat, settlement structure, funerary practices, economy, religion, metallurgy, ceramics) for any attempt to understand the character of the Early Bronze Age. Evidently, I acquiesce to this proposition, but some of the criteria still wait the completion of a database and the refining of the method. I'm referring here to the certainty of the statement on the pastoral character of the Early Bronze Age communities, given the fact that at the moment the work was elaborated, no monographic study on the paleo-faunal<sup>10</sup>, paleo-botanical or palynologic remains was available. There also remains the question: what determined this sudden switch to this subsistence model? The answer is found in gathering all the data on the paleo-climate and paleo-environment from the study area.<sup>11</sup>

The absolute chronology of the period remains a topic requiring further data, the carrying out of extensive excavations and their linking to contemporary discoveries from neighbouring areas. Most certainly, the onset of the Bronze Age in 3500 BC, according to the "working hypothesis", still raises some eyebrows among local archaeologists. The end of the Early Bronze Age period seems to be validated by some absolute dates obtained for two sites ascribed to the beginning of the Middle Bronze Age.<sup>12</sup>

Necessary and well-argued is also the brief explanation of the history of the term 'cultură arheologică'/'archaeological culture', of the current problems raised by its use. In the same vein, an explanation of the

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<sup>9</sup> BĂJENARU 2014, 231 and footnotes 52–55.

<sup>10</sup> Save for a number of osteological lots (HAIMOVICI 1997) or attempts to synthesize the data; COMȘA 1989.

<sup>11</sup> CÂRCIUMARU 1996; TOMESCU 1998, 2000, 2005.

<sup>12</sup> BOLOHAN 2010; POPESCU 2013.

term ‘grupă ceramică’/‘ceramic group’ would have also been welcomed, and not left to the discretion of the individual reader.<sup>13</sup>

The database, the core of this contribution, consists of 779 points with “884 types of discoveries that can be attributed to the Early Bronze Age and the onset of the Middle Bronze Age”. Each point contains enough details to allow supporting the analysis thereupon presented.

The state of research betrays asymmetries in interests, preoccupations, capitalisation, but also in the content of the discoveries. It befell on the author the task to analyse a rather precarious world, tributary to short-term survival<sup>14</sup> in an extremely dynamic subsistence system. The analysis of the data published, the classification criteria proposed (landform, stratigraphy, fortification systems, types of construction) by Radu Băjenaru shows the necessity to rethink a good interval of the history of local archaeology.<sup>15</sup> The discussion on the quantity of habitation systems from the Glina area (74% of the pit-houses) and their appraisal by reference to discoveries of the types Verbicioara, Tei, Odaia Turcului, and Monteoru<sup>16</sup>, must be put into connection to the type of habitat occupied by each of the aforementioned communities. Last but not least, the observations on the space in-between the habitation structures, the various types of furnishings, advance our understanding of the frequency of use and the purpose of the fitted space.

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<sup>13</sup> See for example the use of this term for defining the ceramic groups, but also the funerary ones; BĂJENARU 2014, 214, 233.

<sup>14</sup> See in this sense the presence of just six fortified settlements and the all-too-numerous settlements or groups of dwellings; BĂJENARU 2014, 137-146.

<sup>15</sup> See the absence of data on the landforms for 232 settlements, that is 41% of the total information on the habitation structures; BĂJENARU 2014, 138 and graph 23. Some of the problems identified by the author can be overcome by a more thorough readdressing of this chapter and by employing stricter criteria for analysing the relationship between the built environment and the environment (elevations, types of soils, sources of raw materials, typology of watercourses etc.). The same situation was observed after the data concerning the stratigraphic details were cumulated, from which it follows that for 69% of the discoveries there is no such information available; BĂJENARU 2014, graph 25 and Table 2.

<sup>16</sup> BĂJENARU 2014, 141, graph 27

Another core contribution of this work is the recovery and conjoined capitalisation of nine sites that are from the archaeological point of view of key relevance<sup>17</sup>; these key sites also define the ceramic groups specific to the period under discussion. In the same context falls the most important part of the work, which concerns the analysis of the pottery, considered the guiding fossil of this achievement. Radu Băjenaru successfully merged in an idiosyncratic manner the experience of the archaeologist with the minute details of a fine observer. The result is a strongly branched ceramic taxonomy corresponding to the histories of the vessels discussed. A multiple history, which, as the author himself observes, was subjected to multiple post-depositional selections.<sup>18</sup>

The classification proposed includes as the analysis basis the numerical ratio between component parts<sup>19</sup>, from which four main categories resulted<sup>20</sup>. The classification model proposed eases the reading and could represent a step forward for attenuating the large number of cultural representations specific to this period. It can even be a useful step towards the identification of “ceramic packages” with specific uses in day-to-day or ceremonial activities. This undertaking will be completed when structural analyses will be performed on ceramic lots with well-established provenance. This will facilitate the identification of the functionality of many of the vessels analysed. The classification of the wares specific to each ceramic group was completed by the taxonomy of

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<sup>17</sup> For the sites from Braneţ and Odaia Turcului, the archives were also investigated or surface research or archaeological excavations were carried out by the author himself (BĂJENARU 2014, 146, 150). The only site to which a monograph work was dedicated is, as it is well known, the one from Lelicieni; ROMAN, DODD-OPRIŢESCU, PÁL 1992.

<sup>18</sup> A just observation that can guide the understanding of the older periods of human history. See in this sense the *Foreword* authored by Alexandru Vulpe, and also BĂJENARU 2014, 159. The multiplication of questions concerning the history of pottery in a site or in a series of contemporary sites will also include the type of analysis and the interpretation of those situations in which there existed different ceramic fashions or other social representations!?

<sup>19</sup> The diameters and the height are not part of the “diferitele părţi componente / different component parts” of the ceramic types (BĂJENARU 2014 160).

<sup>20</sup> A similar neutral type of classification should be applied to the analysis of vessel morphology, so as to avoid using terms specific rather to human anatomy.

ornamental motifs elaborated on the basis of four main techniques identified (impressed, incised, corded, and relief decoration). Thus, the preference for using ornamental techniques for different ceramic categories was observed. In this case, the ceramic categories were established on the basis of regular macroscopic observations.<sup>21</sup> The conclusions drawn for each ceramic group, the comparative analysis of the stratigraphic successions, as well as the author's main opinions, allowed setting forth a relative chronological frame comprising three stages: I. discoveries of the Glina type, corresponding to the second stage of the Middle Bronze Age from central Muntenia and Oltenia; II. discoveries of the Odaia-Turcului type discoveries, corresponding to the third stage of the Middle Bronze Age in Muntenia and Oltenia; III. discoveries of the type Tei-Bungetu/Cățelu, Monteoru Ic4,3–Ic3, which mark the transition to the Middle Bronze Age.<sup>22</sup>

The analysis of the funerary rite and ritual allowed the identification of multiple forms of expression of the Yamnaya burials, some variants of the Katakombnaja, Scheneckenberg burials divided into geographically-distinct groups and with analogies in other various cultural areas. I believe the issue of movements of populations or ideas in the north-western and western part of the Black Sea must be studied in the wider context of the area, which presents sufficient similarities with, for instance, eastern Muntenia and the valley of the Lower Danube. A consistent group of tumulus burials with various types of funerary works, which has analogies in the Yamnaya world, is found in this area.<sup>23</sup>

Metallurgy represented at the moment the work was elaborated a genuine manifesto for the author's future preoccupations. Despite being located between two prominent metallurgical centres, the study area seems to have acted as an area of contact or even of transition, on account

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<sup>21</sup> The use of this classification should have demanded a detailing of the technical characteristics used.

<sup>22</sup> The issue of framing the discoveries from eastern and south-eastern Transylvania mentioned in the work remains open.

<sup>23</sup> See BĂJENARU 2014, Map 10.

of which artefacts of different histories (Baniabic or Corbasca axes, for example) appear in the same context.<sup>24</sup>

These few personal and friendly notes are meant to draw attention to a well-put-together text. Such a type of analysis, mirroring a rice-grain sculpture approach, has the merit of closing a stage and opening a new level of approach. Radu Băjenaru remained faithful to his manner of approach resting on the capitalisation of the typological and comparative models applied to an impressive database. Even if this database is not spectacular in terms of its content, aspect or the circulation of its features, the author managed to envision the world that fascinated him.

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<sup>24</sup> This situation can also be sustained by the very limited instances of metallurgical paraphernalia among the finds; BĂJENARU 2014, 235.

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**THE 'DEPOSITION' OF A DISC-BUTTED BRONZE AXE DISCOVERED  
IN THE MOLDAVIAN PLATEAU, ROMANIA**

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**Keywords:** disc-butted axe, symbols of power, chasing technique, votive deposition, Middle Bronze Age.

**Abstract.** *The authors' intention is to bring to the notice of specialists a decorated disc-butted axe recently discovered east of the Carpathians, in the Moldavian Plateau. This type of axe (A1, according to the established typologies), with few known items, is a typical discovery (mainly as a component of hoards or as an individual find) for the Middle Bronze Age from the area west of the Carpathians — the Wietenberg, Sucei de Sus and Otomani-Füzesabony cultures. The microscopic investigations on the decoration techniques prove the ability of the metallurgical craftsmen to handle complex alloys, as well as a refined artistic sense, qualities used to achieve a certain impressive appearance. The corroboration of all available data on this artefact offers new possibilities for revealing the social and symbolic function of the disc-butted axes of the Bronze Age.*

**Rezumat.** *Intenția autorilor este de a aduce la cunoștința specialiștilor un topor cu disc decorat, descoperit recent la est de munții Carpați, în Podișul Moldovei. Acest tip de topor (A1, după tipologiile uzuale), cu puține exemplare cunoscute, este caracteristic epocii mijlocii a bronzului de la vest de Carpați — culturile Wietenberg, Sucei de Sus și Otomani-Füzesabony. Investigațiile microscopice asupra modului de realizarea a decorului dovedesc abilitatea meșterilor metalurghi de a manipula aliaje complexe, precum și un simț artistic rafinat, calități folosite pentru a obține un anumit aspect exterior, impresionant. Coroborarea tuturor datelor disponibile despre acest artefact oferă*

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*posibilități noi de relevare a funcției sociale și simbolice a topoarelor cu disc din perioada epocii bronzului.*

## **I. Introduction**

Central to this paper is bringing into notice a recently discovered bronze artefact, which belongs to the type known in the archaeological literature as disc-butted axes (*Nackenscheibenäxt*). Besides the usual descriptive, typological and chronological approaches, the artefact was investigated through elemental analysis of the alloys and by microscopic analysis. The extrapolation of this data could prove helpful in asserting the possible social/symbolic value and function of such artefacts. Also, the archaeological acceptance of “deposition” might prove appropriate for this particular find since, as the discovery circumstances suggest, the axe was probably the subject of a votive offering.

The study of the disc-butted axes from the Bronze and Early Iron Age in the central and south-eastern part of Europe was mainly tributary to positivist thinking and cultural-typological descriptivism. Most of the archaeological writings concerning these artefacts are typology orientated studies, less attention being paid to the functional matter and even less to the technological problems. In the first half of the 20th century, Ion Nestor established a well-elaborated typology of disc-butted axes<sup>6</sup>, and as new items were discovered, the subsequent papers focused mainly in adjusting Nestor’s typology in order to get more accurate criteria (either morphological, chronological and/or decorative) for ascertaining sub-types<sup>7</sup>. Also, the disc-butted axes were often, but only circumstantially taken into consideration in relation with one of the most discussed aspects of the Bronze Age — the bronze hoards<sup>8</sup>. In the above mentioned studies, problems concerning technology and functionality are rarely mentioned, as adjacent issues to the typological and chronological debates (only Kroeger-

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<sup>6</sup> NESTOR 1938.

<sup>7</sup> see MOZSOLICS 1967; HÄNSEL 1968; VULPE 1970; KROEGER-MICHEL 1983; BOROFFKA 1999, 59–69; DAVID 2002.

<sup>8</sup> MOZSOLICS 1967; PETRESCU-DÎMBOVIȚA 1977; SOROCEANU 2012.

Michel<sup>9</sup> seems more concerned about technology). The discussions about the raw materials rely mainly on the SAM investigations<sup>10</sup>.

## II. The artefact

The axe was discovered in the early '50s (during agricultural works), by a peasant, near the village of Iorcani (Iași County, Romania). Since then, the discoverer of the axe died and passed it to his family. The artefact was donated in the early 2012 (as an ethnographic item) to the Tătăruși Village Museum, curated by Despina and Dumitru Gafița (local teachers). In September 2012, during a visit in the village, the first three authors of the present study identified the axe among other archaeological and ethnographic materials found in the museum, subsequently requesting and receiving the permission to analyse and publish the artefact.

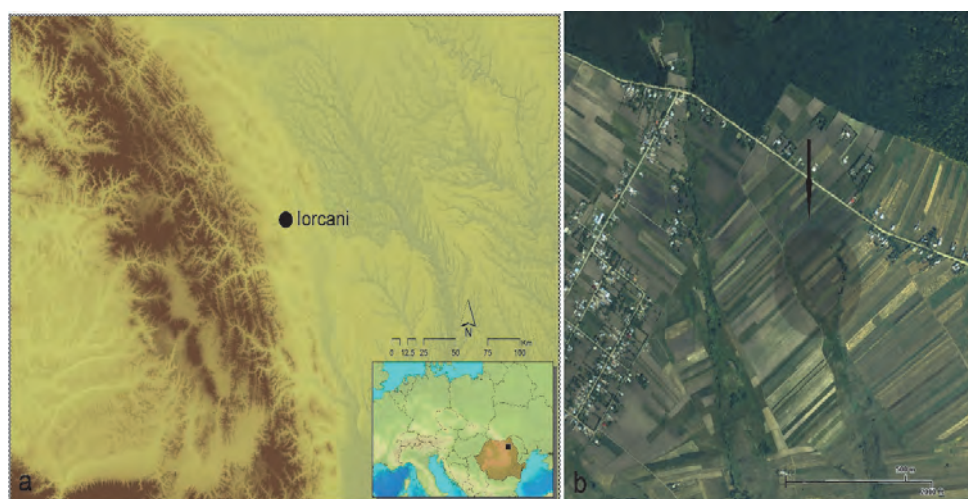


Figure 1. a. Map showing the geographical position of Iorcani village; b. Orthophotomap with the indication of the discovery place.

In terms of local administration, Iorcani village belongs to the Tătăruși commune, Iași County. Geographically, the village is situated in the

<sup>9</sup> KROEGER-MICHEL 1983, 21–27.

<sup>10</sup> JUNGHANS *et alii* 1968; 1974.

Moldavian Plateau, the Șomuz-Tătăruși sub-unit (fig. 1/a). According to the family of the discoverer, the axe was found at the south-western foot of the Iorcani Hill, in the interfluvium created by the two springs of the “Pârâul lui Marian” brook, in the place known by the locals as “Tarlaua lui Dogaru” (fig. 1/b).



Figure 2. The disc-budded axe from Iorcani (photos by Silviu Gania)

On account of its elegant shape, decoration and sizes, this artefact is an outstanding specimen of its type (for its dimensions, see figs. 2–3; it has a weight of 610 g). It was probably made by casting in a bivalve or three-part mould; the finishing is very good, being quite difficult to determine if it was made of a single piece or if the disc was cast separately and then welded to the body. Before decorating the item, all casting traces were removed through polishing, with the burrs being barely noticeable. As an interesting detail of the casting process, on the walls of the shaft hole two small concavities can be observed, diametrically placed on the

long axis of the weapon (fig. 4); these were probably caused by a plug placed inside the mould, in order to reserve the hole<sup>11</sup>. Such features were also observed on the axe from Someşeni<sup>12</sup>.

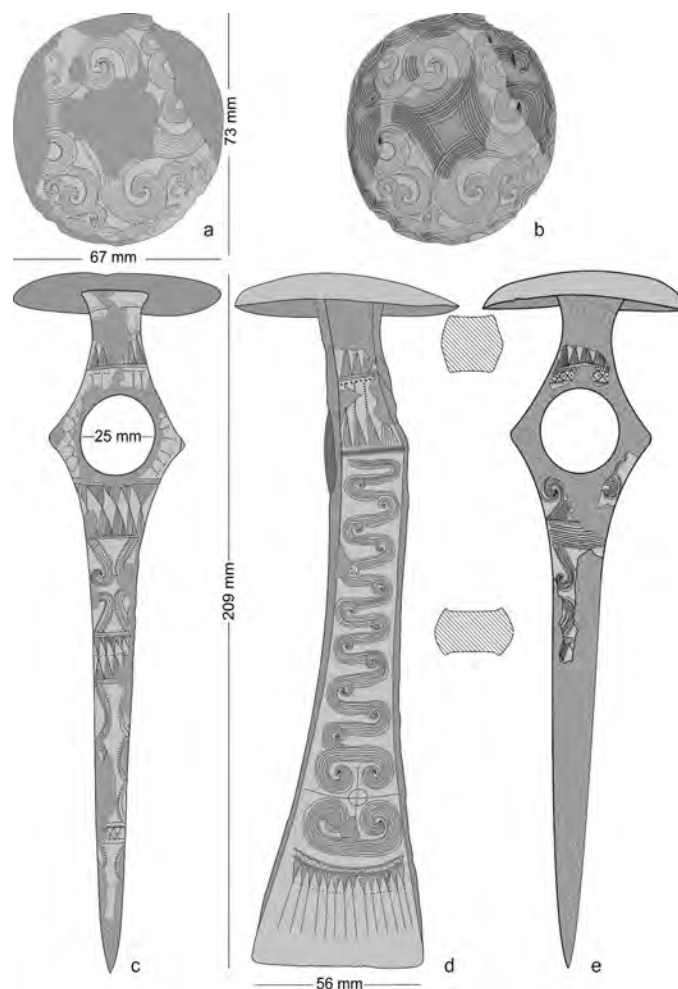


Figure 3. The disc-butted axe from Iorcani: a. the disc; b. the reconstruction of the decoration on the disc; c. the upper narrow face; d. the wide face; e. the lower narrow face (drawing by F.-A. Tencariu, D.-M. Vornicu)

<sup>11</sup> KROEGER-MICHEL 1983, 21

<sup>12</sup> VULPE 1970, 67.



Figure 4. Details of the disc-butted axe. Small concavities inside the shaft hole

The preservation of the axe is relatively good; however, the disc, the blade and the interior of the shaft hole bear traces of recent use—the discoverer and his successors used it in various household activities—that left scratches and produced some peeling of the outer surface. Unfortunately, these recent activities render the artefact unsuitable for use-wear analysis.

The axe is decorated almost entirely, except the back of the disc and the shaft hole. The ornamentation was carefully drawn and is composed of motifs also present on other axes of the same type, but not identical to any other one. This fact, along with the observation that, from our knowledge, there are no two axes equally sized, reinforces the idea that these were not mass produced artefacts<sup>13</sup>, but rather commodities of great value, custom made for a relatively small group of people. The ornamentation of the axe from Iorcani is one of the most elaborate sets on the axes of this type (figs. 2; 3; 6/a–b).

The disc of the axe is mushroom-shaped, buttonless<sup>14</sup> and slowly asymmetrical. Unfortunately, the decoration of the disk was destroyed on

<sup>13</sup> IGNAT 1981, 38.

<sup>14</sup> The centre of the disc is quite damaged by the recent activities so one may say there is a possibility that a button existed in that place and was recently destroyed. However, the authors' opinion, based on the disc aspect and decoration, alongside comparison with other known pieces, is that the axe from Iorcani did not have a button.

about 45% of its surface. However, it is obvious that the main decorative motif is the four-arms spiral vortex (*tetraskelion*), twisted counter-clockwise (figs. 2/a; 3/a–b). From the apex of each of the four arms sprung secondary coils, clockwise oriented; from each of the latter, other two, smaller tertiary coils grow. For designing the spirals, groups of three to eight lines were traced; each group of lines is bordered by dotted lines composed of fine stitches. The decoration from the edge of the disc is only partially preserved, composed of linked groups of concentric arcs (four continue lines bordered by dotted lines).

The two wide faces of the axe are identically decorated (figs. 2/b–c; 3/d). The decoration motifs are arranged in registers composed of hachured triangles and chained spiral hooks, horizontally disposed (the spirals are made of groups of four or five continue lines bordered by dotted lines). The last hook sits on a double spiral volute (the so-called C-shaped decoration) in front of which another one was placed. Two dashed lines were drawn between the two confronting volutes, placed crosswise; around the intersection of the two lines a dotted circle was drawn. The decoration motifs of the lower part consists of continuous lines, chained dotted arcs and hachured triangles pointing towards the edge; from the top of the triangles dotted lines start.

The layer supporting the decoration of the narrow faces is quite exfoliated (especially on the lower one — figs. 2/e; 3/e), making the reconstruction of the original design difficult. On the upper narrow face (figs. 2/d; 3/c), around the shaft hole, dotted tangent semicircles are still visible. On both of the narrow faces, the part immediately under the disc is decorated with hachured triangles. The registers under the shaft hole are composed of two alternating motifs: confronting hachured triangles and vertically-disposed spiral hooks; interlinked X motifs are also part of the decoration.

The elemental analysis of the alloys used for making the axe was performed in the Interdisciplinary Laboratory for Scientific Investigations and Heritage Conservation of the Arheoinvest Platform from the "Alexandru Ioan Cuza" University of Iași. The results<sup>15</sup> for the core alloy

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<sup>15</sup> For a more detailed analysis and the interpretation of the results see SANDU *et alii* 2014, 918–927.

showed no notable differences compared to the results of the elemental analysis for the core of other A type disc-buttet axes (table 1).

Discovery place	Elemental composition (%)										
	Sn	Pb	As	Sb	Ag	Ni	Bi	Au	Zn	Co	Fe
Hajdúsámson	7.2	0	0.63	0.04	0.03	0.42	0	0	0	0	+
Hajdúsámson	5.9	0	0.8	0.11	0.05	0.5	0	0	0	0	++
Păuliș	4.9	0	0.47	0.07	0.01	0.21	0	0	0	0	+
Sebeș	4.2	0	0.18	Trace	0.02	0.29	0	0	0	0	Trace
Criț	2.9	0	1.4	Trace	0.03	0.47	0	0	0	0	Trace
Valea Chioarului	6	0	1	0.09	0.01	0.54	0	0	0	0	+
Apa	5.3	0	0.9	0.5	0.03	0.48	0	0	0	0	+
Kispalád	8.7	Trace	0.79	0.11	0.03	0.31	0	0	0	0	+
Szeghalom	4.2	Trace	1.75	0.34	0.02	1.3	0	0	0	0.06	++
Szeghalom	10	0	0.67	Trace	0.01	0.55	0	0	0	0	+
Szeghalom	7.1	0	Trace	0	Trace	0.11	0	0	0	0	+
Bogata	11.9	?	0.5	?	?	?	?	?	?	?	0.4
IORCANI (core alloy)	5.02	0	1.053	0.938	0	0.863	0	0	0	0	0.29

Table 1. Comparative view of the elemental composition of the core alloys for the A type disc-buttet axes (after JUNGHANS *et alii* 1968; VULPE, LAZĂR 2003, 43–52; SANDU *et alii* 2014 918–927)

### III. Discussion

Morphologically, the axe from Iorcani presents itself as a classic disc-butted axe that can be appointed as an A type axe or Hajdúsámson-Apa type (the typology originally proposed by I. Nestor and renewed by Al. Vulpe was preferred, since it seems more accurate than others). The lack of a button on the disc affiliates the item in the A1 subtype (Hajdúsámson variant)<sup>16</sup>.

The main decorative motive from the disc—the *tetraskelion*—is quite common on both A1 – Hajdúsámson and A2 – Apa subtypes<sup>17</sup>. The elements that constitute the decoration of the faces also have analogies on other axes, like those from Hajdúsámson, Budapest<sup>18</sup>, Valea Chioarului<sup>19</sup> and a fragment from Hungary deposited at the Hamburger Museum für Archäologie<sup>20</sup>. As a further remark, the counter-clockwise orientation of the *tetraskelion* on the disk is typical (but not exclusively) of the A1 subtype while the clockwise orientation is typical for subtype A2<sup>21</sup>.

The disc-butted axes are specific to the Middle Bronze Age in the area from the west of the Carpathian Mountains, nowadays Western Romania, Hungary and Slovakia (fig. 5). Such items were discovered within hoards or as single-find depositions in the area of Otomani-Füzesabony (hoards of Apa and Hajdúsámson), Suciú (hoards of Săpânța and Valea Chioarului) and Wietenberg cultures (Bogata, Sebeș, Someșeni, Criș). Not being our intention to go deep in the chronological problems of the disc-butted axes<sup>22</sup>, we resume to specifying that the Iorcani piece, along with other items of A1 subtype is both typological and chronological the starting point of the evolution of this category of

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<sup>16</sup> NESTOR 1938, 183; VULPE 1970, 15.

<sup>17</sup> See the discs of the axes from Hajdúsámson in MOZSOLICS 1967, taf. 9/1b, Szeghalom in MOZSOLICS 1967, taf. 13/3d, Cajvana in IGNAT 1981, 133–146 and Someșeni in VULPE 1970 and DUMITRESCU 1974, 367, taf. 408.

<sup>18</sup> MOZSOLICS 1967, taf. 9/1a.

<sup>19</sup> VULPE 1970, taf. 300; SOROCEANU 2012, taf. 13/1a.

<sup>20</sup> BOROFFKA 1999, 60, abb. 1.

<sup>21</sup> VULPE, LAZĂR 2003, 46.

<sup>22</sup> For comprehensive discussions on the problem see NESTOR 1938, MOZSOLICS 1967, HÄNSEL 1968; VULPE 1970; BOROFFKA 1999; VULPE, LAZĂR 2003.

artefacts. The A type of the disc-buttressed axes can be dated, according to the established chronologies, in the second stage of the Middle Bronze Age<sup>23</sup> respectively the FDIII and MDI stages (Reinecke A2 and A2–B1)<sup>24</sup>.

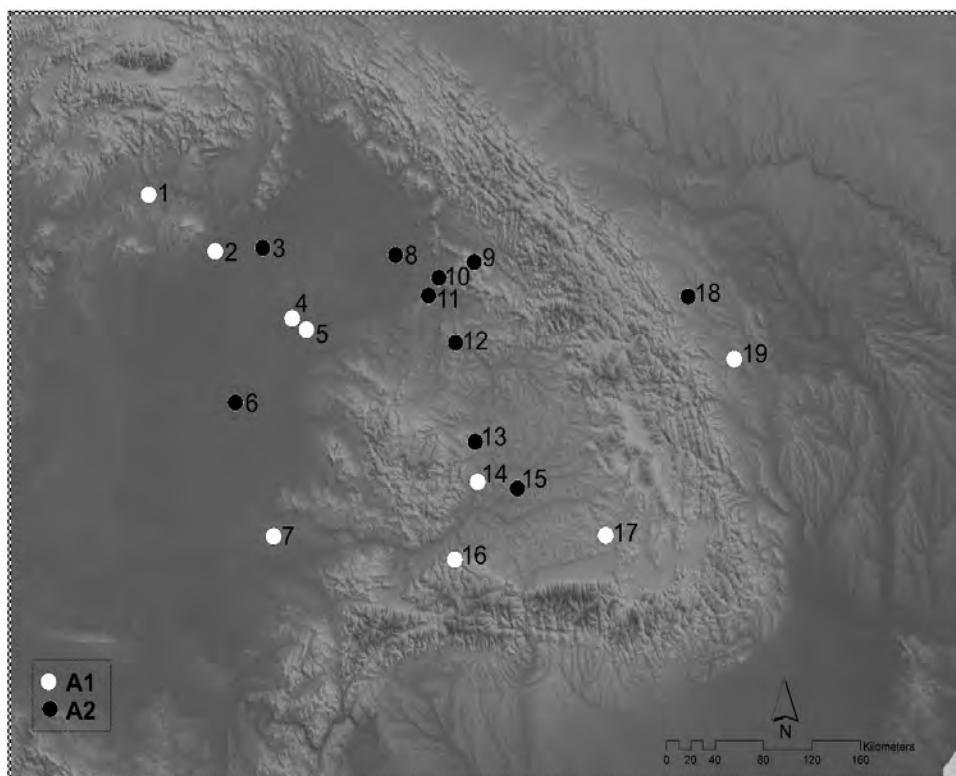


Figure 5. Map showing the geographical distribution of the A type disc-buttressed axes, discovered as single find or part of hoards: 1. Rimavské Janovce; 2. Sajólad; 3. Tiszaladány; 4. Hajdúsámson; 5. Vámpércs; 6. Szeghalom; 7. Păuliș; 8. Kispalád; 9. Săpânța; 10. Remetea Oașului; 11. Apa; 12. Valea Chioarului (Gaura); 13. Someșeni; 14. Plăiești; 15. Bogata; 16. Sebeș; 17. Criș; 18. Cajvana; 19. Iorcani.

As one can see (fig. 5), the axes of Hajdúsámson – Apa (A) type are not very common artefacts. A simple count (including all of them — decorated or not decorated, discovered as part of hoards, individual

<sup>23</sup> VULPE 1970, 69.

<sup>24</sup> HÄNSEL 1968, 61–62; BOROFFKA 1999, 66–67.

finding or of unknown provenience, and even the ones that disappeared over time) indicates a number of 29 axes discovered in different locations west of the Carpathians. Aside from them, two exceptions exist: the axes from Iorcani and Cajvana, both discovered east of the Carpathian Mountains, in the Suceava Plateau (the two localities are almost 50 km apart). The artefact from Cajvana is considered an import from the Wietenberg culture that came eastwards, in the Costișa-Komarov area, through the passes of the Carpathian Mountains<sup>25</sup>. It can be assumed, with little chance of error, only that the axe from Iorcani reached the east of the Carpathians via the same paths. What cannot be known for sure is when the crossing occurred and whether the artefact was the subject of an exchange between communities or the original owner, who travelled over the mountains and chose, or was forced, for unknown reasons, to separate from his possession at Iorcani.

So, if determining the period of the manufacture of this item is accurate (Middle Bronze Age), one cannot say the same about explaining its presence east of the Carpathians, and the precise timing and motivation of the deposition. It is assumed that the axe, an exceptional piece (either weapon used in the battle or parade, object of prestige — the hallmark of social position, or all at the same time), has been in use for a long time, perhaps for several generations<sup>26</sup>. In this regard, the area where it was supposedly discovered can bring some clues. Although the discoverer died before the authors identified the axe in the local museum, there is no reason to doubt about the area indicated by his relatives as the place of discovery.

As mentioned before, the artefact was found during agricultural works, in the area delimited by the two springs of the "Pârâul lui Marian" brook, in the place known by the locals as "Tarlaua lui Dogaru" (fig. 1/b). A thorough research of the area, in the late autumn of 2012, after the land was ploughed, led to the discovery of a large number of lithic tools and pottery, mainly undecorated. The flint tools are attributable to the Chalcolithic period, but the majority of the shards are impossible to be

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<sup>25</sup> IGNAT 1981, 133–146; IGNAT 2000, 42–44.

<sup>26</sup> VULPE, LAZĂR 2003, 47.

dated; some might belong to the Noua culture (Late Bronze Age) while one could be dated to the Early Hallstatt. Therefore, it is very difficult to try an association of the axe with the traces of habitation in the area. In fact, none of the A type disc-butted axes was ever discovered inside settlements. Regardless of the archaeological materials, the geographical attributes of the area can be an important clue in explaining the presence of this artefact. It is possible that the small interfluve at the foot of a wooded hill, or even one of the two springs bed, drained today (the exact place of discovery is not known) could have seem an appropriate place for the offering of an object so valuable — if we accept the votive character of such actions. We do not have information about other metal objects found in the same place, so for now, one cannot talk about a possible hoard but probably of a single find deposition (*einzelfunde*). Moreover, the selective deposition of some bronze objects, in general, and weapons in particular (as single finds), in or near watery places (rivers, springs, streams, wells, swamps, and bogs) was a common practice during the Bronze Age<sup>27</sup>.

Some considerations on the **decoration technique** on this artefact can be added. Seen at a stereoscopic microscope the surface of the axe has traces of polishing: rougher in the areas less visible (as on the back of the disk — fig. 6/c) and very smooth, sometimes imperceptible on its body (fig. 6 b, d). But exactly how the decoration was realized, might prove to be a question much difficult than it appears. Generally, different scholars mention engraving as the implicit technique, but more intimate studies on the problem are lacking. As an exception, in the seventies, P. R. Lowery and R. D. A. Savage analysed the decoration technique on the disc-butted axe of A type from Someșeni<sup>28</sup>. Through meticulous observation and experiment, they concluded that the decoration on the axe from Someșeni was made through chasing (technique that involves pushing the material inside by punching), not engraving (which involves removing material to create the decoration)<sup>29</sup>. Their study remained quite unknown since none

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<sup>27</sup> SOROCEANU 1995, 33–34, abb. 3 e; SOROCEANU 2012a, 245; FONTIJN 2002, 110; FONTIJN 2005, 150; HARDING 2000, 361–365; BRADLEY 2013, 131.

<sup>28</sup> LOWERY et al. 1972, 165–169.

<sup>29</sup> LOWERY et al. 1972, 165–169, pl. XV–XVIII.

of the works on Bronze Age decorated objects written after 1972 cites it. Instead, E. Michel-Kroeger observes that on some axes the engraving is deeper, while on others is more superficial. She also assumed that the different parts of the decoration were made with different tools, supposing that the lines were done with a denticulate one, while the dots were not always round, fact she explained through the use of a pointed tool<sup>30</sup>. Vulpe and Lazăr on the other side, state (with no further argumentation) about the axe of Bogata that: "...it might be assumed that the ornamentation was realised on the wax pattern, prior to the casting"<sup>31</sup>.



Figure 6. Optical microscopy images showing details of the decoration of the disc-butted axe: a-b. aspects of the decoration (1.6 $\times$ , 0.65 $\times$ ); c. traces of polishing on the neck of the axe, right below the disk (1.25 $\times$ ); d. decorative motifs on the neck of the axe (1.6 $\times$ ) (photos by A. Vornicu)

<sup>30</sup> MICHEL-KROEGER 1983, 89–90.

<sup>31</sup> VULPE, LAZĂR 2003, 44. Original in Romanian, translated by the authors of this paper.

At least in the case of the axe from Iorcani the microscopic observation excludes Vulpe and Lazăr's assumptions (for that matter, we doubt that this hypothesis could be valid for any axe of this type). The photographs taken with an optical microscope (a Carl Zeiss stereoscopic microscope from the Faculty of Biology, "Alexandru Ioan Cuza" University of Iași) suggest that at least the hachured triangles on the neck of the axe, under the disc, were probably made by chasing, not engraving. Some of the lines forming these triangles and inner hachures are dashed, appearing as rows of small, elongated triangles (fig. 6/d), that could be the result of consecutive punching with a triangular pointed object. As for the continuous lines forming the spiral hooks and other decorative items (fig. 6/b), it is difficult, for now, to assert that the same technique was used. Anyway, if at a glimpse the whole decoration seems close to perfection, a closer look reveals several execution mistakes, such as lines overlapping, imperfect framing or asymmetric motifs. These are additional arguments in stating that the decoration on the axe from Iorcani was made through chasing/engraving. Future research, involving a larger number of specimens, along with experimental data and ethnographic observation should elucidate this matter.

#### **IV. Conclusion**

The main goal of this article was to bring into the specialists' attention the existence of another decorated disc-butted axe of A1 type, dating from the Middle Bronze Age. This particular category of metal objects stands out from the "crowd" of Bronze Age artefacts, as they are few in number, with elaborated decorations and discovered mainly as components of hoards or as single finds. The axe from Iorcani alongside with the one from Cajvana are the only decorated disc-butted axes of the early A type discovered east of the Carpathians.

Traditionally, the bronze artefacts were the subject of assiduous efforts made by archaeologists to order them, establish typologies and constructing chronologies. However important are as spatial and diachronic markers of the ancient times, the metal finds also keep encoded in themselves many important and sometimes outstanding information

about the people who made, used and discarded/deposited them. Retrieving this information should be of at least equal importance as cataloguing and dating these objects. To put it in other words, as it already was suggested for the archaeological pottery, when one studies the bronze artefact, the aim should not be to answer only the "when and where?", but also the "how and why?" questions<sup>32</sup>.

Another important conclusion is that ancient makers were high-skilled, able to manipulate different alloys to generate quality objects as well as desired surface appearances. Next, the look of certain objects, like the discussed axe, was very important, even to the detriment of efficiency, which brings us to the question of its functionality. What was the disc-butted axe from Iorcani: a weapon or an insignia? One can assume based on its original appearance and intricate decoration that it was meant to be foremost a ceremonial weapon, a symbol of wealth, power and/or warrior skills; at the same time, its design, blade and weight are clues that, in case of necessity, the axe could also be a deadly weapon.

Based on the above assertions, on the uniqueness of the decoration and sizes of every known item, one can assume that, most probably, this kind of artefacts were not mass produced, but on commission, as customized personal objects, which makes them not very susceptible for being the subject of common inter-tribal exchanges. So, if we were to imagine a closing for the early "life" of the axe, its presence east of Carpathians was due to the original owner (probably a high-ranked aristocrat-warrior) who was, for unknown reasons, on a journey across the mountains, and the only "trade" that involved the artefact was between him and his divinity, at the moment of the votive deposition.

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<sup>32</sup> PRITCHARD, VAN DER LEEUW 1984, 6.

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**A FAUNAL ASSEMBLAGE FROM THE IRON-AGE SITE OF NICULIȚEL  
(BABADAG CULTURE): ARCHAEOZOOLOGIC AND  
ARCHAEOGENETIC DATA\***

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**Keywords:** archaeozoology, archaeogenetic, Early Iron Age, Niculițel, Babadag culture, quantification, osteometric data.

**Abstract.** *The faunal remains were collected during the archaeological researches carried out in 1988 and 2000. The analysed assemblage consists of 902 remains, out of which four are human (*Homo sapiens*). The remains originate from fish, birds and mammals. The mammalian bones number 615 remains, out of which 397 were identified by species. The list of identified domestic mammal comprise cattle (*Bos taurus*), sheep (*Ovis aries*), goat (*Capra hircus*), horse (*Equus caballus*), and pig (*Sus domesticus*), with domestic cattle prevailing. Only three species of wild mammals were identified: red deer (*Cervus elaphus*), wild boar (*Sus scrofa*) and roe deer (*Capreolus capreolus*); the largest number of remains belongs to red deer. There is a single fragment coming from birds and six fragments from reptiles (*Testudo graeca* and *Emys orbicularis*). Fish bones are numerous (276), and the identified species are pike (*Esox lucius*), common carp (*Cyprinus carpio*), tench (*Tinca tinca*), wels catfish (*Silurus glanis*), and zander (*Sander lucioperca*); the highest share is represented by the common carp. Archaeogenetic analyses were carried out for some swine remains from Romanian territory, dating from the Iron Age, in order to identify their genetic profile. The analysed samples presented two different ancient haplotypes, previously described in the literature, haplotypes that sustained the pattern of spread for the domestic pigs on the European continent.*

**Rezumat.** *Resturile faunistice au fost colectate în timpul cercetărilor arheologice desfășurate în anii 1988 și 2000. Eșantionul analizat cuprinde 902 resturi faunistice, dintre care patru provin de la om (*Homo sapiens*). Resturile aparțin la trei grupe*

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faunistice: pești, păsări și mamifere. De la mamifere provin 615 resturi, dintre care 397 au fost identificate până la nivel de specie. Lista mamiferelor domestice identificate cuprinde: vita (*Bos taurus*), oaia (*Ovis aries*), capra (*Capra hircus*), calul (*Equus caballus*) și porcul (*Sus domesticus*). Numai trei specii de mamifere sălbatice au fost identificate: cerb (*Cervus elaphus*), mistreț (*Sus scrofa*) și căprior (*Capreolus capreolus*); cel mai mare număr de resturi aparține cerbului. Un singur fragment provine de la păsări și șase resturi de la reptile (*Testudo graeca* și *Emys orbicularis*). Oasele de pește sunt numeroase (276), iar speciile identificate sunt: știucă (*Esox lucius*), crap (*Cyprinus carpio*), lin (*Tinca tinca*), somn (*Silurus glanis*) și șalău (*Sander lucioperca*); cea mai mare parte a resturilor de pește provine de la crap. Pentru identificarea profilului genetic al unor resturi de suine de pe teritoriul României din Epoca Fierului s-a realizat o serie de analize moleculare. Probele analizate au prezentat două haplotipuri ancestrale, decrise în prealabil în literatura de specialitate, haplotipuri care au confirmat modelul de răspândire a porcilor domestici pe continentul european.

### Introduction

The archaeological site Babadag–Cornet is located at ca. 5 km north of the Niculițel commune, Tulcea County, Romania, in the area of the Danube ponds near Lake Gorgonel. The site witnessed rescue excavations on area of ca. 2000 m<sup>2</sup> in the years 1988 and in 2000, on the occasion of gas adduction works.

The majority of discoveries belong to a Babadag-culture settlement. From a spatial-chronological point of view, this culture was traced to the regions of Dobrudja, South-eastern Moldavia and Eastern Muntenia from the end of the 9th century to the first half of 8th century BC<sup>3</sup>.

### Material and methods

The faunal remains analysed come from two archaeological campaigns carried out in 1988 and in 2000 at Babadag–Cornet. The assemblage contains 902 remains, out of which four are human (*Homo sapiens*).

The method of osteological determination (qualitative analysis) was supplemented by quantitative (establishing the number of remains for each species, and the minimum number of individuals) and

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<sup>3</sup> MORINTZ 1987; JUGĂNARU 2005.

osteometric ones (some data are used to assess the sex and the withers height of the slaughtered individuals).

## Results

The identified remains belong to four taxonomic groups: fish, reptiles, birds, and mammals. The largest share is taken by mammalian remains (68%), followed by fish (30%) (Figure 1).

### *Fish*

Fishing was a relatively important food-producing activity of the Early Iron ages communities from Niculițel; the 276 fish remains represent 30.7% of the entire assemblage. The remains belong to the following species: pike (*Esox lucius*), common carp (*Cyprinus carpio*), tench (*Tinca tinca*), wels catfish (*Silurus glanis*), and zander (*Sander lucioperca*). Common carp has the highest share (67% of the identified fish remains), followed by catfish (23.9%) and pike (4.3%) (Figure 2).

*Reconstituting the capture size for fish.* The sizes of the species present in this assemblage were reconstituted after the minimum number of individuals and was calculated using the combinatory method<sup>4</sup>.

Pike (*Esox Lucius*). The minimum number of individuals for this species is limited to two. Both are of large size, measuring 621 mm and, respectively, 715 mm (total length), and belong to the category of reproducers.

Common carp (*Cyprinus carpio*). Size was reconstituted for 13 individuals, calculated on the basis of the left opercular bone. The dimensions are large, ranging between 590 mm to 780 mm TL (mass between 3 and 7 kg) (Figures 3 and 5); the entire series consists of reproducing specimens. The total mass for the 13 individuals was ca. 60 kg.

Tench (*Tinca tinca*). A single tench individual was estimated in the assemblage; its total length was 350 mm (ca. 0.4 kg).

Wels catfish (*Silurus glanis*). The sizes of 14 individuals were reconstituted. Only three of them are small, the remaining 11 being large

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<sup>4</sup> POPLIN 1976.

and very large (Figure 4). Five specimens were over 2 m in length, with the largest reaching 2.7 m TL and 135 kg in mass (Figure 5).

Zander (*Sander lucioperca*). Two individuals were identified, for which the following sizes were estimated: a large specimen of 569 mm TL (1.6 kg), and a very large specimen of 903 mm TL (6.8 kg) (Figure 5). The total mass for the 14 specimens was ca. 660 kg.

The sizes of the fish individuals from this assemblage are conspicuously large and very large. The total mass for the 32 individuals was over 700 kg, with the largest share provided by zander (90%) and carp (7.2%). Overall, fish provided a quite large portion of the animal protein consumed by the human community from Niculițel.

#### *Birds and reptiles*

Birds yielded a single remain, while from reptile come six dermal plates from carapace, belonging to two tortoise species (*Testudo graeca* and *Emys orbicularis*).

#### *Mammals*

The large share of the assemblage is represented by mammalian bones, from which come 615 remains, of which 397 were identified up to the level of species. Most of the mammalian remains belong to domestic ones (88.4%): cattle (*Bos taurus*), sheep (*Ovis aries*), goat (*Capra hircus*), horse (*Equus caballus*), and pig (*Sus domesticus*). In the group of domestic mammals, the largest share is constituted by cattle, with 46.6% of the total mammalian remains. Cattle are followed by ovicaprids (19%) and horse (10.5%) of the total identified mammalian remains (Figures 6 and 7). The ratios are similar in terms of the minimum number of individuals, with a preponderance of cattle (28%), followed by ovicaprids (18%) and pig (12%).

*Bos taurus*. Most of the remains attributed to cattle belong to the appendicular skeleton (64%) vs. the axial skeleton (36%) (Figure 8). Two upper molars were measured (28 mm and, respectively, 32 mm in length) (Figure 9). From the wide bones, three fragments of the coxal bone were measured (Figure 10). More numerous are the metrical data

for the long and short bones (Figure 11), for example the astragalus (average length of 66.2 mm), 1<sup>st</sup> phalanx (average length of 59.4 mm) and metapodials. The withers height was estimated at 123.7 cm, calculated on the basis of a metatarsal originating from a castrated individual.

*Ovis aries/Capra hircus*. For ovicaprids too, remains from the appendicular skeleton predominate (59%) over those from the axial skeleton (41%). The distribution of these remains according to the skeletal segment is found in Figure 8. Few ovicaprid remains have been measured. The average length of the lower M3 molar is 22.6 mm. From the long and short bones, only three fragments were measurable (Figure 11). On the basis of a sheep astragalus, the withers height was estimated at 74.8 cm.

*Sus domesticus*. For pig, most of the remains belong to the axial skeleton (65%), and the rest (35%) to the appendicular one. The distribution of the 20 remains according to the skeletal segments is found in Figure 8. It was possible to measure a fragment of a maxillary, one of a mandible (Figure 9), and a distal fragment of a humerus (Figure 11).

*Equus caballus*. The ratio between the two groups is balanced, with 52% of the remains belonging to the appendicular skeleton, and 48% to the axial one. An M3 molar from a mandible was measured, as well as five fragments of long bones (Figures 9 and 11). The lateral length of a metacarpus (212 mm) and the lateral length of a metatarsus were used for estimating the withers height. The resulting values are 136 cm and 134 cm.

*Canis familiaris*. Two scapulae and of a coxal bone were measured (Figure 10). Nine of the long bones, some complete, were measurable (Figure 11).

There are few remains of wild mammals, and the identified species are: red deer (*Cervus elaphus*), wild boar (*Sus scrofa*) and roe deer (*Capreolus capreolus*); the majority of remains belong to red deer (8% of the total identified mammalian remains, respectively 9% of the total number of estimated individuals) (Figure 7). The metrical data for red deer and wild boar are found in Figures 9 and 11.

**Archaeogenetic analysis**

Pigs—a significant part of daily meat consumption—have been a topic of great interest for scientists, not only for their economic value today, but also for what they meant in the past, in the dawn of the domestication. From the very beginning, their omnivorous diet made the tamest wild individuals of *Sus scrofa* come closer to the human environment and later adapt to it more easily. This determined one of the most solid and widespread connections between humans and animals. Therefore, different biologic and behavioural particularities of pigs can help us understand better the domestication process and, indirectly, some important aspects of human history, like the influence on human religion<sup>5</sup>. Although the interpretation of these influences relies especially on archaeological evidence, the archaeogenetic analysis for *Sus scrofa* individuals—as for the rest of the livestock—is a great help for explaining the evolution history for the entire set of elements that build the human society.

Previous studies have established the main directions for the spread of economic and cultural elements during Neolithic, and among these, the spread of pig domestication placed the Romanian territory in a geographical key-position for a long period, throughout the entire domestication process. One of the reasons for this is that, according to data collected so far, European pigs were first domesticated in the Near East, about 10,000 years ago<sup>6</sup> and later introduced into Europe along two different pathways: to the South, respectively the North of the Danube<sup>7</sup>. Therefore, the Romanian territory represented a gate for the dissemination of domestication. As this process continued and developed throughout the millennia, the same territory was also a path in the way back of the spread of domestic European stocks in the Near East<sup>8</sup>. Except for this aspect, the emergence of domestic pigs on the European continent was significantly influenced by a strong cultural context, described by the

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<sup>5</sup> ALBARELLA *et al.* 2007, 1–13.

<sup>6</sup> ALBARELLA *et al.* 2007, 1–13.

<sup>7</sup> LARSON *et al.* 2007.

<sup>8</sup> LARSON *et al.* 2007.

existence of several highly developed Neolithic cultures, like Gumelnița, Criș, Boian-Giulești, Zau, Precucuteni and Cucuteni.

The first samples analysed so far from Romanian territory were collected from the few archaeological sites in the South and South-East of Romania<sup>9</sup>. They were part of a broader study, counting hundreds of archaeozoological samples from the entire European continent. The Romanian samples covered a long period, from the early stages of domestication in the Neolithic to the Roman period. This study focuses on a later period from the European domestication process, describing the genetic signature for both wild and domestic individuals of *Sus scrofa* from the Babadag Culture (Iron Age). The findings will contribute to tracking the genetic changes appeared throughout the domestication process on the Romanian territory.

For the present study, were considered two different archaeological sites from the South-eastern part of Romania, out of which from Niculițel were collected samples belonging to the Babadag Culture (three samples) and to the Roman period (four samples), while from the Babadag archaeological site, all five samples collected belonged to the Babadag Culture. Thus, twelve samples represented by bone remains and teeth were subjected to morphometric and DNA analyses.

The genetic analysis comprised more steps: the first ones—including the DNA extraction, the spectrophotometric quantification of the extract and the PCR set-up—were carried out in a laboratory specialised in ancient DNA (aDNA) analysis.

First of all, a small quantity of bone tissue was sampled to be subjected to DNA extraction protocol. To this end, the grinding step was performed in order to eliminate the contaminated surface of a small bone fragment that was cut afterwards and powdered with a micro-dismembrator. The powder was incubated over night with a lysis buffer; the following day, the extraction protocol continued with the centrifugation of samples, to separate the liquid layer from the non-dissolved tissue. Then, the extract was concentrated using the Amicon Ultra 30K MWCO tubes and purified according to the protocol offered by

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<sup>9</sup> BORONEANȚ *et al.* 2006.

the Qiaquick kit, from Qiagen. After the DNA extraction, the extract concentration was quantified using a spectrophotometer and the blank purity was checked.

In the next step, the polymerase chain reaction was performed, in order to obtain a high number of copies of a very small fragment from the D-loop region of the mitochondrial DNA. According to previous studies, this small fragment of only 120 base pairs in length was able to differentiate seven ancient haplotypes identified for the *Sus scrofa* individuals from the European continent. A certain concentration of magnesium chloride and bovine serum albumin was used to enhance the quality of the PCR products. After the polymerase chain reaction, the PCR products were tested through the agarose gel electrophoresis and later purified to be sequenced.

The last step was DNA sequencing, which was performed using certain DNA quantities, previously calculated according to the DNA concentration of the purified PCR products. Each DNA strand was sequenced with the forward, respectively the reverse primer through Sanger sequencing. The results were processed in the Geneious (Biomatters Ltd.) and the MEGA6<sup>10</sup> software in order to obtain the complete sequences.

To investigate the frequency of each haplotype within the entire set of samples as well as the differences between haplotypes, the haplotypes network was constructed by using the median-joining algorithm in Network<sup>11</sup> and the DNA-SP 5 software<sup>12</sup>.

Most *Sus scrofa* individuals subjected to DNA analysis in this study were identified as domestic, except for one individual from the Roman period and two individuals from the Babadag Culture.

The samples from the Babadag Culture seemed to hold more damaged DNA than the samples from the Roman period. While the DNA of the four samples from the Roman period, from Niculițel, was successfully amplified through the PCR and the genetic signature for

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<sup>10</sup> TAMURA *et al.* 2013.

<sup>11</sup> BANDELT *et al.* 1999.

<sup>12</sup> LIBRADO, ROZAS 2009.

these samples was further identified, only some of the samples belonging to the Babadag Culture held positive PCR results and could be successfully sequenced. Therefore, the DNA of the two wild individuals from the Babadag archaeological site and the DNA of one domestic individual from Niculițel could not be amplified and sequenced.

Out of the seven ancient haplotypes previously described for the European continent, only two were identified within the entire set of samples, comprising both the Babadag Culture and the subsequent Roman period: the haplotypes ANC-Aside and ANC-Cside. A new haplotype was also identified for a sample from the Babadag site; most likely, this new genetic signature is only a consequence of the aDNA damage. Two different mutations describe the three identified haplotypes: a transversion in the 62 situs and one transition in the 82 situs (Figure 12). All pigs from the Babadag Culture which genetic profile could be identified were domestic and had the ANC-Aside haplotype; only one wild individual from the Roman period featured the ANC-Cside haplotype.

Considering the absence of any genetic profile for the wild individuals in the Babadag Culture and the presence of only one haplotype for all of the successfully sequenced samples from this period, no genetic changes could be traced in time between wild and domestic pigs, and the haplotypes network was drawn for the entire set of samples (Figure 13).

A previous study on samples from the South-eastern part of the Romanian territory<sup>13</sup> emphasized on the prevalence of the Near-Eastern ANC-Y1-6A haplotype for domestic pigs in the early stages of domestication process (in Chalcolithic), and its change into the ANC-Aside haplotype during the later stages, starting with the Bronze Age. The samples analysed in this study pinpointed only a later stage in the domestication process, since they belonged to two different and yet very close periods of time (the Babadag Culture and the Roman period). As it was also previously shown<sup>14</sup>, the Near-Eastern genetic signature of

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<sup>13</sup> LARSON *et al.* 2007.

<sup>14</sup> OTTONI *et al.* 2013.

domestic pigs from the early stages of domestication in Europe was replaced, by the fifth century A.D., with a European one. The presence of the European ANC-Aside haplotype in the domestic pigs from the Babadag Culture and Roman period in the South-eastern part of Romanian territory confirms this theory.

The genetic profile identified for the domestic pigs in this study was identical for both Babadag Culture and the Roman period, which proves two things. First, that the main genetic changes had occurred before and that the proportion of the genetic signature had already changed. Secondly, that the time frame between the two periods sampled in this study was too narrow for any further genetic changes to appear.

### Conclusions

The analysed assemblage comprises remains from fish, reptiles, birds and mammals, with the latter taxon predominating. In the osteological assemblage, mammals have a share of 88% of the total, suggesting that the main food source for the Iron-Age communities from Niculițel was animal husbandry. The remaining 12% of identified mammalian remains originate from wild species, pointing to a relatively reduced importance of hunting in the food economy of this settlement.

In terms of the identified remains numbers, cattle predominate in the domestic mammals group, followed by ovicaprids, horse and pig.

Three wild mammalian species were identified, dominated by the red deer. From the ecological standpoint, the list of hunted species suggest, foremost, an exploitation of forest (*Sus scrofa*, *Cervus elaphus*) as well as forest edge fauna (*Capreolus capreolus*). Today the red deer has disappeared from the area, being restricted to the Carpathian range.

Fishing is a relatively important activity of food acquisition at Niculițel: fish remains constitute 30.7% of the entire assemblage, originating from pike, common carp, wels catfish, and zander. The fish are generally large and very large. The total mass obtained for the 32 individuals is over 700 kg, which is illustrative for the degree to which fish provided an important input of animal protein into the diet of the Niculițel communities.

Two of the described ancient haplotypes of *Sus scrofa* and *Sus domesticus* were identified for the samples analysed in this study and their prevalence was strictly related to the number of domestic, respectively wild individuals.

By the time of the Babadag Culture, the European signature of *Sus scrofa* was already prevalent in the livestock from the Romanian territory and no further changes occurred until the Roman period.

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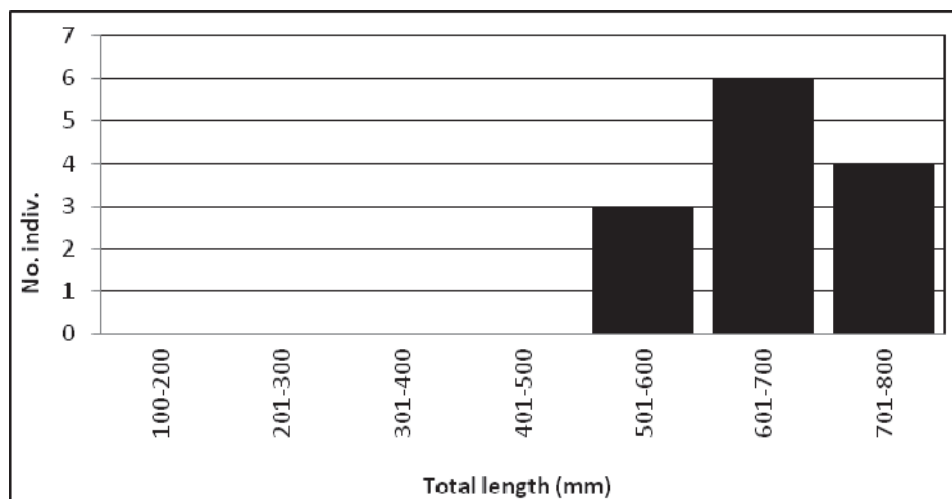
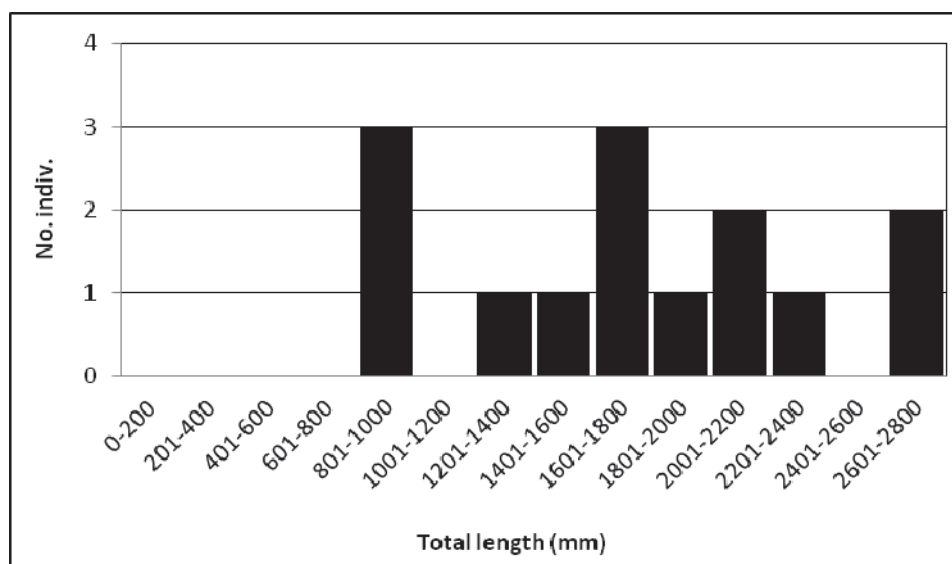
<b>Taxonomic group</b>	<b>NISP</b>	<b>%</b>
Fish	276	30.73
Reptiles	6	0.67
Birds	1	0.11
Mammals	615	68.49
<b>Total</b>	<b>898</b>	<b>100</b>
<i>Homo sapiens</i>	4	-

Figure 1. Faunal groups identified in the assemblage  
(NISP — number of identified specimens).

<b>Taxon</b>	<b>NISP</b>	<b>%</b>
<i>Esox lucius</i>	9	4.39
<i>Cyprinus carpio</i>	139	67.8
<i>Tinca tinca</i>	1	0.49
<i>Silurus glanis</i>	49	23.9
<i>Sander lucioperca</i>	7	3.42
<b>Total identified remains</b>	<b>205</b>	<b>100</b>

Unidentified remains	71	–
Total	276	–

Figure 2. Fish remains quantification.

Figure 3. Reconstituted sizes of the common carp (*Cyprinus carpio*) individuals (n=13).Figure 4. Reconstituted sizes of the wels catfish (*Silurus glanis*) individuals (n=14).

<b>Taxa</b>	<b>Total length (mm)</b>	<b>Mass (kg)</b>
<i>Esox lucius</i>	715	2.764
	621	1.768
<i>Cyprinus carpio</i>	589	3.060
	593	3.122
	597	3.186
	605	3.315
	613	3.448
	661	4.319
	673	4.557
	675	4.590
	698	5.060
	730	5.785
	742	6.074
	762	6.577
	783	7.106
<i>Tinca tinca</i>	350	0.400
<i>Sander lucioperca</i>	903	6.882
	569	1.608
<i>Silurus glanis</i>	800	3.270
	885	4.443
	892	4.550
	1206	11.371
	1591	26.373
	1644	29.132
	1742	34.733
	1785	37.402
	1829	40.272
	2127	63.690
	2197	70.270
	2327	83.673
	2600	117.187
	2729	135.750

Figure 5. The reconstituted sizes for the identified fish species.

Species	NISP	MNI
<i>Bos taurus</i>	185	9
<i>Canis familiaris</i>	28	3
<i>Equus caballus</i>	42	4
<i>Ovis aries/Capra hircus</i>	76	6
<i>Sus domesticus</i>	20	4
<b>Total domestic mammals</b>	<b>351</b>	<b>26</b>
<i>Cervus elaphus</i>	33	3
<i>Capreolus capreolus</i>	5	1
<i>Sus scrofa</i>	8	2
<b>Total wild mammals</b>	<b>46</b>	<b>6</b>
Total identified mammals	397	32
Unidentified mammals	218	-

Figure 6. Mammalian remains quantification (NISP – number of identified specimens; MNI – minimum number of individuals).

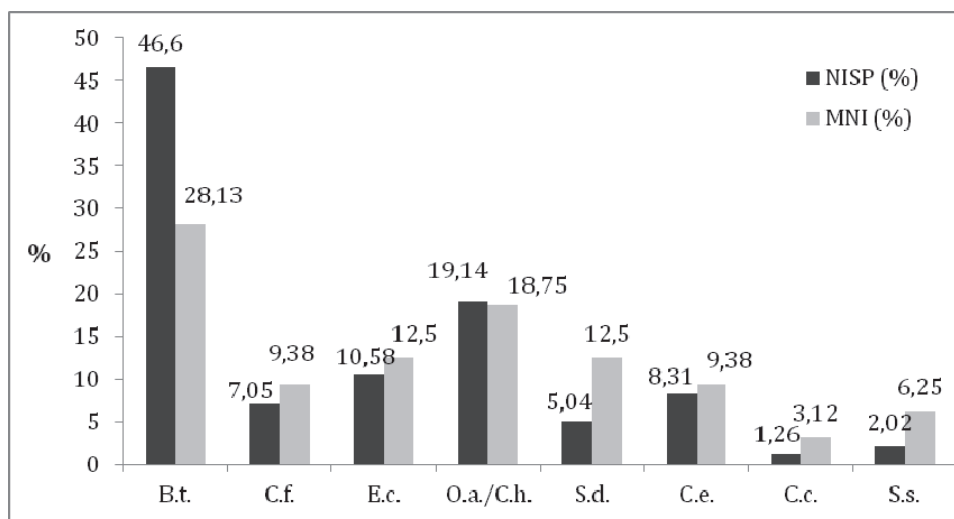


Figure 7. Shares of identified mammalian remains. B.t. – *Bos taurus*, C.f. – *Canis familiaris*, E.c. – *Equus caballus*, O.a. – *Ovis aries*, C.h. – *Capra hircus*, S.d. – *Sus domesticus*, C.e. – *Cervus elaphus*, C.c. – *Capreolus capreolus*, S.s. – *Sus scrofa*.

Anatomical region	<i>Bos taurus</i>	<i>Ovis aries/</i> <i>Capra hircus</i>	<i>Sus</i> <i>domesticus</i>	<i>Equus</i> <i>caballus</i>	<i>Canis</i> <i>familiaris</i>
skull	47	19	13	19	11
vertebrae	19	12	0	1	1
girdle	20	2	0	4	5
stylopod	20	10	4	5	7
zeugopod	20	19	3	6	4
autopod	59	14	0	7	0
<b>TOTAL</b>	<b>185</b>	<b>76</b>	<b>20</b>	<b>42</b>	<b>28</b>

Figure 8. Distribution of domestic mammal remains according to the anatomical region.

Species	Anatomical element	L M1-M3	L P2-P4	L M3	B M3	L P2-M3
<i>Bos taurus</i>	maxilla	77	-	28	25	-
	upper M3 molar	-	-	32	20.5	-
<i>Ovis aries</i> <i>/ Capra hircus</i>	lower M3 molar	-	-	24	9	-
	mandible	47.5	19	23	8.5	68
	mandible	-	-	21	8	-
	mandible	52	-	25	8	-
	mandible	(47)	23	(20)	7	(68)
	mandible	(49)	25	23	7.5	(71)
<i>Sus domesticus</i>	mandible	-	-	40	15	-
	maxilla	-	-	28.5	16	-
<i>Equus caballus</i>	mandible	-	-	32	14	-
<i>Cervus elaphus</i>	mandible	85.5	-	36	-	-

Figure 9. Metrical data (in mm) for mammalian dentition (L P2-M3 – length of the cheektooth row, L P2-P4 – length of the premolar row, L M1-M3 – length of the molar row, L M3 – length of the third molar, B M3 – breadth of the third molar).

Species	Anatomical element	GLP	LG	BG	SLC	LAR	BAR
<i>Bos taurus</i>	pelvis	-	-	-	-	58	54
	pelvis	-	-	-	-	65	55
	pelvis	-	-	-	-	69	64
<i>Canis familiaris</i>	pelvis	-	-	-	-	21	19
	scapula	27	23	16	23	-	-
	scapula	26.5	23	16.5	23	-	-

Figure 10. Metrical data (in mm) for the mammalian wide bones (GLP — Greatest length of the Processus articularis (glenoid process), SLC — Smallest length of the Collum scapulae (neck of the scapula), LG — Length of the glenoid cavity, BG - Breadth of the glenoid cavity, LAR — Length of the acetabulum on the rim, BAR – Breadth of the acetabulum on the rim).

Species	Anatomical element	GL	Bp	Bd	SD	BFp	BFd	Dd	GB
<i>Bos taurus</i>	astragalus	64	-	42	-	-	-	-	-
	astragalus	70.5	-	43.5	-	-	-	-	-
	astragalus	63	-	41.5	-	-	-	-	-
	astragalus	61.5	-	38	-	-	-	-	-
	astragalus	72	-	46	-	-	-	-	-
	centrotarsus	-	-	-	-	-	-	-	56.5
	phalanx 1	63.5	31	29	27	-	-	-	-
	phalanx 1	55	28	25.5	23	-	-	-	-
	phalanx 1	57.5	30.5	29.5	27	-	-	-	-
	phalanx 1	66	37	-	31.5	-	-	-	-
	phalanx 1	55	27	26	24	-	-	-	-
	femur	-	-	80	-	-	74	-	-
	humerus	-	-	84	-	-	72.5	-	-
	humerus	-	-	86	-	-	82	-	-
	metacarpus	-	-	70	-	-	-	36	-
	metacarpus	-	66.5	-	-	-	-	-	-
	metatarsus	-	42	-	-	-	-	-	-
	metatarsus	-	-	67	-	-	-	39	-
	metatarsus	-	-	59	-	-	-	34	-
	metatarsus	-	46.5	-	-	-	-	-	-

Species	Anatomical element	GL	Bp	Bd	SD	BFp	BFd	Dd	GB
	metatarsus	227	49	57	29	-	-	31	-
	radius	-	-	61.5	-	-	56	-	-
	radius	-	-	77	-	-	74	-	-
	radius	-	89	-	-	76	-	-	-
	radius	-	95	-	-	87	-	-	-
	patella	65	-	-	-	-	-	-	52
	tibia	-	-	72	-	-	62	-	-
<i>Ovis aries</i> / <i>Capra hircus</i>	radius	-	27.5	-	-	24.5	-	-	-
	astragalus	33		21	-	-	-	-	-
	humerus			30.5		-	29.5	-	-
<i>Sus domesticus</i>	humerus			40		-		-	-
<i>Equus caballus</i>	radius			69		-	58	-	-
	metacarpus		56			-		-	-
	metacarpus	215	49		33	-		-	-
	tibia			74		-	53	-	-
	metatarsus	256	49	45	32			-	-
<i>Canis familiaris</i>	humerus	157.5	37	30	12		21.5	-	-
	humerus	157	37	30	12		20.5	-	-
	femur	176	35.5	29.5	11	18	29	-	-
	femur	160	37	28	12	18	28	-	-
	femur	177	35.5	30	11.5	18	30	-	-
	tibia	181	32	21.5	11	31	19	-	-
	tibia	180	32	21.5	11.5	31.5	18	-	-
	radius	-	-	23	-	-	18.5	-	-
	humerus	-	-	28	14	-	22	-	-
<i>Cervus elaphus</i>	radius	-	-	56.5	32	-	-	-	-
	radius	-	-	57.5	-	-	-	-	-
	humerus	-	-	-	-	-	60	-	
	centrotarsus	-	-	-	-	-	-	-	53
	radius	-	-	64	-	-	61	-	-
	phalanx 2	52	25.5	22.5	19	-	-	-	-
	phalanx 2	48.5	22.5	20	18	-	-	-	-
<i>Sus scrofa</i>	tibia	-	-	43	30	-	33	-	-

Species	Anatomical element	GL	Bp	Bd	SD	BFp	BFd	Dd	GB
	humerus	-	-	54	-	-	42	-	-
	metacarpus 2	80	7	13	6	-	-	-	-

Figure 11. Metrical data (in mm) for the long and short bones of the identified mammals (GL — Greatest length, GB — Greatest breadth, Bp — (Greatest) breadth of the proximal end, BFp — (Greatest) breadth of the Facies articularis proximalis, Bd — (Greatest) breadth of the distal end, BFd — Breadth of the Facies articularis distalis, Dd — (Greatest) depth of the distal end, SD — Smallest breadth of diaphysis).

	T	A	A	A	62						82						
1. BBD1_consens	.	.	.	.	A	A	T	T	T	A	A	C	.	.	.	.	ANC-Cside
2. BBD2_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
3. BBD3_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
4. NIC(M)1_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
5. NIC(M)2_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
6. NIC1_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	ANC-Aside
7. NIC2_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
8. NIC3_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
9. NIC4_consens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	ANC-Cside

Figure 12. Sites of mutations that differentiate the three haplotypes identified within the analysed samples.

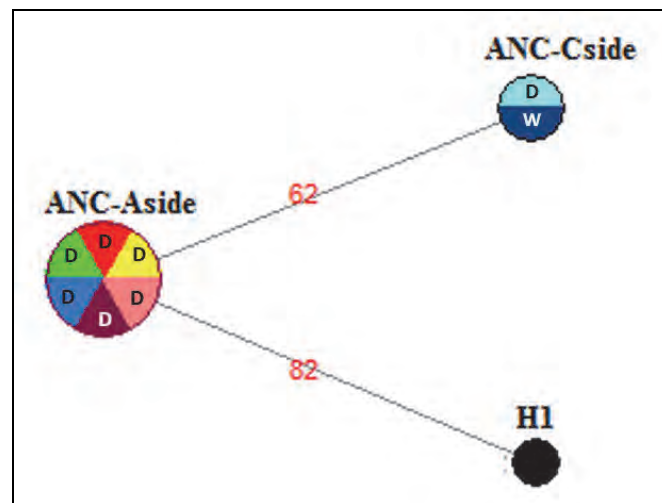


Figure 13. Haplotypes network for the samples analysed; the size of circles is proportional with the number of samples presenting that specific haplotype and each colour represents a different individual (D=domestic; W=wild).



*THE ROAD TO THE INDIES. THE GLASS EVIDENCE*

SEVER-PETRU BOȚAN<sup>1</sup>

**Keywords:** Roman economy, Indian Ocean trade, Roman imports, glass vessels.

**Abstract.** *The present study takes into discussion the trade relationships between the Roman Empire and India, reflected both in literary contemporary sources and in archaeological finds. Among the different material categories (pottery, bronze objects, coins), there are many glass vessels. The majority seems to come from Alexandria or Levant, but the high number glass vessels manufactured in western or Italian style, found in the western side of the Indian Ocean, reflects the amplitude and in the meantime the specific features of these trade connexions.*

**Rezumat.** *Studiul de față ia în discuție relațiile comerciale la distanță dintre Imperiul roman și India, reflectate atât în sursele literare ale vremii cât și în descoperirile arheologice. Între variatele categorii de materiale (ceramică, obiecte de bronz, monede etc.) se găsesc și numeroase vase de sticlă. Majoritatea par să fie de proveniență alexandrină sau levantină, însă numeroasele obiecte de factură occidentală și italică, descoperite în partea vestică a Oceanului Indian, reflectă amploarea și specificul acestor legături comerciale.*

For the Greco-Roman world, gathered around the Mediterranean core, the idea of alterity was rather vague, and few were those who managed to grasp the true dimension of the world they lived in. Direct contacts were extremely rare; in this sense, I underline the essential role of commerce in the opening of these formerly unknown spaces<sup>2</sup>. Benefiting from the period of peace, prosperity and technological boom following the instauration of Rome's domination in the Mediterranean, merchants focused on outlets situated as far as possible, but which could provide products inaccessible to the Roman world. A particular case is that of the

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<sup>2</sup> PARKER 2002, 90, supports the *Centripetal Dynamics Theory*, based on collecting data from the periphery toward the centre. In his words, “commodities helped map the world at a time when the Roman Empire was at an extent it had never before had, when the city of Rome was more of a cosmopolitan city than ever before.”

Indian subcontinent, which had—especially in the first two centuries of our era—dynamic economic relations with the Roman Empire. The range of these relations is best depicted in ancient literary, papyrological and epigraphic sources. Besides *Periplus Maris Erythraei* – a fundamental source, a true “trade handbook” for the economic contacts with India – can be mentioned also, other ancient works that underlined the importance and extent of these relations<sup>3</sup> (figure 1). All these narratives help us understand better the importance that Romans paid to these commercial roads, rather difficult to cross in those times, but which represented one of the main sources for the importation of spices and exotic items<sup>4</sup>. This fascination exerted by the Orient on the Old World also intrigued emperor Trajan, of whom Cassius Dio states: “Then he came to the ocean itself, and when he had learned its nature and had seen a ship sailing to India, he said: ‘I should certainly have crossed over to the Indii, too, if I were still young’. For he began to think about the Indi and was curious about their affairs, and he counted Alexander a lucky man<sup>5</sup>”. Indeed, the fearless Macedonian leader was the one who opened the path of these direct contacts. His Indian campaigns continued even after his death; they captivated the imagination of the Romans, whose appetite for Indian goods was also stimulated by the ideas made on this little known and highly fascinating space<sup>6</sup>.

The Ptolemies of Egypt realized the political and economic importance of permanent links to Arabia and India. During the reigns of Ptolemy II Philadelphus and of his successors, the commerce became organized, and a series of ports were built at the Red Sea, the most important of which were Myos Hormos, Leukos Limen and Berenike; they facilitated transport by sea<sup>7</sup> (figure 2). In parallel, the importance of Alexandria also grew significantly; once Egypt was transformed into a

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<sup>3</sup> Plin. *N.H.* VI. 26. 96–106; Diod. 2. 35–39; for discussions, see also PARKER 2002, 61–64.

<sup>4</sup> TOMBER 2008, 16 – Horace and then Apicius describe in details the importance of pepper for food spicing; PARKER 2002, 40–95.

<sup>5</sup> Dio Cass. LXVIII 29.1.

<sup>6</sup> PARKER 2002, 55.

<sup>7</sup> Mc LAUGHLIN 2010, 23–34; SIDEBOTHAM 1991, 12.

Roman province, Alexandria became the major gateway between the Mediterranean and the Orient<sup>8</sup>. Strabo reports: "And in fact the country has monopolies also; for Alexandria alone is not only the receptacle of goods of this kind for the most part, but also the source of supply to the outside world"<sup>9</sup>, while later, Dio Chrysostomos—in a speech addressed to the inhabitants of Alexandria—used amazing words to praise the city: "For your city is vastly superior in point of size and situation and it is admittedly ranked second among all cities beneath the sun. For not only does the mighty nation, Egypt, constitute the framework of our city—or more accurate its appanage—but the peculiar nature of the river, when compared with all others, defies description with regard to both its marvellous habits and its usefulness; and furthermore, not only have you a monopoly of the shipping of the entire Mediterranean by reason of the beauty of your harbours, the magnitude of your fleet and the abundance and the marketing of the products of every land, but also the outer waters that lie beyond, are in your grasp, both the Red Sea and the Indian Ocean, whose name was rarely heard in former days. The result is that the trade, not merely of islands, ports, a few straits and isthmuses, but of practically the whole world is yours. For Alexandria is situated, as it were, at the crossroads of the whole world, of even the most remote nations thereof, as if it were a market serving a single city a market which brings together into one place all manner of men, displaying them to one another and, as far as possible, making them a kindred people"<sup>10</sup>.

In the words of Gary Young, all Rome did was to take over and encompass a system that had already been created and that turned out to be both functional and profitable<sup>11</sup>. Strabo also pinpoints this: "In earlier times, at least, not so many as twenty vessels would dare to traverse the Arabian Gulf far enough to get a peep outside the straits, but at the present time even large fleets are despatched as far as India and the extremities of Aethiopia, from which the most valuable cargoes are

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<sup>8</sup> Mc LAUGHLIN 2010, 141; WARMINGTON 1928, 6.

<sup>9</sup> Str. 17.1.13.

<sup>10</sup> D. Chr. 32.36.

<sup>11</sup> YOUNG 2001, 18.

brought to Aegypt, and thence sent forth again to the other regions<sup>12</sup>". Warmington estimates that approximately 120 ships—mostly Egyptian—sailed towards India, Arabia and East Africa every year, and that they brought back highly valuable commodities<sup>13</sup>.

The discovery of navigable routes, represented another challenge for those who wanted to obtain Indian commodities without using intermediaries. The expeditions of Scylax, sent by the Persian king Darius to find the sea-route to the Indies, and of Nearchus—Alexander's admiral—who followed the same route, but from the other end<sup>14</sup>, were followed by that of Eudoxus of Cyzicus, whom Strabo describes as "a man inclined to admire the peculiarities of regions and was also not uninformed about them <sup>15</sup>". Both his tenacity and his troubled existence can be compared with the life of Christopher Columbus. He wanted to find a new way to the Indies by sailing west from the Pillars of Hercules and by attempting to sail around Africa for the first time; however, he failed to achieve his plans<sup>16</sup>.

In regard to the route followed by Alexandrian merchants, it started from Alexandria, naturally, where commodities were stacked on ships and transported along the Nile up to Coptos. Coptos was the starting point of three land routes towards the Red Sea ports (the northern one towards Myos Hormos, the central one towards Leukos Limen and the southern one towards Berenike). They all included stations for rest and meals. Once arrived in the ports, commodities were packed and stacked on ships. From there, in the month of August, they crossed the sea towards Adulis (the main port of the Axumite Kingdom) and then towards Muza and Okelis. From there, some left towards the East African coasts, to Rhapta (in Tanzania), while others followed the Arabian coasts,

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<sup>12</sup> Str. 17.1.13.

<sup>13</sup> WARMINGTON 1928, 9.

<sup>14</sup> Mc LAUGHLIN 2010, 23–24.

<sup>15</sup> Str. 2.3.4.

<sup>16</sup> Mc LAUGHLIN 2010, 25. The entire story is narrated by Str. 2.3.4–5, who takes over Posidonius.

towards India<sup>17</sup>. They came back during the winter, when they benefitted from favourable monsoon winds, and they followed the same route from the opposite direction.

Overall, this endeavour was extremely risky and equally expensive, reason for which we assume that benefits had to be significant.

The Roman State used various methods to protect the interests of its merchants and to ensure the fluidity of commercial trades. Whereas Trajan revived an older construction project for a navigable channel that linked the Nile to the Red Sea, his follower, Hadrian, decided to restore or build land arterial roads, such as the one linking Antinoe to Berenike<sup>18</sup>. Romans also undertook military actions: the best-known episode is the campaign of 25 BC, led by Aelius Gallus, the governor of Egypt. He "...was sent by Augustus Caesar to explore the tribes and the places, not only in Arabia, but also in Aethiopia, since Caesar saw that the Troglodyte country which adjoins Aegypt neighbours upon Arabia, and also that the Arabian Gulf, which separates the Arabians from the Troglodytes, is extremely narrow. Accordingly he conceived the purpose of winning the Arabians over to himself or of subjugating them. Another consideration was the report, which had prevailed from all time, that they were very wealthy, and that they sold aromatics and the most valuable stones for gold and silver, but never expended with outsiders any part of what they received in exchange ; for he expected either to deal with wealthy friends or to master wealthy enemies<sup>19</sup>". Strabo<sup>20</sup> and later Cassius Dio<sup>21</sup> narrate in

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<sup>17</sup> The most detailed description is that in *Periplus Maris Erythraei*, but one can also find useful information in Pliny (see note 3) or Strabo (see note 12). See also MEYER 1992, 46–50; CASSON 1984, 187; Mc LAUGHLIN 2010, 40–42.

<sup>18</sup> YOUNG 2001, 61.

<sup>19</sup> Str. 16.4.22

<sup>20</sup> Str. 16.4.22–24.

<sup>21</sup> Dio Cass. LIII 29.3: "While this was going on, another and a new campaign had at once its beginning and its end. It was conducted by Aelius Gallus, the governor of Egypt, against the country called Arabia Felix, of which Sabos was king. At first Aelius encountered no one, yet he did not proceed without difficulty; for the desert, the sun, and the water (which had some peculiar nature) all caused his men great distress, so that the larger part of the army perished".

many details the campaign of Gallus; though he got to Marisamba, (Mariba, in Yemen) his campaign was a horrible failure.

Another interesting observation is related to the so-called “militarization of architecture” concerning the land roads that linked the Nile to the Egyptian ports, which became apparent starting with the second half of the first century AD, in the context of flourishing commercial relations<sup>22</sup>. Finally, during the reign of Trajan, a Roman fleet was established in the Red Sea to ensure the security of commercial routes. Furthermore, in the second century AD, on the Farasan Islands, situated at the Red Sea entry, there was a Roman garrison, a fact proven by the honorific inscription dedicated by Castricius Aprinus to the emperor Antoninus Pius<sup>23</sup>.

The range of commercial relations between India and the Roman Empire is best reflected by the amount and diversity of commodities traded<sup>24</sup>. In this paper, I focus on a succinct presentation of the categories of Roman commodities exported to India, with an emphasis on glassware.

Both ancient literary sources and archaeological discoveries from India showed that this area was the destination of qualitative pottery for the most part<sup>25</sup>, but also numerous amphorae that contained mainly wines and Mediterranean oils<sup>26</sup>. A special category is represented by a series of local production wares, discovered at Nevasa, Ter, Kondapur or Kolhapur, highly similar—in both shape and decoration—to the Achaemenid *kalyx*. It is very likely that these wares imitated similar Hellenistic-era items (especially Macedonian), inspired, in their turn, by Persian wares<sup>27</sup> (figure 3).

Bronze items are also well represented at Kolhapur, where a deposit was discovered, that comprised various types of statuettes (such

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<sup>22</sup> DE ROMANIS 2003, 119.

<sup>23</sup> Mc LAUGHLIN 2010, 80.

<sup>24</sup> See TOMBER 2008, 83–87, Table 1, for a detailed image of all imported merchandises discovered in the Red Sea ports; SIDEBOTHAM 1991, 22; PARKER 2002, 41–44.

<sup>25</sup> COMFORT 1991, 134–150, presents the *Terra Sigillata* wares discovered at Arikamendu, with trademarks known in Central Italy and Gallia.

<sup>26</sup> LYDING WILL 1991, 151–156; WARNER SLANE 1991, 204–215.

<sup>27</sup> BEGLEY 1991, 157–196, fig. 10.1, type 1.

as that of Poseidon), vessels, relief plates or mirrors — 102 objects, from Roman workshops. The size and variety of the deposit led to the hypothesis that the bronze items did not have a functional purpose, but that they were used to melt and reuse the metal, just like in case of coins<sup>28</sup>.

Actually, Roman gold and silver coins are frequently encountered in archaeological discoveries in India. The ones of the first century AD predominate; often, they feature a line scratched over the emperor's effigy, which cancels their symbolic and propagandistic meaning<sup>29</sup>. This massive currency transfer towards the outside managed to destabilize quite seriously the monetary resources of the Empire<sup>30</sup>, a fact reflected in the writings of that period, by Pliny<sup>31</sup> or Tacitus<sup>32</sup>.

In regard to the glassware, they were given due importance within the commercial trades with India. The main literary source on this matter is the same *Periplus Maris Erythraei*, which refers to three such categories of wares<sup>33</sup>: (1) *millefiori* and mosaic wares<sup>34</sup>, (2) regular wares<sup>35</sup> and (3) broken glass used for re-melting<sup>36</sup>. All these categories are documented by the archaeological discoveries; though the whole picture may not be

<sup>28</sup> DE PUMA 1991, 101.

<sup>29</sup> DEO 1991, 40.

<sup>30</sup> See WARMINGTON 1928, 315–318, who discusses the impact of capital transfer on Roman economy.

<sup>31</sup> Plin. *N.H.* VI. 26. 101: “It is an important subject, in view of the fact that in no year does India absorb less than fifty million sesterces of our empire's wealth, sending back merchandise to be sold with us at a hundred times its prime cost” and XII. 41. 84: “And by the lowest reckoning India, China and the Arabian peninsula take from our empire 100 million sesterces every year — that is the sum which our luxuries and our women cost us”.

<sup>32</sup> Tac. *Ann.* III 53 — in the letter addressed to the Senate by Emperor Tiberius in AD 22, he reports on “the specially female extravagance by which, for the sake of jewels, our wealth is transported to alien or hostile countries”.

<sup>33</sup> PARKER 2002, 175; STERN 1991, 113.

<sup>34</sup> *PME* 6, 7, 17 — where it appears under the name of *λιθίας ύ(α)λής πλείονα, ύαλή λιθία* or *λιθίας ύαλής*, which literary means “crystal stone”. It is also mentioned that they come from Diospolis (Thebes). However, there are other interpretations according to which this “crystal stone” does not refer to the stones per se, but probably to the glass objects that imitated stone: beads — WHITEHOUSE: 1989, 155.

<sup>35</sup> *PME* 39.

<sup>36</sup> *PME* 49, 56 — called *ῥελος άργή*.

complete and the publication of items turns out to be incomplete, a series of interesting observations can still be outlined. In this sense, I had the opportunity to consult the glass material for a series of important sites. I refer here to Khashm el-Minayh (*Didymoi*), Al-Muwayh (*Krokodilô*), Umm'Balad (*Koiné Latomia*) and Al-Zarqâ (*Maximianon*)<sup>37</sup> — situated in the Egyptian desert, on the linking routes between Coptos and the Red Sea, to Quseir al Qadim<sup>38</sup> (identified by some with *Myos Hormos*<sup>39</sup> and by others with *Leukos Limen*<sup>40</sup>); Aqaba (*Aila*)<sup>41</sup> and Berenike<sup>42</sup> — ports situated on both shores of the Red Sea; Heis (*Mundu*)<sup>43</sup> — on the northern Somalian coasts; Umm al-Qaiwain (*Ed-Dûr*) — in the United Arab Emirates and, on the other hand, the sites of India and mostly Arikamendu<sup>44</sup>. Regarding Adulis and Aksum (on the east African coast), the article dedicated to glassware focuses rather on the difficulties related to its transport and it hardly mentions the types per se, which did not allow me to use it here<sup>45</sup>.

Depending on the characteristics of the glass material discovered in the aforementioned sites, a series of distribution patterns can be outlined within distinct, but interconnected areas. The first comprises the sites situated in the Egyptian desert and the ports on the Egyptian coast of the Red Sea. The second comprises transit points such as the coasts of Somalia and of Arabia, while the area is represented by India. Within the first area, the glassware probably comes from Alexandria and it comprises common, daily use forms, characteristic to the first two centuries AD. As expected, the most numerous ones are ribbed bowls (Quseir, with 63 items, Aila, Didymoi), characteristic especially to the first century AD. Another specific and highly diffused shape is the dish with everted lip, made of whitish glass, sometimes decorated by cold-cutting (type AR 16–

<sup>37</sup> BRUN 2003, 377–387.

<sup>38</sup> MEYER 1992.

<sup>39</sup> TOMBER 2008, 57; BRUN 2003, 377.

<sup>40</sup> YOUNG 2001, 42; MEYER 1992, 4.

<sup>41</sup> DUNCAN-JONES 1998, 147–150.

<sup>42</sup> NICHOLSON 1998, 151–155; NICHOLSON, PRICE 2003, 389–394.

<sup>43</sup> STERN 1985, 23–36.

<sup>44</sup> STERN 1991, 113–124.

<sup>45</sup> PHILLIPS 2009, 37–47.

Trier 23). Dated to the second century, it is considered that this type belongs to Alexandrian artisans; it is frequently encountered at Quseir (20 items), Didymoi, Krokodilô, Koiné Latomia, Maximianon, and Aila, which proves that this type was one of the most common commodities for export.

Other forms disseminated here are as follows: conical beakers decorated with honeycomb pattern (type IS 21), with the same decorative and fabric composition characteristics as the aforementioned dishes encountered at Quseir, Krokodilô, Koiné Latomia and Berenike; egg-shaped beakers decorated with glass filament (type AR 54–IS 33) at Quseir, Krokodilô, Maximianon; beakers with globular body, decorated with incisions on the outside (type AR 40) at Quseir, Krokodilô, Maximianon; beakers with concave walls (type IS 32) at Quseir, Krokodilô, Maximianon; sack-shaped jars, with slightly flaring lip (type AR 104–IS 94) at Didymoi and Quseir; prismatic bottles (type IS 50) at Quseir, Krokodilô, Maximianon; *aryballoi* at Quseir, Krokodilô, Maximianon and others.

Among the particular items, the attention is drawn mostly by two bowls decorated by incision, with mythological scenes (the so-called *Mythological Cups* or *Hero Cups*), which represent the bust of a hero within a round medallion, framed by a stylized laurel wreath. These items are from Quseir<sup>46</sup> and Berenike<sup>47</sup>. Harden holds that these items are from Alexandria (possibly from the workshop of the same artisan) and he dubs them extremely important, for having been among the last Egyptian glassware exported towards the west, in the second century AD. Furthermore, the British scholar believed they were the inspiration source for the later western tableware with incised decoration<sup>48</sup>. Carol Meyer mentioned 23 such vessels, dated approximately to the second half of the second century AD, diffused throughout the entire Roman Empire, even

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<sup>46</sup> MEYER 1992, 22–24, no. 87–88.

<sup>47</sup> NICHOLSON 1998, 151–152, no. 1.

<sup>48</sup> HARDEN 1960, 46–47.

to Britannia; he also underlined the influence of Alexandrian glass artisans and carvers (*diatretarii*) in the production of luxury tableware<sup>49</sup>.

Berenike is the place of origin for another stupendous item. It is a large-sized, clear-glass bowl painted with marine life motifs<sup>50</sup>. Dated to the first century AD, the item is remarkable from several perspectives. First, by its refinement and originality: marine scenes of such type are encountered only at Xanthen and Oberwinterthur<sup>51</sup>. Secondly, the two western cups belong, like most painted bowls, to the Hofheim-Isings 12 cups, while the item in question is bigger and less rounded on the outside. Finally, it is worth underlining the clearness and high quality of the glass paste, compared to the other items.

Didymoi is the place of origin for a large-sized dish fragment decorated with vegetal motifs and poppyheads, dating to the second half of the first century AD; it was probably an Alexandrian product, too<sup>52</sup>.

Finally, at Berenike two other small fragments were discovered of what appears to be cameo glass<sup>53</sup>. If the identification is correct, then the item is most probably Italic and it dates to the first half of the first century AD. Its discovery in the remotest Egyptian port of the Red Sea underlines the large circulation areas of the luxury tableware, as well as the type of traded commodities.

The second area in question is represented by the transit space of merchandises towards the eastern African coast, on one hand and India, on the other. The two settlements—Heis in Somalia and Ed-Dûr in Arabia—have provided remarkable glassware discoveries (figure 4). In both settlements are encountered the famous ribbed bowls. Among them, a white opaque fragment from Heis, similar to the items discovered at Poiana. These vessels seem to have a northern Italic origin, a fact confirmed by both the discoveries of Aquileia and their low representation in the other areas of the empire. On the Somali coast, it is

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<sup>49</sup> MEYER 1992, 23–24.

<sup>50</sup> NICHOLSON, PRICE 2003, 390–391, no. 1, fig. 1 a/b.

<sup>51</sup> RÜTTI 1988, 46–52, no. 694

<sup>52</sup> BRUN 2003, 379–380, fig. 2/10 and 4.

<sup>53</sup> NICHOLSON 1998, 153, fig. 2.

encountered alongside numerous hemispheric *millefiori* or mosaic items. I believe their place of production is uncertain, though *PME* 6 holds it was Thebes (Diospolis). Though the Egyptian origin is much more plausible, they may have also been brought from Italic workshops, specialized in such types of vessels; however, in the lack of more consistent evidence, this hypothesis remains only a speculation for the moment.

Concerning the vessels from Ed-Dûr, the situation is more diversified. Whitehouse has published a consistent sample of 122 items, which he dated approximately because 25 BC and AD 75; he supported an Egyptian or Syro-Palestinian origin for them<sup>54</sup>. Though a part of them could have been produced in Egypt, numerous vessels seem to have been brought from Levantine workshops. There are many such hemispheric moulded vessels, such as the ones of Tel-Anafa, short ribbed bowls, monochrome or mosaic ribbed bowls, jugs with one and two handles, glass amphorettes, a cluster-shaped vessel or date-shaped or fish-shaped unguentaria. Most of these items are typical products of the Syrian workshops, reason for which we have to take into account a different entry path. Whitehouse suggests they would have been produced on the Syro-Palestinian coast, from where they would have been transported towards Palmyra. Instead of heading towards east, the commodities were shipped on the Euphrates to Charax and from there—by crossing the Persian Gulf—finally to Ed-Dûr and Mlehia<sup>55</sup>. Among the arguments meant to support this hypothesis, I foremost state the fact that *Periplus Maris Erythraei* mentions only a few times the Persian Gulf. This suggests that it was not a custom for ships to make a stop there; secondly, the discoveries of Palmyra<sup>56</sup> and mostly of Dura Europos<sup>57</sup> — where the material excavated presents numerous similarities and analogies with the one on the eastern Arabian coast.

Finally, the third area in question is represented by India. Here, evidence is rather scarce, especially concerning Roman glassware. Besides

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<sup>54</sup> WHITEHOUSE 1998, 64.

<sup>55</sup> WHITEHOUSE 1998, 66–67.

<sup>56</sup> See GAWLIKOWSKA, AS'AD 1994, 5–36.

<sup>57</sup> CLAIRMONT 1963.

the five ribbed bowls discovered at Arikamendu (3 items), Dharanikota and Taxila in south-eastern India, Marianne Stern mentions two other bowl fragments also discovered at Arikamendu<sup>58</sup>. About the last item, of clear blue glass, the author says it is Egyptian based on an analogy discovered in a royal tomb of Barkal, in Sudan<sup>59</sup>. Recent research conducted at Guanxi in China had nevertheless, surprising results: it demonstrates that the Arikamendu item is actually Chinese, not Egyptian<sup>60</sup>. This rather surprising aspect demonstrates that India was at the crossroad of Roman and Far East influences, though the two never interacted directly.

Besides these fragments, I have no knowledge of others. The rest of discoveries were either coloured glass beads (especially in the Deccan Plateau, at Paithan, Ter or Nevasa) alongside shards of unidentifiable vessel lips, or broken, unprocessed glass (mostly on the south-western coast of India, at Tundis and Muziris)<sup>61</sup>. The flourishing commerce with unprocessed glass—also underlined in *PME* 49 and 56—is reflected in the abundance of such finds in India, but also in the discovery—in Egypt, at Maximianon, on the path towards the Red Sea—of two unprocessed glass blocks<sup>62</sup> (figure 5).

As a conclusion to this brief presentation of glassware discoveries from Egypt towards India, it can be stated that a flourishing commerce with such commodities did exist, especially in the first two centuries of our era, a fact underlined also by the important aforementioned source. The most numerous and diverse ones are the discoveries made in the east of Egypt; they emphasize on both the types of items preferred for export and the artistry of the artisans. The luxury tableware was most probably destined to the Indian elites and—by the magnitude of commercial trades—glass was one of the main exported commodities of the Roman Empire. Surprisingly though, the discoveries of this area are quite

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<sup>58</sup> STERN 1991, 117, fig. 6.8 and 6.9.

<sup>59</sup> STERN 1991, 117 — he dates the funerary complex between 21 and 13 BC.

<sup>60</sup> BORELL 2010, 131.

<sup>61</sup> STERN 1991, 115–116.

<sup>62</sup> BRUN 2003, 387.

disappointing, but one should take into account that the amount of archaeological research has also been rather modest.

Reflected by both the literary sources of the time and the archaeological artifacts, the long-distance commerce between the Roman Empire and India shows the existence of a constant flow of commodities between the two regions. As an integrant part of this commerce, the glass tableware represents an important indicator of the Roman influence and of its image on the Other.

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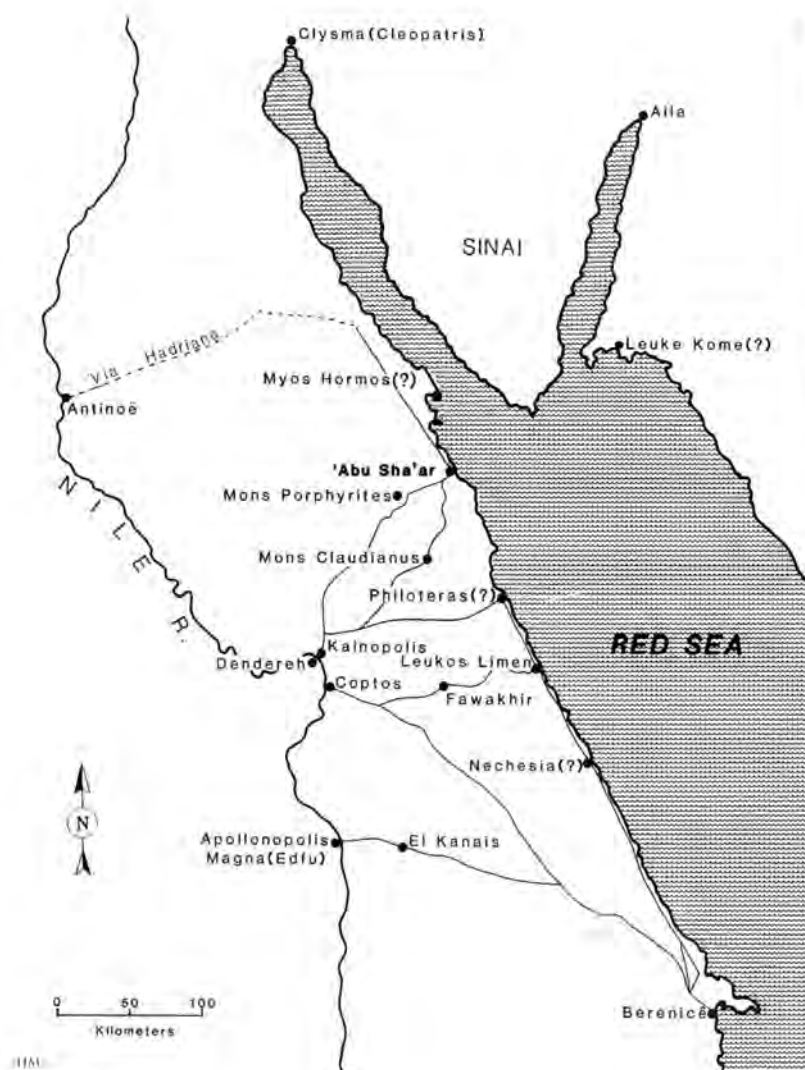
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**Figure 1.** Map of the main ports involved in the Indian Ocean trade, after TOMBER 2008.



**Figure 2.** The main ports from the Red Sea and the commercial land routes that supplied them, after BEGLEY 1991.



**Figure 3.** Indian ceramic cup with a decorative motif inspired from the Hellenistic art, after BEGLEY 1991.

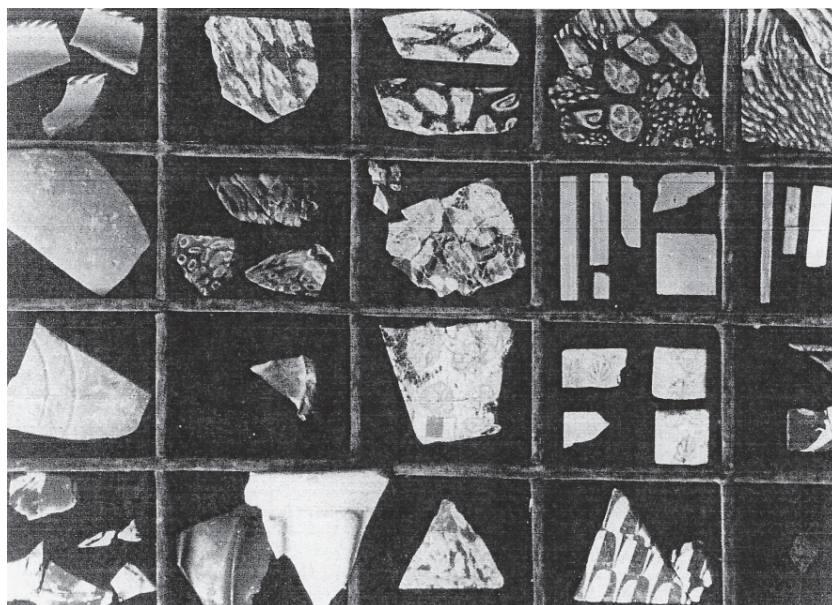


Figure 4. Glass fragments discovered near Heis in northern Somalia – after BEGLEY 1991.

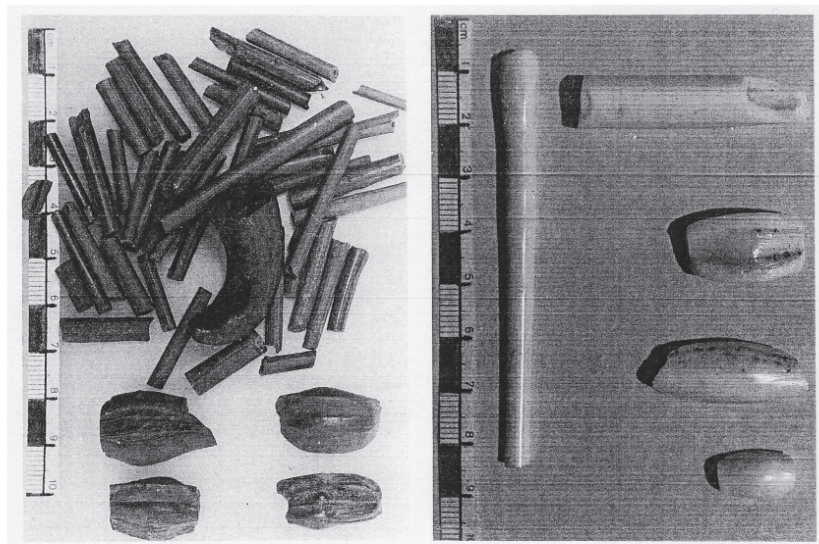


Figure 5. Glass waste from Arikamendu and Papanaidupet – after BEGLEY 1991.

**LA MORTALITÉ DES LÉGIONNAIRES EN MÉSIE INFÉRIEURE\***

**LUCREȚIU MIHAILESCU-BÎRLIBA<sup>1</sup>**

**Keywords:** Moesia Inferior, legions, mortality, recruitment age.

**Abstract:** *The author tries to answer some questions regarding the demography of the legions' soldiers in the Roman province Moesia Inferior: how reliable are the epigraphic sources? How high is the mortality rate among the legions' soldiers? Can we speak about a pattern for recruitment age? Which are the mortality's causes?*

**Résumé:** *L'auteur essaye de répondre à quelques questions sur la démographie des légionnaires dans la province romaine de Mésie Inférieure: peut-on faire confiance aux sources épigraphiques? Quel est l'impact de la mortalité parmi les légionnaires? Peut-on parler d'un modèle pour l'âge de recrutement? Quelles sont les causes de la mortalité?*

**Rezumat:** *Autorul încearcă să răspundă la anumite întrebări privind demografia legionarilor din provincia romană Moesia Inferior: putem avea încredere în izvoarele epigrafice? Cât de ridicată este rata mortalității printre militarii din legiuni? Se poate vorbi despre un model privind vârsta de recrutare? Care sunt cauzele mortalității?*

**1. Questions de méthode**

Étudier la mortalité par catégorie sociale à l'époque romaine selon les sources épigraphiques constitue une démarche difficile. La mortalité de la population de cette province, sur un échantillonnage ressortissant d'une telle catégorie de sources, a été analysée par V. Piftor<sup>2</sup>. Sauf le manque d'une représentation croyable de l'échantillonnage, les âges arrondis contribuent encore à la déformation des données. Pourtant, une mortalité à des âges jeune est observable, ce qui correspond (au moins partiellement) aux réalités de l'époque. J'avais réalisé, avant la parution de l'article de Piftor, une étude démographique sur les militaires du nord de

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<sup>2</sup> PIFTOR 2007-2008, 135–145; PIFTOR 2009, 21–99.

la Mésie Inférieure, mais l'analyse visait plutôt les âges de recrutement et la durée du service<sup>3</sup>. J'ai décidé de reprendre le dossier de la mortalité des légionnaires dans cette province, d'abord, puisque l'analyse d'un échantillonnage plus ample fournit de données plus éloquentes. En deuxième lieu, j'ai choisi de concentrer la démarche sur les légionnaires, parce que, du point de vue épigraphique, ils sont beaucoup plus actifs que les militaires appartenant aux unités auxiliaires; en plus, leur statut de citoyens Romains leur confère une place plus haute dans l'armée romaine et leur assure une certaine aisance par rapport aux soldats des *alae* et des *cohortae*. L'échantillonnage sera constitué par les militaires et les vétérans des légions stationnées en Mésie Inférieure (la VIII<sup>e</sup> Auguste et la I<sup>ère</sup> Italica à Novae, la V<sup>e</sup> Macedonica à Oescus et à Troesmis, la XI<sup>e</sup> Claudia à Durostorum<sup>4</sup>), mais aussi les soldats de ces légions présents dans autres cités de la province par divers raisons. La décision de comprendre les vétérans dans cette enquête me semble logique, dans le sens qu'on peut observer comment et combien de temps les militaires ont survécu après leur service.

## **2. La mortalité des militaires et des vétérans appartenant des légions qui ont stationné en Mésie Inférieure**

L'échantillonnage disponible est formé de 48 personnes, dont 24 vétérans. On observe donc que le rapport militaires actifs — vétérans est parfaitement égal, ce qui explique les statistiques présentées ci-dessous. Je reviendrai plus tard à ce propos. Il est possible qu'un des personnages évoqués dans les textes a plus de 50 ans (car il est un vétéran), mais l'inscription est trop fragmentaire pour en apprendre davantage. J'ai préféré de laisser 50 ans, en suivant l'éditrice du texte, mais je pense qu'un autre âge de décès n'aurait pas beaucoup influencé les statistiques finales. Un autre militaire est mentionné seulement avec les ans de service (23), mais vu que les recrutements avaient lieu en plupart de 18 à 20 ans, je l'ai inclus dans la catégorie de 41 à 45 ans.

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<sup>3</sup> MIHAILESCU-BÎRLIBA 2006, 81–88.

<sup>4</sup> Sur les légions en Mésie Inférieure, voir surtout MATEI-POPESCU 2010, 35–165.

La mortalité des militaires qui ont formé l'échantillonnage s'exprime dans les tableaux et les graphiques suivants :

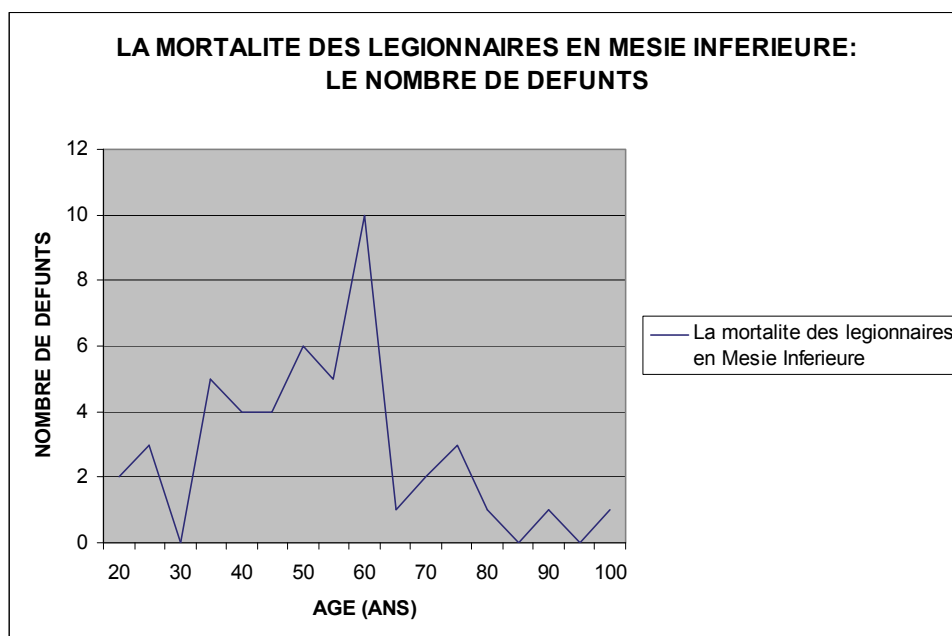
Catégorie d'âge (ans)	Nombre de défunts
16-20	2
21-25	3
26-30	0
31-35	5
36-40	4
41-45	4
46-50	6
51-55	5
56-60	10
61-65	1
66-70	2
71-75	3
76-80	1
81-85	0
86-90	1
91-95	0
96-100	1

Tableau n° 1

Catégorie d'âge (ans)	Survivants (pourcentages)
16-20	95.8
21-25	89.6
26-30	89.6
31-35	79.2
36-40	70.8
41-45	62.5
46-50	50
51-55	39.5
56-60	18.7

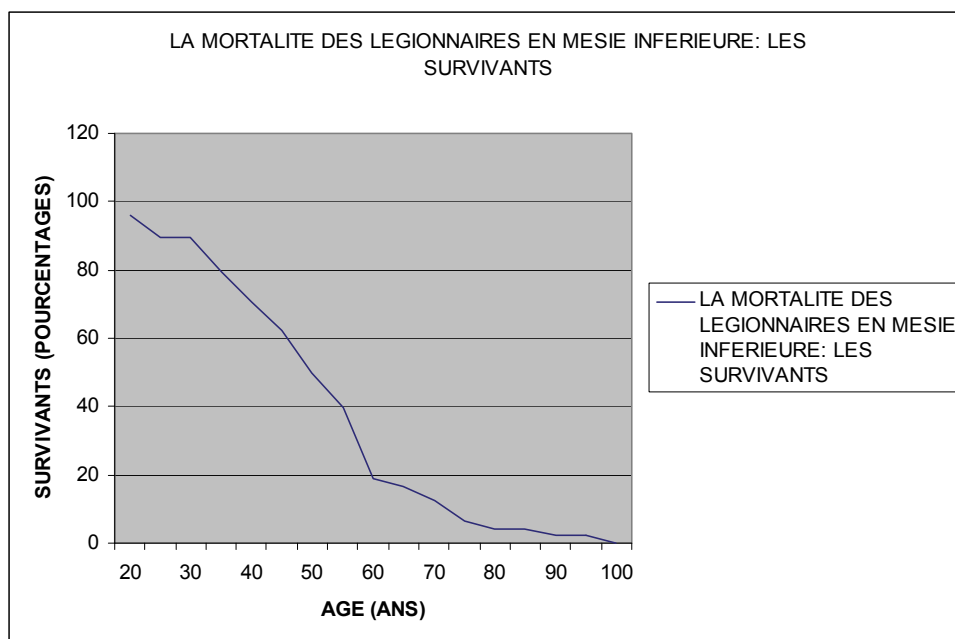
61–65	16.6
66–70	12.5
71–75	6.2
76–80	4.2
81–85	4.2
86–90	2.1
91–95	2.1
96–100	0

Tableau n° 2



Graphique n° 1

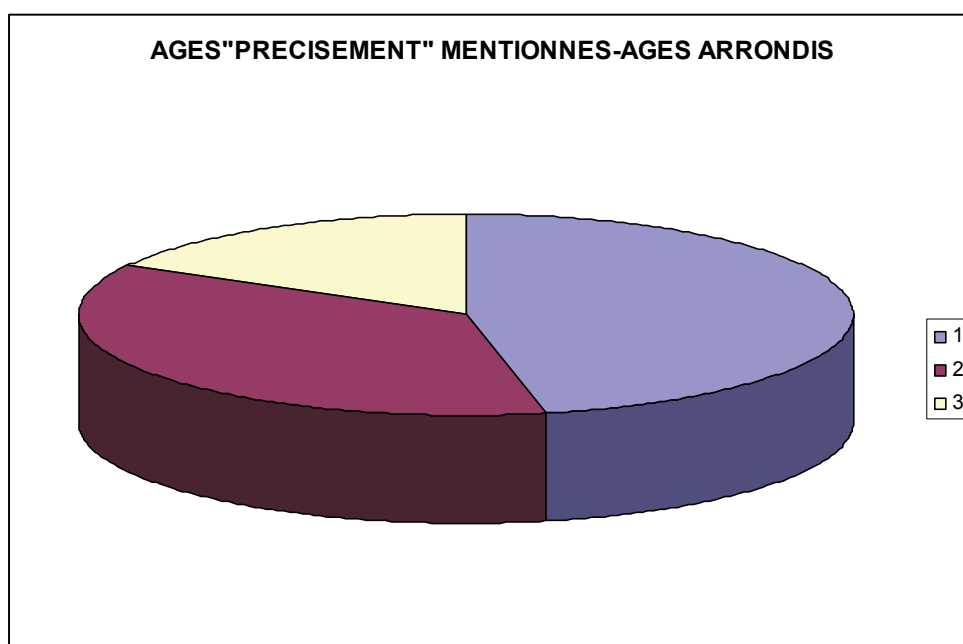
D'abord, on constate les distorsions des données par quelques manques dans notre échantillonnage. De 26 à 30 ans, par exemple, aucun défunt n'est mentionné, comme pour les catégories de 81 à 85 et de 91 à 95. Si en ce qui concerne les âges plus élevés, j'ai des doutes sur leur crédibilité: il est impossible de croire que, parmi les soldats de 26 à 30 ans, personne n'est décédé.



Graphique n° 2

Si, jusqu'à 50 ans, il reste une moitié de l'échantillonnage initial, la rupture est produite de 51 à 60 (31.3% disparaissent entre ces âges: 10.5% de 51 à 55 ans et 20.8% de 56 à 60 ans). Si on ajoute les personnes mortes de 46 à 50 ans (encore 12.5%), on obtient 43.8%, donc presque une moitié de l'échantillonnage disparaît dans un intervalle de 15 ans! Après 60 ans, la répartition des défunts par catégorie d'âge est pauvre du point de vue quantitatif et, à mon avis, peu pertinente. Quelles sont les raisons pour lesquelles ces catégories d'âge sont si «bien» représentées du point de vue de la mortalité? On constate que, de 6 personnages morts de 46 à 50 ans, 5 sont mentionnés comme décédés à 50 ans. De 10 personnes décédées de 56 à 60 ans, 7 sont évoquées comme ayant 60 ans. Cela soulève encore une fois le problème des âges arrondis, surtout après 40 ans, même s'il y a des cas où ce phénomène est enregistré à des âges beaucoup moins élevés. Ce problème a été longtemps discuté en historiographie et moi-même l'ai

repris plusieurs fois<sup>5</sup>; il est donc inutile de le reprendre ici. Mais si on regarde les âges des militaires et de vétérans des légions, en Mésie Inférieure, on observe que, de 47 âges de décès mentionnés dans les inscriptions (un âge n'est pas mentionné, mais je l'ai encadré dans une catégorie selon le nombre d'ans de service), 17 ont le chiffre final multiple de 10 et 8 ont chiffre final multiple de 5 (voir le graphique ci-dessous).



Graphique n° 3

- 1 – âges „précisément” mentionnés
- 2 – âges dont la valeur est multiple de 10
- 3 – âges dont la valeur est multiple de 5

Si dans 3 cas, les soldats sont jeunes pour soupçonner que leur âge a été arrondi, dans les autres ne se pose pas ce problème. Certainement, on peut invoquer que, dans les certains cas, la durée de service est mentionnée

<sup>5</sup> MÓCSY 1966, 387–421; DUNCAN-JONES 1977, 333–353; DUNCAN-JONES 1979, 169–178; MIHAILESCU-BÎRLIBA 2001, 87–102; MIHAILESCU-BÎRLIBA 2004, 15.

avec précision, mais cette durée était fournie par le certificat militaire. L'âge de recrutement n'était pas forcément marqué sur ces livrets. Parmi les âges de décès, celui de C. Iulius Magnus, originaire d'Ancyre, semble peu croyable (100 ans)<sup>6</sup>. Il y a pourtant des âges au décès plus élevés qui semblent être mentionnés avec plus de précision: ce sont les cas de L. Antonius Felix, originaire de Carthage, centurion de la *legio I Italica*, disparu à 59 ans<sup>7</sup>, de Tib. Claudius Ulpianus (de Laodicée), centurion de la Ve légion Macedonica, mort à 56 ans<sup>8</sup>, d'un certain Petronius, centurion de la Ière légion Italica, décédé à 53 ans<sup>9</sup>, de deux vétérans appartenant à la même légion, morts à 56 ans<sup>10</sup> et à 67 ans<sup>11</sup>, de C. Vibius Fronto, originaire de Brixia, vétéran de la Ve légion Macedonica, décédé à 74 ans<sup>12</sup>, d'un vétéran de la XIe légion Claudia, mort à 70 ans et quelques mois<sup>13</sup> et d'un primipile de la *legio XI Claudia Pia Fidelis*, C. Valerius Iulianus, originaire de Sarmizegetusa, mort en service à 88 ans<sup>14</sup>! On remarque que 5 de ces défunts sont des centurions ou primipiles encore en fonction, donc la mention de l'*aetas* lorsqu'ils ont été recruté est impossible. Les militaires morts jeunes ont, en plupart, l'âge au décès mentionnés avec précision: Iulius Ponticus<sup>15</sup>, M. Domitius Capetolinus<sup>16</sup> et Donatus Gal[---] (32 ans)<sup>17</sup>, Aemilius [---] (18 ans, 8 mois et un certain nombre de jours)<sup>18</sup>, Valerius

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<sup>6</sup> IGLN 83.

<sup>7</sup> ISM V, 176.

<sup>8</sup> ISM V, 179.

<sup>9</sup> ISM V, 202.

<sup>10</sup> ISM II, 250.

<sup>11</sup> IGLN 104bis.

<sup>12</sup> ILB 51; CONRAD 2004, 482.

<sup>13</sup> CIL III 14436.

<sup>14</sup> AE 1983, 880; IDRE II, 333. Il n'est pas, d'ailleurs, le seul primipile avec un très long service. Voir aussi à Novae le cas de L. Maxumius Gaetulicus (IGLN 46), qui a servi 46 ans. Ailleurs, CIL XIII 6728 (CBI 123; RICHIER 2004, 362–364, no 318); CIL XIII 6752 (RICHIER 2004, 418–419, no 389).

<sup>15</sup> ISM V, 186; CONRAD 2004, 228.

<sup>16</sup> ISM II, 348.

<sup>17</sup> ILB 311; IGLN 87; CONRAD 2004, 403.

<sup>18</sup> ISM II 184; CONRAD 2004, 189.

Valens (22 ans)<sup>19</sup>, Aelius Victor (38 ans)<sup>20</sup>, Valerius Birbilo (36 ans)<sup>21</sup>, C. Valerius Longinus (34 ans)<sup>22</sup>, le fils d'Aurelius Mica (20 ans)<sup>23</sup>. Certains d'eux, comme M. Sufena Titianus (mort à 25 ans)<sup>24</sup> ou C. Cornelius Iustus (disparu à 35 ans)<sup>25</sup>, ont probablement l'âge de décès mentionnés avec précision, même si, à partir des âges plus jeunes, l'approximation est possible.

Les âges de recrutement sont à reconstituer dans les cas où l'âge au décès est évoqué avec les années de service, à la condition que l'âge au décès soit correct. Les ans de service sont mentionnés avec précision, car il existait le livret militaire, mais on peut garder des doutes en ce qui concerne l'approximation des âges de décès. Ainsi, les militaires ont été recrutés à 16 ans (le fils d'Aurelius Mica)<sup>26</sup>, 18 ans (Iulius Ponticus<sup>27</sup>, Donatus Gal[---]<sup>28</sup>), 19 ans (Valerius Valens d'Ibida<sup>29</sup>, Valerius Marcus<sup>30</sup>, L. Septimius [---]<sup>31</sup>), 20 ans (Valerius Valens, fils de Iulius Dizzace<sup>32</sup>, Aelius Victor<sup>33</sup>, P. Farfinias Severus<sup>34</sup>, Valerius Birbilo<sup>35</sup>, C. Valerius Longinus<sup>36</sup>, Q. Philippicus [---]<sup>37</sup>), 21 ans (Aelius Iustinus)<sup>38</sup>, 22 ans (T. Claudius Priscus)<sup>39</sup> (voir le tableau no 3 et le graphique no 4)

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<sup>19</sup> ISM V, 224, CONRAD 2004, 236.

<sup>20</sup> ISM I, 302.

<sup>21</sup> ILB 329; IGLN 85; CONRAD 2004, 405.

<sup>22</sup> ILB 301; IGLN 86.

<sup>23</sup> CIL III 12440.

<sup>24</sup> ISM II, 192.

<sup>25</sup> ILB 62; CONRAD 2004, 435.

<sup>26</sup> CIL III 12440.

<sup>27</sup> ISM V, 186.

<sup>28</sup> ILB 311; IGLN 87; CONRAD 2004, 403.

<sup>29</sup> ISM V, 224, CONRAD 2004, 236.

<sup>30</sup> CIL III 7477; IDRE 332.

<sup>31</sup> ILB 48.

<sup>32</sup> ISM V, 185.

<sup>33</sup> ISM I, 302.

<sup>34</sup> ILB 300; IGLN 81; CONRAD 2004, 376.

<sup>35</sup> ILB 329; IGLN 85; CONRAD 2004, 405.

<sup>36</sup> ILB 301; IGLN 86.

<sup>37</sup> ILB 49; CONRAD 458.

<sup>38</sup> ILB 444; CONRAD 2004, 474.

Âges de recrutement	Nombre d'occurrences
16	1
18	2
19	3
20	6
21	1
22	1

Tableau n° 3



Graphique n° 4

On observe que les âges de recrutement le plus souvent évoqués sont de 18 à 20 ans (11 cas de 14), avec une fréquence plus élevée de l'âge de 20 ans (6 cas). Cela pose un signe d'interrogation en ce qui concerne la mention correcte des âges au décès: est-ce que l'âge de 20 ans était-il fixé

<sup>39</sup> ISM V, 178; CONRAD 2004, 225.

comme un repère de recrutement? Malheureusement, c'est une question sans une réponse précise pour l'instant, mais une analyse plus élargie dans tout le monde romain pourrait offrir une telle réponse.

### 3. Causes de mortalité

Les sources sont, comme attendu, silencieuses ou laconiques sur les causes de la mortalité des légionnaires. Les cas exceptionnels y sont évoqués, comme celui de Valerius Valens, mort dans la guerre parthique<sup>40</sup>. Le conflit a été identifié (correctement à mon avis) avec l'expédition de Lucius Verus en Orient. Les autres causes de décès ne sont pas identifiables, mais on peut remarquer qu'une moitié de l'échantillonnage est formée par les vétérans, donc une moitié a survécu au service militaire. Les causes sont probablement des maladies ou tout simplement la vieillesse (les cas de C. Iulius Magnus<sup>41</sup>, de C. Bruttius Goutus<sup>42</sup> et de C. Valerius Iulianus<sup>43</sup>).

Quelque soit leurs conditions de vie, on sait pourtant que l'existence des militaires étaient dure (peu d'entre eux terminait leur service)<sup>44</sup>. Dans les légions, le système sanitaire et, en général, le niveau de vie étaient meilleur que celui des unités auxiliaires. Les recherches des dernières décennies ont mis en évidence l'existence d'un *valetudinarium* militaire à Novae, en complétant les informations fournies par les sources mentionnant des médecins militaires<sup>45</sup>. Pourtant, même notre échantillonnage (avec une moitié de survivants au service militaire légal) montre la dureté de la vie militaire.

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<sup>40</sup> ISM V, 185.

<sup>41</sup> IGLN 83.

<sup>42</sup> ILB 307; IGLN 79; CONRAD 2004, 404.

<sup>43</sup> AE 1983, 880; IDRE II, 333.

<sup>44</sup> Voir, dans ce sens SCHEIDEL 1996, 121, tabl. 3.13; SCHEIDEL 2007, 426–427; WESCH-KLEIN 2007, 441.

<sup>45</sup> Sur le *valetudinarium* de Novae, voir DYCZEK 1997, 199–204; DYCZEK 1999, 495–500; DYCZEK 2004, 147–156; DYCZEK 2005, 81–84. Voir aussi APARASCHIVEI 2012a, 127–150; APARASCHIVEI 2012b, 110–113. Sur les médecins en Mésie Inférieure, voir APARASCHIVEI 2010, 141–156; APARASCHIVEI 2012b, 99–118.

Une dernière remarque: de nombreux vétérans restent dans la province où ils ont reçu la *honesta missio*<sup>46</sup>. Tels sont les cas de T. Claudius Priscus d'Hémèse<sup>47</sup>, de T. Flavius Valens d'Amastris<sup>48</sup>, de Valerius Firmus de Nicée<sup>49</sup>, d'un anonyme d'Oescus, de C. Bruttius Goutus de Virunum<sup>50</sup>, de C. Iulius Magnus d'Ancyre<sup>51</sup>, de C. Vibius Fronto de Brixia<sup>52</sup>, de Q. Falcius Constans d'Arminium<sup>53</sup>, de C. Annius Milo de Luca<sup>54</sup>, de L. Firmius Valentinus de Narbo<sup>55</sup>, de C. Roscius Capito de Troade<sup>56</sup>, de G. Iulius Longinus d'Héraclée Lyncestis<sup>57</sup>, de P. Scribonius Largus d'Ephèse<sup>58</sup>, c'est-à-dire de 13 d'un total de 24. Cela ne signifie pas les autres 11 étaient de Mésie Inférieure, mais les textes n'attestent pas leur lieu de résidence ou leur origine. Il faut aussi signaler que certains militaires prolongent leur service beaucoup après leur âge de libération (L. Antonius Felix de Carthage<sup>59</sup>, Tib. Claudius Ulpianus de Laodicée en Syrie<sup>60</sup>, P. Farfinias Severus de Fanum Fortunae<sup>61</sup>, C. Valerius Iulianus d'Ulpia Traiana Samizegetusa<sup>62</sup> ou M. Iunius Montanus<sup>63</sup>). Les raisons sont représentées non seulement par les longues distances (Asie Mineure, Gaules ou Italies),

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<sup>46</sup> Sur les vétérans de Troesmis, voir surtout MIHAILESCU-BÎRLIBA, PIFTOR 2005, 331–337; MIHAILESCU-BÎRLIBA, PIFTOR 2005-2006, 209–216; MIHAILESCU-BÎRLIBA, DUMITRACHE 2012, surtout 124–129. En général, voir WESCH-KLEIN 2007, 447–449.

<sup>47</sup> ISM V, 178; CONRAD 2004, 225.

<sup>48</sup> ISM V 184; CONRAD 2004 226.

<sup>49</sup> ISM V, 196.

<sup>50</sup> ILB 307; IGLN 79; CONRAD 2004, 404.

<sup>51</sup> IGLN 83.

<sup>52</sup> ILB 51; CONRAD 2004, 482.

<sup>53</sup> ILB 60; CONRAD 2004, 455.

<sup>54</sup> ILB 53; CONRAD 2004, 432.

<sup>55</sup> ILB 63; CONRAD 2004, 438.

<sup>56</sup> ILB 52; CONRAD 2004, 431.

<sup>57</sup> ILB 301; IGLN 86.

<sup>58</sup> ILB 58; CONRAD 2004, 436.

<sup>59</sup> ISM V, 176.

<sup>60</sup> ISM V, 179.

<sup>61</sup> ILB 300; IGLN 81; CONRAD 2004, 376.

<sup>62</sup> AE 1983, 880; IDRE II, 333.

<sup>63</sup> ILB 65; CONRAD 2004, 461.

mais aussi par les liens réalisés dans la région durant le service militaire. Les cas des vétérans d'Oescus établis à Troesmis sont les plus éloquents<sup>64</sup>.

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<sup>64</sup> ISM V, 188, 203.

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**AGE ROUNDING AND SOCIAL STATUS IN NORICUM\***

**LOREDANA PRICOP<sup>1</sup>**

**Keywords:** age rounding, Noricum, unrounded ages, rounded ages, Whipple's Index, legal status.

**Abstract.** *This survey concerns the age rounding process in the Latin epitaphs of Noricum. In the first part of the study we analysed the age rounding process differentiated by gender, the data obtained being compared with the existing ones from the other Danubian provinces. The second part concerns the age rounding process differentiated in terms of legal status by using Whipple's Index. The proportion of rounded ages–unrounded ages is overwhelming for both female and male population in Noricum. In terms of legal status, the peregrini/ae features the category with the highest tendency towards rounded digits followed by citizens (male and female) and soldiers.*

**Rezumat.** *Acest studiu privește procesul de rotunjire al vârstelor în inscripțiile funerare latine din Noricum. În prima parte a studiului am analizat procesul de rotunjire al vârstelor diferențiat pe sexe, datele obținute comparându-le cu cele deja existente pentru celelalte provincii dunărene. Cea de-a doua parte a studiului vizează procesul de rotunjire diferențiat pe categorii juridice prin prisma indexului lui Whipple. Proporția vârste rotunjite-vârste exacte este covârșitoare, atât pentru populația feminină, cât și pentru cea masculină din Noricum. Din punct de vedere al statutului juridic, peregrinii reprezintă categoria cu cea mai mare tendință spre cifrele rotunjite, fiind urmași de cetățeni și militari.*

Age rounding is a demographic phenomenon peculiar to many traditional societies from all historical eras, encountered from industrialization to modernization — it has only disappeared during the contemporary period. This phenomenon also appeared during the 20<sup>th</sup> century. Census-

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returns from developing countries frequently showed a predominance of ages reckoned in fives or tens. The true proportion of individuals with ages reckoned in fives in any population must normally be about one-fifth of the total (20%)<sup>2</sup>. We often find a much higher proportion than 20% reported in age-figures for developing countries. For instance, in the Turkish census of 21 October 1945, 58% of all adults have their age as a multiple of five years<sup>3</sup>. The usual reason for the deviation observed in modern censuses is ignorance of exact age; the innumeracy suggested by age rounding was probably one reflection of the reduced educational opportunities also reflected in illiteracy. Statistics from developing countries in the twentieth century allow quotients for age rounding and for illiteracy to be juxtaposed (Table 1).

Place and date of census	Rounding (ages 23–62)		Excess female rounding (percentage)	Illiteracy from age 15 (percentage)	
	Male	Female		Male	Female
Egypt 1947	74.9	80.4	7.3	68.5	91.3
Morocco 1960	53.1	67.4	26.9	78.1	94.0
Iran 1966	35.8	44.2	23.5	67.2	87.8
Iraq 1957	26.1	32.2	23.4	76.1	94.7
Nicaragua 1963	22.6	24.0	6.2	49.9	50.8
Turkey 1965	21.8	42.6	95.4	35.5	72.6
Guatemala 1950	20.9	32.3	54.5	65.6	75.6
Ceylon 1963	19.5	27.6	41.5	14.6	36.1
Mexico 1970	12.7	16.0	26.0	20.6	27.0
Brazil 1950	10.5	12.9	22.9	45.2	55.8

Table 1. Age rounding and illiteracy in 20<sup>th</sup> century censuses

<sup>2</sup> DUNCAN-JONES 1977, 333.

<sup>3</sup> Methods of Appraisal of Quality of Basic Data for Population Estimates (Manuals on methods of estimating population, no. II, United Nations ST/SOA Series A, Population Studies no. 23) 1955, 35, 41.

In one of his books, Walter Scheidel stated: “in pre-industrial societies past and present, the capability of stating one’s age or the age of an adult family member with precision, or even the mere wish to do so, cannot be taken for granted. In many cases, ages would be given in approximations focusing on a restricted range of conventional numbers such as multiple of five and ten. It has long been acknowledged that in this respect the Roman Empire is no exception”<sup>4</sup>. In Roman evidence, age declarations by the same individual at different dates typically show internal discrepancies, which are sometimes serious. A case in point is Aurelius Isidorus of Karanis in Egypt, a prosperous landowner of the time of Diocletian, who declared to be 35 in April 297, 37 in April 308, 40 in August 308, 45 before June 309, and 40 in June 309<sup>5</sup> (ages reported in documents preserved in his family archive shown in Table 2). Egyptian parallels suggest that this case was not at all unusual<sup>6</sup> (Table 3). Most of the ages in these three examples are multiple of 5. What lay behind the round numbers was guesswork by the individual.

Age-declaration	Implied birth-year	Discrepancy with preceding date
35 April 297	262	-
37 April 308	271	+ 9 years
40 August 308	268	- 3 years
45 pre-June 309	264 (or earlier)	- 4 years
40 June 309	269	+ 5 years

Table 2. Age reporting by Aurelius Isidorus

Age-declaration		Discrepancy with previous age
(A)	36 on 25 October 107 BC	-
	30 on 16 August 104	- 9 years
	35 on 12 April 101	+ 2 years

<sup>4</sup> SCHEIDEL 1996, 53.

<sup>5</sup> DUNCAN-JONES 1977, 334.

<sup>6</sup> DUNCAN-JONES 1990, 80.

	40 on 18 November 99	+ 3 years
(B)	45 on 27 February 310 AD	-
	50 on 3 April 317	- 2 years
	58 on June 327	- 2 years
	58 in October 328	- 1 year

Table 3. Other conflicting age declarations in Egypt

Nevertheless, the historians who studied demography warned that this might have been an exception, not the rule. In this article, we will try to determine whether there is a tendency for age rounding—by gender and social status—in Noricum.

This demographic phenomenon has been in the attention of classical antiquity historians starting with the end of the 19<sup>th</sup> century, with the articles of Albert Granger Harkness<sup>7</sup> and Wilhelm Levison<sup>8</sup>. More than half a century later, when the demographic studies on the Roman Era were resumed, age rounding came back to the researchers' attention through the articles of András Mócsy<sup>9</sup>, János Szilágyi<sup>10</sup>, Richard P. Duncan-Jones<sup>11</sup> and Walter Scheidel<sup>12</sup>. For Danubian provinces, the problem was treated by Lucrețiu Mihailescu-Bîrliba (as single author or together with Valentin Piftor and Răzvan Cozma)<sup>13</sup> and Valentin Piftor.

In their studies of age awareness in the Roman Empire, Levison and Mócsy simply divided ages not divisible by 5 by ages divisible by 5<sup>14</sup>, and Mócsy did not distinguish between the sexes, and used all age evidence from 20 upwards<sup>15</sup>. Duncan-Jones was the only one who tried,

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<sup>7</sup> HARKNESS 1896, 35-72.

<sup>8</sup> LEVISON 1898, 1-82.

<sup>9</sup> MÓCSY 1966, 387-421

<sup>10</sup> SZILÁGYI 1961, 125-155; 1962, 297-396; 1963, 129-224; 1965, 302-334; 1966, 235-277; 1967, 25-59.

<sup>11</sup> DUNCAN-JONES 1977, 333-353; 1979, 169-177.

<sup>12</sup> SCHEIDEL 1996, 53-93.

<sup>13</sup> MIHAILESCU-BÎRLIBA 2001, 87-102; 2004, 32-33, 38-40; MIHAILESCU-BÎRLIBA, PIFTOR, COZMA 2007, 17-21, 27-31; PIFTOR 2009, 33-36, 44-47; PIFTOR 2013, 87-114.

<sup>14</sup> SCHEIDEL 1996, 54.

<sup>15</sup> DUNCAN-JONES 1977, 334, note 7.

starting from the data provided by Mócsy and Szilágyi, to offer a complete picture of age rounding in the Latin-speaking half of the Empire. His survey is based on more than 40,000 extant epitaphs (with age at death of the deceased) from the western half of the Empire and mainly belonged to the first three centuries A.D. He adopted a new statistical approach, due to the weaknesses of the aggregative method used by Mócsy and Levison, and he made a more extensive social and regional analysis of the Roman evidence. Nevertheless, except for Scheidel, nobody analysed this issue at the level of a single province, and Scheidel chose as province the Roman Egypt, the only part of the ancient world which yields age data from different types of sources in sufficient number to permit comparative analysis and evaluation. He had focused on comparably large and homogeneous samples of evidence which were compiled from census returns, tax lists, tombstones, mummy labels, records of legal transactions, and lists of public officials. His study is carried out on a total of 2136 ages of individuals aged 10–69 years, 1860 of which concern persons who are between 20 and 69 years (1.437 men – 1.301 are 20–69 years old, and 517 women – 388 are 20–69 years of age).

We will use Whipple's Index to calculate age rounding. The formula is applied to a restricted age-range selected by the U.S. Census Bureau for studying excess representation figures in the U.S. Census of 1910. The range comprises 40 years stretching from 23 to 62 inclusive<sup>16</sup>. Analysis is restricted to this age span in order to exclude children and juveniles, the precise ages of whom are likely to be remembered by their parents, as well as elderly people among whom an approximate and even increasingly symbolic expression of age becomes the norm. The interval is divided into four decades. The index-figures for rounding are calculated as follows. A separate percentile analysis has been made of the proportion of ages divisible by 5 in each of the four decades. We subtract 20 from the percentage obtain within a decade and we multiply the result by 1.25<sup>17</sup>. Scheidel states that Whipple's Index is based on two questionable

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<sup>16</sup> WHIPPLE 1923, 180–181.

<sup>17</sup> DUNCAN-JONES 1977, 337.

assumptions. The first is that the number of ages in each ten-year range must be equal, which is clearly not the case in any actual population, and second — that within each decade, the classification by digits must be equal (each digit must represent 10% of the sample per decade). For the first assumption—that there should be an equal number of persons in each series—to be true, birth rate should be constant (in pre-industrial societies, famine, epidemics and war would cause considerable but irregular fluctuations in the birth rate). In addition, life expectancy should be rather high, mostly that this situation is not present in the contemporary societies, either. As concerns the second assumption, it is hard to believe that the same number of persons died at 23 and at 32, and this situation occurs in all decades<sup>18</sup>.

Our analysis was performed on a sample consisting of 934 individuals: 351 females, 555 males, and 28 persons whose gender could not be determined, from funerary stones dating since the first three centuries of our era, for the province of Noricum.

In the first part, we will analyse the ratio between rounded ages and unrounded ages at the level of the entire sample. In the case of the females in Noricum, the ratio is found in Figure 1.

Of the 351 persons within the female sample, 180 have the age ending in digit 0 (51.28%), 111 (31.62%) have the age ending in another digit, and only 60 persons (17.10%) have the age ending in the digit 5. The percentage of females with unrounded ages in Noricum (31.62%) is the lowest compared to the other Danubian provinces: Dacia – 47%<sup>19</sup>, Pannonia Inferior – 42%<sup>20</sup>, Moesia Inferior – 41.67%<sup>21</sup>, Moesia Superior – 36.55%<sup>22</sup> and Pannonia Superior – 34.6%<sup>23</sup>. In regard to the ages with digits ending in 0, the sample in Noricum (51.28%) is lower than that of Moesia Superior – 51.72%, but higher than that of Pannonia Superior – 48.2%,

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<sup>18</sup> SCHEIDEL 1996, 54.

<sup>19</sup> MIHAILESCU-BÎRLIBA 2004, 31,

<sup>20</sup> MIHAILESCU-BÎRLIBA, PIFTOR, COZMA 2007, 48–49.

<sup>21</sup> PIFTOR 2012, 80.

<sup>22</sup> PIFTOR 2012, 24,

<sup>23</sup> MIHAILESCU-BÎRLIBA, PIFTOR, COZMA 2007, 16–17.

Dacia – 39%, Moesia Inferior – 37.96% and Pannonia Inferior – 37%. In the case of ages ending in the digit 5, Noricum has a higher value (17.10%) than Dacia – 14% and Moesia Superior – 11.72%, but slightly lower than Pannonia Inferior – 21%, Moesia Inferior – 20.37% and Pannonia Superior – 17.20%.

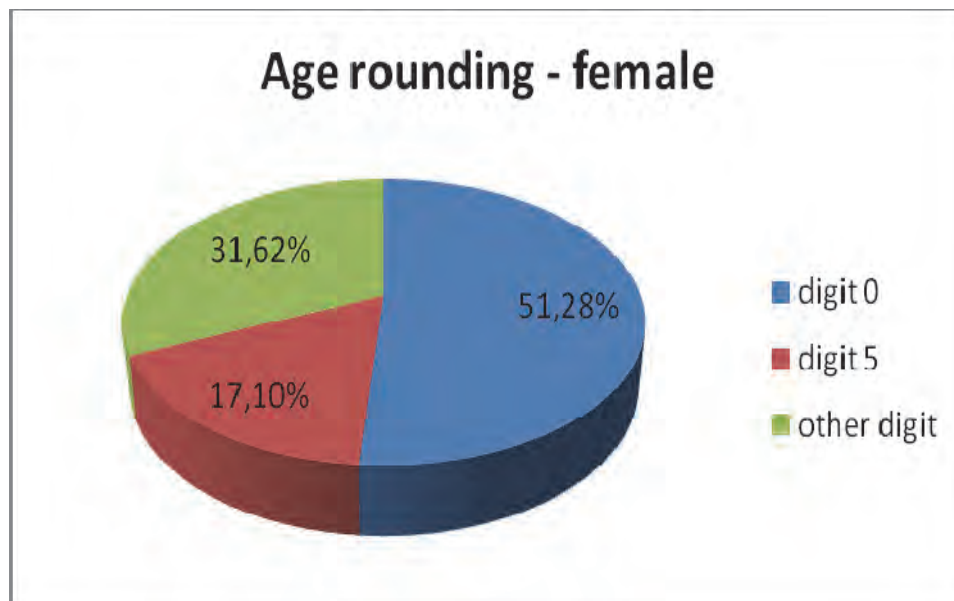


Figure 1. Age rounding in Noricum (females).

Table 4 captures the distribution of unrounded ages by age categories, as indicated in funerary inscriptions.

Age category (years)	Number of unrounded ages
1–4	21
6–9	14
11–14	10
16–19	19
21–24	15

26-29	5
31-34	12
36-39	6
41-44	0
46-49	2
51-54	4
56-59	0
61-64	2
66-69	0
71-74	0
76-79	0
81-84	0
86-89	0
91-94	0
96-99	0
101-104	1
106-109	0
111-114	0
116-119	0

Table 4. Classification of unrounded ages by age categories

We noticed a concentration of unrounded ages in the first part of the female sample, which includes the categories of children and young people. 64 of the 111 persons with an unrounded age lived until 20, meaning 57.65%, 102 of the 111 until 40 (91.89%) and 108 of the 111 until 55, meaning 97.29%. After this age, only 3 mentions of unrounded ages

were recorded, which shows that people had better memory concerning the persons who died younger.

In some epitaphs we can find people with ages clearly expressed. In the female sample in Noricum (Table 5), the precisely indicated ages (the exact number of months and days lived by the deceased) are mentioned, for the most part, up to 25 years; we are talking about girls and young women commemorated mainly by their parents. Lasciva lived 1 year and 5 months<sup>24</sup>, [---]muna lived 2? years, 11 months and 3 days<sup>25</sup>, a child whose name has not been preserved lived 3 years and – months<sup>26</sup> (the number of months is not readable), Capra lived 5 years, 11 months and 13 days<sup>27</sup>, Finita died at 6 years and 5 days<sup>28</sup>, Baebia Secunda lived 16 years and 8 months<sup>29</sup>, Vibenia Ursa – 23 years, 5 months and 3 days<sup>30</sup>, Ulpia Afrodisia – 25 years and 1 month<sup>31</sup>. The highest age pinpointed with months and days is that of Sextila, commemorated by her husband at 30 years, 2 months and 11 days<sup>32</sup>.

Name of the deceased	Age (years)	Legal status	Name of the dedicators	Legal status	Kinship	Source
Lasciva	1 y, 5 m	Citizen	Secundinius Ursinus	Citizen	Grand-father	ILLPRO N 208
[---]muna	2? y, 11 m, 3 d	Citizen	-	Citizens	Parents?	ILLPRO N 644
Anonymous	3 y, - m	-	-	-	-	RIS 220

<sup>24</sup> ILLPRON 208.

<sup>25</sup> ILLPRON 644.

<sup>26</sup> RIS 220.

<sup>27</sup> AE 1974, 485.

<sup>28</sup> ILLPRON 674.

<sup>29</sup> ILLPRON 655.

<sup>30</sup> ILLPRON 197.

<sup>31</sup> ILLPRON 1684.

<sup>32</sup> ILLPRON 442.

Capra	5 y, 11 m, 13 d	Slave	Hermianus	<i>Scrutator stationis Bilachinien sis</i>	Father	AE 1974, 485
			Leontia	Slave	Mother	
Finita	6 y, 5 d	<i>Peregrina</i>	Satullus	<i>Peregrini</i>	Father	ILLPRO N 674
			Finita	<i>Peregrina</i>	Mother	
Baebia Secunda	16 y, 8 m	Citizen	Baebius Secundus	Citizen	Father	ILLPRO N 655
			Accepta	<i>Peregrina?</i>	Mother	
			Cassius Ingenuus	Citizen	Husband	
Vibenia Ursa	23 y, 5 m, 3 d	Citizen	Paternus	<i>Peregrini</i>	Husband	ILLPRO N 197
Ulpia Afrodisia	25 y, 1 m	Citizen	-	-	Parents?	ILLPRO N 1684
Sextilia	30 y, 2 m, 11 d	<i>Peregrinae</i>	Valentinus Ingenuus	Citizen	Husband	ILLPRO N 442

Table 5. Persons with precisely-indicated ages in the female sample in Noricum

If we analyse the dedicators of the inscriptions belonging to the 9 females, the following situation appears: from the total of 5 persons under 16 years old – 3 have their parents as dedicators, one is commemorated by her grandfather and in 1 case the dedicator is unknown; the four under 35 years old have as dedicators: 1 – the parents and her spouse, 1 – the parents and 2 – the spouse. In addition, 6 of the 9 cases are represented by persons under 18 years old, which shows that, in the case of young persons, the dedicators were more aware of the exact age. If we analyse the legal status of the deceased, we notice that 5 of them are citizens, 2 are *peregrinae*, one is a slave and one has an undetermined legal status.

As concerns the rounded ages, their distribution by age categories is shown in Table 6.

Age category (years)	Number of rounded ages
5	6
10	6
15	3
20	31
25	15
30	38
35	18
40	32
45	2
50	28
55	5
60	23
65	5
70	7
75	4
80	8
85	1
90	3
95	1
100	3
105	0
110	0
115	0
120	1

Table 6. Classification of rounded ages by age categories

If most of the unrounded ages were recorded for ages under 25, most of the rounded ages are recorded for ages starting from 30 years old—179 persons of 240—meaning 74.58%. Most rounded ages are at 30 (38 persons), 40 (32 persons), 50 (28 persons), 60 (23 persons), 70 (7 persons), 80 (8 persons), 90 (3 persons), 100 (3 persons), meaning 59.16% of the rounded ages and 40.45% of the overall female sample. Of the 38 cases of females deceased at 30 years old from Noricum, in 12 cases the spouse is the dedicator, in 16 cases the females are commemorated by their parents (both parents – 7 cases; the father – 8 cases; the mother – 1 case), in 4 cases

the dedicators are unknown, three females are commemorated by their heirs – *heres* (one of them, Fuscia Secunda, is commemorated by her children – *heredes pudenti matri fecerunt*<sup>33</sup>), in one case the grandfather, in one case the sibling and in another case there is no mention of the type of relation between the dedicator and the deceased. This may indicate that their relatives no longer remember the age at death, but they believe that the females have reached a certain maturity without having children and tend to associate this phenomenon with the age of 30<sup>34</sup>.

In the case of male population in Noricum, the ratio between rounded ages and unrounded ages can be seen in the Figure 2.

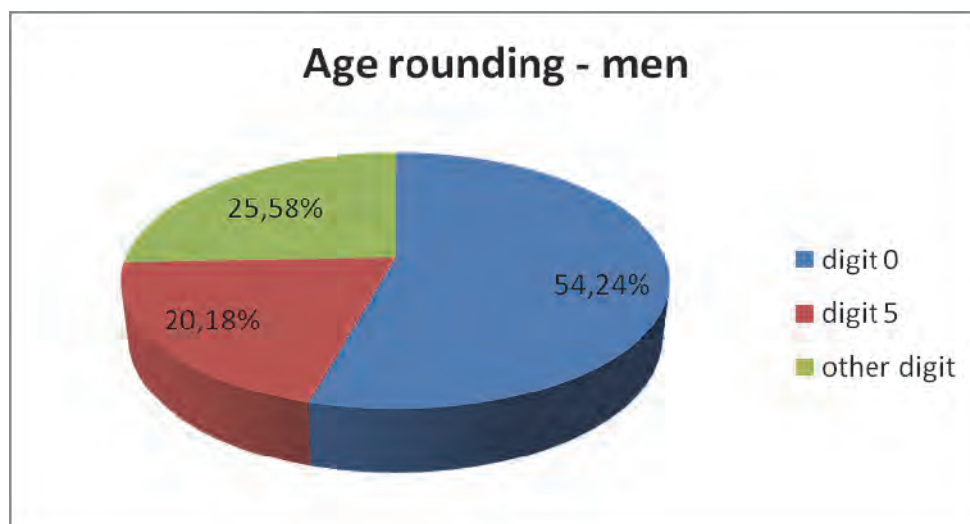


Figure 2. Age rounding in Noricum (males).

In Noricum there are 301 persons (54.24%) with the age ending in the digit 0; 142 (25.58%) have the age ending in another digit, and only 112 (20.18%) have the age ending in the digit 5. The percentage of male with accurate ages in Noricum (25.58%) is the lowest compared to the other Danubian

<sup>33</sup> ILLPRON 1547.

<sup>34</sup> MIHAILESCU-BÎRLIBA 2006, 128.

provinces: Pannonia Inferior – 44%<sup>35</sup>, Dacia – 42%<sup>36</sup>, Moesia Inferior – 39.03%<sup>37</sup>, Pannonia Superior – 33.5%<sup>38</sup> and Moesia Superior – 32.14%<sup>39</sup>. In the case of ages ending in the digit 0, Noricum has the highest percentage among all the Danubian provinces – 54.24%, unlike the other provinces: Pannonia Superior – 45.4%, Moesia Inferior – 44.61%, Moesia Superior – 44.16%, Dacia – 42% and Pannonia Inferior – 41%. In regard to the ages with digits ending in 5, the percentage in Noricum (20.18%) is lower than that of Pannonia Superior – 21.1% and Moesia Superior – 23.7%, but higher than that of Moesia Inferior – 16.36%, Dacia – 16% or Pannonia Inferior – 15%.

As in the case of the female population in Noricum, there are precisely indicated ages (the exact number of months and days lived by the deceased). Babies (an anonymous dead at the age of 8 months<sup>40</sup>), toddlers (like Primus – lived 2 years, - months and 16 days<sup>41</sup> and [---]us Valens – 2/3 years, 2 months and 2 days<sup>42</sup>) and children (such as [---]ius – 7 years, 3 months and 16 days<sup>43</sup>) are those whose age of death is precisely indicated and, moreover, in all four cases the dedicators are the parents, meaning the persons who know better the ages of their children. As regards the legal status, both the deceased and the dedicators are citizens.

Name of the deceased	Age (years)	Legal status	Name of the dedicators	Legal status	Kinship	Source
Anonymous	8 m	Citizen?	L(ucius) Celerius Campester	Citizen	Father	ILLPRON

<sup>35</sup> MIHAILESCU-BÎRLIBA, PIFTOR, COZMA 2007, 57.

<sup>36</sup> MIHAILESCU-BÎRLIBA 2004, 38–39.

<sup>37</sup> PIFTOR 2012, 99.

<sup>38</sup> MIHAILESCU-BÎRLIBA, PIFTOR, COZMA 2007, 27.

<sup>39</sup> PIFTOR 2012, 43.

<sup>40</sup> ILLPRON 21.

<sup>41</sup> ILLPRON 169.

<sup>42</sup> ILLPRON 1356.

<sup>43</sup> ILLPRON 1356.

			Celeria Primigenia	Citizen	Mother	21
Primus	2 y, - m, 16 d	Citizen?	C(aius) Anto[nius] Quintianus	Citizen	Father?	ILLPRON 169
[---]us Valens	2/3 y, 2 m, 2 d	Citizen	M(arcus) Fidelis	Citizen	Father?	ILLPRON 1356
[---]ius	7 y, 3 m, 16 d	Citizen				

Table 7. Persons with precisely indicated ages  
in the male sample in Noricum

Table 8 captures the distribution of unrounded ages by age categories, as indicated in funerary inscriptions.

Age category (years)	Number of unrounded ages
0–1	4
1–4	14
6–9	32
11–14	13
16–19	21
21–24	16
26–29	8
31–34	6
36–39	2
41–44	2
46–49	6
51–54	5
56–59	5
61–64	4
66–69	1
71–74	2
76–79	0
81–84	1

86–89	0
91–94	0
96–99	0
101–104	0
106–109	0
111–114	0
116–119	0

Table 8. Classification of unrounded ages by age categories

The unrounded ages of death are crowded in the first part of the male sample, which includes the categories of children and young people. Thereby, 100 ages of 142 (70.42%) are listed by the age of 25 years, 114 of 142 by the age of 35 years (80.28%), 118 of 142 by the age of 45 years (83.09%) and 138 of 142 by the age of 65 years old (97.18%). After this age, only 4 mentions of unrounded ages were recorded, so over the years the age of death is likely to be forgotten and rounded by the dedicators. Therefore, the dedicators had better memory concerning the ages of death belonging to those individuals who died during childhood and adolescence. The agglomeration of exact ages up to less than 35 years old could also be due to the higher life expectancy at birth for males than for females. The male sample includes a number of military and veterans, whose age of death is often indicated with precision (for example, 25 soldiers from a total of 72 and one veteran of 20 registered have ages ending in other digits, besides 0 and 5).

As regards the rounded ages for the male population in Noricum, the situation is found in Table 9.

Age category (years)	Number of rounded ages
5	6
10	15
15	14
20	48
25	39
30	52
35	19

40	31
45	10
50	44
55	10
60	49
65	5
70	36
75	7
80	11
85	1
90	5
95	1
100	8
105	0
110	1
115	0
120	1

Table 9. Classification of rounded ages by age categories

The age of death ending in digit 5, unlike the ones ending in digit 0, are recorded in a relatively low number (112 of 413 – meaning 27.11%). Like the female population, rounded ages are centred round large age categories. Most of the rounded ages are recorded for ages starting from 30 years old – 296 persons of 413, meaning 71.67%. We notice that most rounded ages are recorded at 30 years old (52 persons), 60 years old (49 persons), 20 years old (48 persons), 50 years old (44 persons), 25 years old (39 persons), 70 years old (36 persons), 40 years old (31 persons), 35 years old (19 persons), 10 years old (15 persons), 15 years old (14 persons), 45 and 55 years old (10 persons for each age) and 100 years old (8 persons). The age of 60 was considered the beginning of what we call today senescence. Though in the historiography related to the name given to the various stages in the life of the Roman citizens many authors claimed that *senex* began around 40, Parkin proved that the old age-related view was

far more complex and that, in the Roman world, the old age would have begun at 60<sup>44</sup> Without doubt, for the vast majority of old ages (70, 75, 80, 90 and 100 years old), the figures are rounded. For a population with high infant and young people mortality, it is rather difficult to believe that some individuals have reached their old ages.

Figure 3 presents the results of the analysis of the entire sample for Noricum by adding the persons whose gender could not be determined to the male and female population.

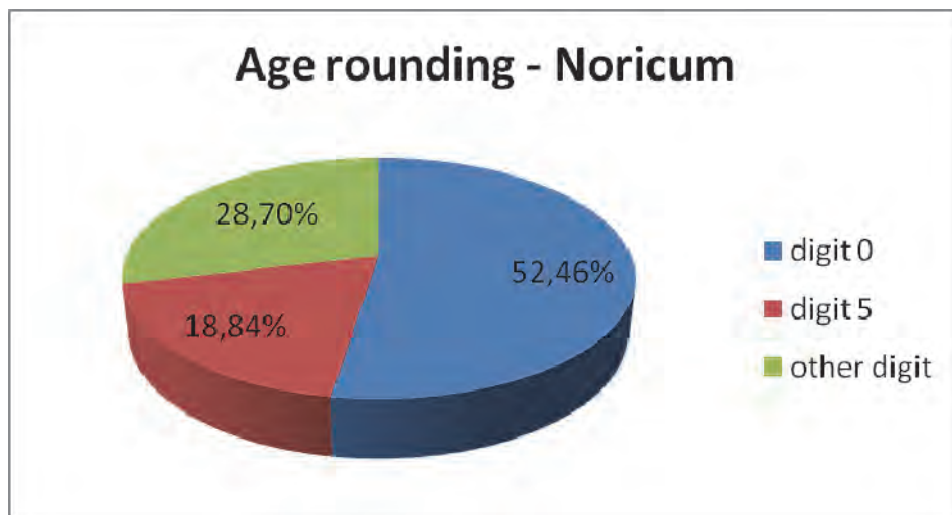


Figure 3. Age rounding for the population in Noricum.

The age rounding phenomenon at the level of the entire population follows the same patterns as in the case of male and females. The most numerous percentage are those ending in digit 0 – 52.46%, in the second place we find the unrounded ages – 28.70%, followed by the ages ending in digit 5 – 18.84%. In addition, by analysing the percentage of the precisely mentioned ages, meaning the 9 ages for females and the 4 for males, we obtain 13 very exact ages (in months and days). Their percentage at the level of the entire sample is 1.39%, an about average

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<sup>44</sup> PARKIN 2003, 17–18, 21.

between the percentage of the females (2.56%) and that of the male population (0.72%).

In the subsequent lines, we will try to apply Whipple's Index to our sample and to compare it with the results obtained by Duncan-Jones. The results after applying Whipple's Index to the female sample are found in Table 10.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	53	72	67.01
33–42	50	59	80.93
43–52	30	35	82.14
53–62	28	30	91.66
23–62	161	196	77.67
Mean of the four decades			80.43

Table 10. Whipple's Index for females

The number of persons within the age span 23–62 years is 196, meaning 55.84% of the overall sample. The first decade comprises almost 37% of the ages, and then they decrease down to the last decade. The lowest value of the index is registered at the decade 23–32. The relatively close values of the second and third decade, also close to the final mean of the index, show that the adult persons provide the general trend for the entire sample. The last decade registers the highest index value – 91.66, showing a strong rounding process; there is only two ages (53 years old and 62 years old) that are not divisible by 5.

The index value is very close to that obtained by Duncan-Jones for the female population in Noricum – 77.3<sup>45</sup>. This shows that there was a pronounced preference in this area for the age ending in a digit divisible by 5.

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<sup>45</sup> DUNCAN-JONES 1977, 343, Table 8.

Walter Scheidel says, in his article concerning digit preference when expressing one's age, that the interval 23–62 or 20–69 is not the best choice in order to calculate preference digits, taking into account that, for the Egypt sample, Bagnall and Frier obtained a life expectancy at birth of 22.5 years<sup>46</sup>. Scheidel thought that Whipple's Index can afford to start with the data for age 10 without giving undue weight to the more accurate age records for juveniles because the cohort from 10–19 years is less fully represented than the cohorts from age 20 onwards. When evaluating census returns from Roman Egypt, in which the age from 60–69 years do not appear excessively imprecise, it seems reasonable to extend the overall age range to age 69<sup>47</sup>. Therefore, for his calculations, he used an extended sample with ages ranging between 10 and 69. We tried to apply the calculation method for Whipple's Index to this extended sample. In this case, our sample comprises 281 persons meaning 80.05%, with 85 persons more than the small one (Table 11).

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	9	38	4.60
20–29	46	66	62.12
30–39	56	74	69.59
40–49	34	36	93.05
50–59	33	37	86.48
60–69	28	30	91.66
10–69	206	281	66.63

Table 11. Whipple's Index for females (extended sample)

We have obtained a 66.63 value, much lower than that obtained for the sample 23–62. This is not surprising because, up to 25 years old, in our sample there were mainly unrounded ages, as we have shown above. The first decade provides a very low value, less than 20, which means that in

<sup>46</sup> BAGNALL, FRIER 1994, 77.

<sup>47</sup> SCHEIDEL 1996, 54–55.

this decade the rounding process is underrepresented. Starting with the fourth decade, the values increase: they are situated between 85 and 95. The fourth decade registers the highest index value – 93.05, showing a strong rounding process; there is only two ages (48 years old and 49 years old) that are not divisible by 5. The value of the rounding index at the level of the entire extended sample is significantly lower (by 11) than that of the reduced sample. The number of persons from each decade is increasing up to the 30–39 years decade, and then decreases by every decade.

From the legal perspective, as regards the female sample in Noricum, the situation is presented in Figure 4.

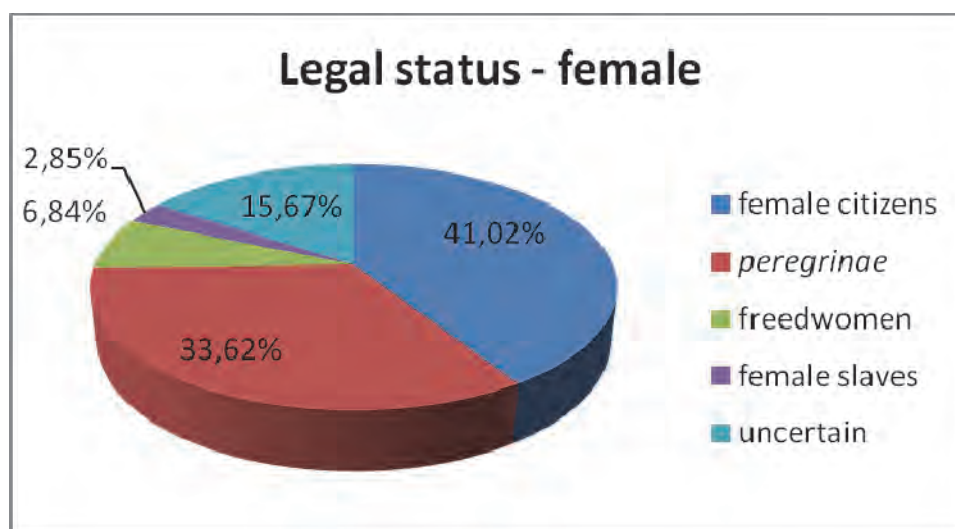


Figure 4. Legal status of the females in Noricum.

In order to identify any age rounding tendency determined by the legal status of the deceased females, we have applied Whipple's Index only for the female citizens and for the *peregrinae*, as the other categories (freedwomen, female slaves and uncertain) are too few to include them in the calculation (Table 12). The female citizens rounding process follows, broadly, a similar pattern with that of women in general. There are lower

values in the first two decades, while in the last two decades we record higher values (actually, they have the same value – 82.14).

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	24	36	58.33
33–42	18	25	65.00
43–52	12	14	82.14
53–62	6	7	82.14
23–62	60	82	66.46
Mean of the four decades			71.90

Table 12. Whipple's Index for female citizens

The index values of the mean of the four decades and for 23–62 age intervals are much lower than in the case of the entire female sample, which shows a smaller rounding tendency at female citizens than of women in general.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	3	14	1.78
20–29	21	34	52.20
30–39	23	36	54.86
40–49	11	13	80.76
50–59	15	15	100
60–69	5	6	79.16
10–69	78	118	57.62

Table 13. Whipple's Index for the female citizens (extended sample)

In the extended sample (118 – meaning 33.61% of the entire female sample), an increase of the index values was found, which shows the accentuation of the rounding process by age (Table 13). In the first decade, the index value is very low – 1.78, which means that in this decade the

rounding process is underrepresented; while the fifth decade features only rounded ages. Starting with the age of 30, the rounding process is accentuated in the entire sample of citizens in Noricum. The value of the extended sample is significantly lower than in the case of the reduced sample.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	20	22	88.63
33–42	18	19	93.42
43–52	13	14	91.07
53–62	13	14	91.07
23–62	64	69	90.94
Mean of the four decades			91.04

Table 14. Whipple's Index for the *peregrinae*

The situation of the *peregrinae* is very different from that of the female citizens in Noricum (Table 14). The *peregrinae* offer the image of a sample with an accentuated rounding process: only 5 persons of the 69 within the sample do not have rounded ages (7.24%). The first two decades presents the extreme limits of the index values: the lowest value in the first decade – 88.63, and the highest value in the second decade – 93.42. The index values of the mean of the four decades and for 23–62 age intervals are higher than in the case of the entire female sample, and much higher than that of the female citizens, which shows a smaller rounding tendency at women in general and female citizens than of the *peregrinae*.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	4	17	4.41
20–29	16	20	75.00
30–39	21	22	94.31
40–49	14	14	100

50–59	12	14	82.14
60–69	14	14	100
10–69	81	101	75.24

Table 15. Whipple's Index for the *peregrinae* (extended sample).

In the extended sample of the *peregrinae* (101 persons – 28.77%) (Table 15), we notice a very low value in the first decade (the rounded ages are underrepresented), but also exclusively rounded ages in two other decades (40–49 and 60–69). The index value at the level of the extended sample is lower than in the above-presented situation.

In the case of persons with uncertain legal status, we notice 45 (of 55) rounded ages, in the case of freedwomen 18 (of 24) rounded ages, and in the case of female slaves 7 (of 10) rounded ages. We may pinpoint that, the higher the social status, the lower the age rounding process: the citizens were more careful and more aware concerning the persons' age than the other categories. Though rising proportionally with them, the age rounding process remains differentiated on social categories. The female citizens have lower scores than the *peregrinae*, except for the decade 50–59 of the extended sample. This can be explained by the fact that the sample of *peregrinae* also includes persons who had a good financial situation and a high education level, though they were not citizens.

The results of Whipple's Index applied on the male population in Noricum are found in Table 16.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	91	108	80.32
33–42	50	56	86.60
43–52	54	65	78.84
53–62	59	69	81.88
23–62	254	298	81.54
Mean of the four decades			81.91

Table 16. Whipple's Index for males

The sample used to calculate Whipple's Index for males comprises 298 individuals, representing 53.69% of the overall male sample, which means a lower percentage than that of the female population. Nevertheless, this is understandable because in the female sample there are fewer individuals over 80 years old, while the male sample comprises eight centenarians and two individuals aged 110 and 120 years old. In the first decade we find the highest number of individuals with ages divisible by 5; the other three decades register lower values, but placed in an increasing order. The index values for the decades 43–52 and 53–62 are lower than the values obtain for females. The highest value of the Whipple's Index for males is 86.60 (in the second decade), showing a strong rounding process, there are six ages (two ages of 33 and ages 34, 37, 38 41 years old) that are not divisible by 5. The decades 23–32, 53–62, the 23–62 spans register close values to the mean, but slightly lower.

If we make a parallel with the results obtained by R.P. Duncan-Jones for Noricum, we notice that our value is slightly lower, but very close (Table 17). Duncan-Jones obtained 82.1 for the males of Noricum, compared to 81.54 – the index value that we attained for the ages in Noricum. In the roman evidence appears an age-deviation, which is usually greater for females. Noricum is one exception: the female's excess over males achieved by Duncan-Jones is -5.8<sup>48</sup>, in our case the excess value is lower (-3.87). The underlying reason for these exceptions is likely to be sampling variations, and social discrepancies between samples for males and females.

Region	Male rounding	Female rounding	Female excess over male (percentage)
Italy outside Rome	42.6	41.8	- 1.9
Gallia	44.1	43.1	- 2.3
Rome	47.0	50.2	+ 6.8

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<sup>48</sup> DUNCAN-JONES 1990, 86, Table 27.

Africa and Numidia	51.4	52.2	+ 1.6
Mauretania	51.6	54.1	+ 4.8
Dalmatia	53.3	56.0	+ 5.1
Hispania	56.6	58.4	+ 3.2
Moesia	57.2	73.3	+ 28.1
Germania	57.3	20.7	- 63.9
Dacia	61.2	65.0	+ 6.2
Pannonia	64.8	75.9	+ 17.1
Noricum	82.1	77.3	- 5.8

Table 17. Sex-differences in age rounding by region

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	29	63	32.53
20–29	87	111	72.97
30–39	71	79	87.34
40–49	41	49	79.59
50–59	54	64	80.46
60–69	54	59	89.40
10–69	336	425	73.82

Table 18. Whipple's Index for males (extended sample)

We tried to apply the calculation method for Whipple's Index to the extended sample (Table 18). In this case, our sample comprises 425 persons meaning 76.57%, with 127 persons more than the small one. The number of individuals from each decade increases and then decreases, but not in a constant manner. The lower index value is recorded in the first decade, while the highest value is found in the last decade (only 5 ages not divisible by 5). At the level of the entire sample, the index value is lower for the extended sample compared to the small sample.

As concerns the males of Noricum, besides the legal statuses of *cives*, *peregrinus*, freedman, and slave, we have added three others: magistrates, soldiers, and veterans (Figure 5).

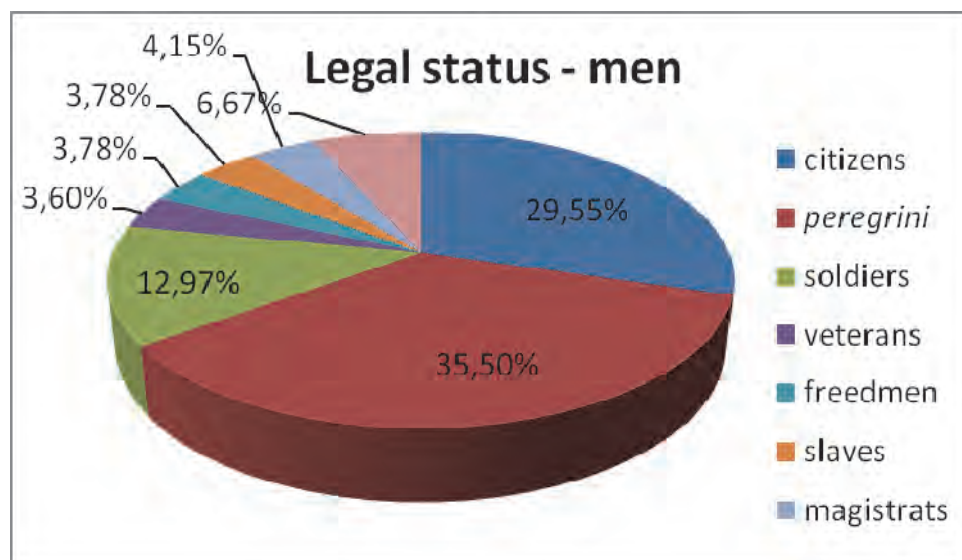


Figure 5. Legal status of the male population.

The magistrats would represent the wealthiest and most educated among the citizens and the *peregrine*, while the soldiers and veterans are categories that do not come only from the province and that present high mobility. We notice that the *peregrini* would represent the highest percentage in our sample, followed by citizens and soldiers and veterans. This is why we will analyse the three categories below, by observing and analysing the differences and similarities between them.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	24	30	75.00
33–42	10	12	79.16
43–52	10	12	79.16
53–62	19	23	78.26
23–62	63	77	77.27
Mean of the four decades			77.89

Table 19. Whipple's Index for citizens

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	12	25	35.00
20–29	20	26	71.15
30–39	19	22	82.95
40–49	7	8	84.37
50–59	13	15	83.33
60–69	16	20	75.00
10–69	87	116	68.75

Table 20. Whipple's Index for citizens (extended sample)

The small sample comprises 77 individuals, meaning 13.87% (Table 19). For this sample, the model is similar to that of the entire male population. The decades 33–42, 43–52 (the same value) and 53–62 present higher values compared to the other decades and with the overall age span. All the values are lower than the values obtained for the entire population, with one exception: decade 43–52 records a higher value in the care of citizens. The values of the second, the third, and the fourth decade are slightly higher than the mean. After the age of 30, the age rounding process becomes significant. The extended sample is composed of 116 persons (20.90%), with 39 more than the small one (Table 20). In this case, the second decade has the lowest value of all, while the five other decades have double values compared to the first decade. The index value at the level of the entire extended sample (68.75) is significantly lower than in the case of the reduced sample (77.27); the difference is around 8.5.

Compared to the female citizens, male citizens register lower values for the third and fourth decade. It appears that, in the case of 43–62 age spans, when the deceased was a male citizen, the dedicators stated more exactly the age than in the case of a female citizen.

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	34	36	93.05
33–42	16	17	92.64
43–52	22	25	85.00
53–62	24	24	100
23–62	96	102	92.64
Mean of the four decades			92.67

Table 21. Whipple's Index for *peregrini*

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	10	21	34.52
20–29	30	32	92.18
30–39	25	26	95.19
40–49	14	15	91.66
50–59	23	26	85.57
60–69	20	20	100
10–69	122	140	83.92

Table 22. Whipple's Index for *peregrini* (extended sample)

The first decade within the first sample (102 individuals) offers a high value, followed by two decades with lower values, and the last decade is represented exclusively by rounded ages. In the extended sample (140 individuals, with 38 more), the first decade has the lowest value, while the last decade has the highest value of all. The other decades present high values, over 85. The age rounding process increases with the age in the case of *peregrini* in Noricum. It seems that, around the age of 60, the age rounded process is more pronounced.

The index values are different from those of the male citizens (Tables 21 and 22). We obtained very high values for *peregrini*, both for the reduced and for extended samples (more than 85), with one exception: the decade 10–19 of the extended sample registers a smaller value than in the

case of citizens. The decades 53–62 (for the smaller sample) and 60–69 (for the extended sample) include exclusively digits ending in a number divisible by 5. The mean is still slightly higher than that of the male citizens (the difference is around 15).

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
23–32	20	28	64.28
33–42	15	18	79.16
43–52	12	17	63.23
53–62	5	9	44.44
23–62	52	72	65.27
Mean of the four decades			62.77

Table 23. Whipple's Index for soldiers and veterans

Age groups	Age ending in a number divisible by 5	Total	Whipple's Index
10–19	0	2	0
20–29	17	27	53.70
30–39	16	20	75.00
40–49	12	17	63.23
50–59	8	11	65.90
60–69	7	8	84.37
10–69	60	85	63.23

Table 24. Whipple's Index for soldiers and veterans (extended sample)

The numbers of individuals from both samples are shown in descending order (except for the first decade within the extended sample, where the number is lower compared to the other decades). In the reduced sample, the 33–42 decade provides the highest index value – 79.16 (only 3 unrounded ages). The decade 60–69 from the extended sample offers also the highest value – 84.37, showing a strong rounding process; there is only one age (61 years old) that is not divisible by 5. In this sample, the first decade does not present an age rounding process. The index values from

the second sample are mainly lower, but close to the ones from the first sample; the difference at the level of the entire sample is low: almost 2 (Tables 23 and 24).

In the case of soldiers and veterans, the only category less/worst represented in the age span 23–62 years old (12.97%), than the other categories analysed. Also, Whipple's Index values are relatively low compared to the entire male population, the citizens, and the *peregrini*. The fact that the soldiers and veterans have the lowest values of them all shows that it was easier to memorize the age in the army, mostly given that the data related to the enrolment age and to the years of military service were important for the General Staff and for the administration of the Roman State<sup>49</sup>.

If we compare the values obtained for the sample between 23–62 years old and those for the extensive sample between 10 and 69 years old, we get the following values: citizens 23–62 years old 77.27 and 10–69 years old 68.75, *peregrini* 23–62 years old 92.64 and 10–69 years old 83.92; for the soldiers and veterans 23–62 years old 65.27 and 10–69 years old 63.23. The smallest difference is that of soldiers, because the militaries were enrolled starting with ages ranging between 18 and 22. This means that there are few representatives for the decade 10–19 years old (2 ages, both unrounded), a decade in our sample that lowers significantly the index value. This occurs because, toward 35 years old, there is a dominance of the ages ending in other digits than 0 or 5.

Even though our study is based on a rather small sample compared to that included in the studies of Duncan-Jones and Scheidel, we notice, at the level of Noricum, certain tendencies as regards the preference for rounding ages (ending in a number divisible by 5).

Compared to the other Danubian provinces for which calculations have been made, the female population registers a higher preference for ages ending in the digit 0, having a lower but very close value to that of Moesia Superior, and at the same time higher than Pannonia Superior. The male population registers, for ages ending in the digit 0, the highest value

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<sup>49</sup> PIFTOR 2013, 111.

of all the Danubian provinces. The unrounded ages appear mostly at small and young ages — under 25 for females, and under 35 for males. The rounded ages are concentrated, for both males and females, from 30 to about 80.

Because we have applied Whipple's Index of small samples, it was a little more difficult to set up tendencies, mostly that, when we having as criteria the legal status. We obtained a higher index value for females, and a lower, but very close index value for males compared to the ones calculated by Duncan-Jones. This may be due to the geographic location of the province. In Duncan-Jones opinion, the rounding appears most extreme in the northern frontier provinces, Noricum, Pannonia, Dacia, Moesia, and Germania. These provinces, which were certainly among the most backward parts of the Empire in terms of Romanization, may well have had generally low levels of education<sup>50</sup>.

Higher age rounding by women is found in 7 of the 10 provinces (Moesia, Pannonia, Dacia, Rome, Dalmatia, and Mauretania, Hispania) or groups of provinces that were analysed by Duncan-Jones. In the other three areas, Gallia, Germania, and Noricum, the opposite pattern appears (situation confirmed by our calculation). The female citizens show a clear lower tendency for age rounding, compared to the *peregrinae*. As regards the male population, the soldiers and veterans represent the category with the lowest tendency toward rounded digits, followed by male citizens and *peregrini*.

The survey shows that age-awareness in the Roman Empire in general and in Noricum in particular was seriously defective. Modern parallels suggest that defective age-awareness is often accompanied by a low level of literacy, and that the two deficiencies can express similar forms of ignorance. The application of Whipple's Index on the epigraphic evidence from Noricum shows that there were large social variants in age-awareness; we noticed important differences by gender and class. The use of Whipple's Index in the future surveys of other Latin-speaking provinces of the Roman Empire will provide us with a better picture of the

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<sup>50</sup> DUNCAN-JONES 1977, 344.

age rounding tendencies at the level of each province; it will also underline especially the differences regarding age-awareness by gender, class, and by geographical region.

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**L'AIGLE EN ARGENT DE MICIA**

IOAN PISO<sup>1</sup>

**Keywords:** Micia, silver eagle, ala Campagonum.

**Abstract.** *The subject of this paper is a base of statue (CIL III 1343) found in 1862 under unknown conditions in the auxiliary camp of Micia and unfortunately lost. Several scholars, among them Th. Mommsen, N. Gostar and I. I. Russu, have dealt with CIL III 1343. The monument was dedicated for the health of the two Augusti, Septimius Severus and Caracalla and of Geta Caesar. The a. thinks that in l. 6 must be read [a]quil[am arglen[t(eam)]]; the dedication was made by the prefect of the ala Campagonum and the vexillations of other units further mentioned found themselves in Micia after returning from the war against Clodius Albinus or before leaving for the Parthian war. This brings us to about the beginning of 198.*

**Resumé.** *Le sujet de cet article est constitué par une base de statue (CIL III 1343) trouvée en 1862, dans des circonstances inconnues, dans le camp auxiliaire de Micia et aujourd'hui perdue. Plusieurs savants, dont Th. Mommsen, N. Gostar et I. I. Russu, se sont occupés de CIL III 1343. Le monument a été élevé pour la santé des deux Augustes, Septime Sévère et Caracalla, et pour la santé du César Geta. L'auteur pense que la sixième ligne il faut lire [a]quil[am arglen[t(eam)]]; le voeu a été fait par le préfet de l'ala Campagonum et les vexillations des autres unités énumérées se trouvaient à Micia après avoir été de retour de la guerre contre Clodius Albinus ou de partir pour la guerre contre les Parthes. Cela signifie que le moment est environ le début de 198.*

**Rezumat.** *Subiectul prezentului articol este o bază de statuie (CIL III 1343) descoperită în anul 1862 în condiții necunoscute în castrul auxiliar din Micia și din nefericire pierdută. Mai mulți savanți, între care Th. Mommsen, N. Gostar și I. I. Russu, s-au ocupat de CIL III 1343. Monumentul a fost dedicat în sănătatea celor doi Augusti, Septimius Severus și Caracalla, și a lui Geta Caesar. Autorul crede că în r. 6 trebuie citit [a]quil[am arglen[t(eam)]]; dedicația a fost făcută de către prefectul alei Campagonum și că vexilațiile altor unități, care sunt înșirate în continuare, se aflau la Micia după ce s-au întors din războiul contra lui Clodius Albinus sau înainte de a pleca în războiul parthic. Asta înseamnă că ne aflăm pe la începutul anului 198.*

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CIL III 1343, une inscription sur une base de statue en augite rougeâtre, a été découverte en 1862 dans des conditions inconnues dans le camp de Micia. Dimensions : 95 x 37 cm ; ligatures : l. 2 : AL ; l. 4 : ET, NT ; l. 6 : [G]E (?), NT( ?) ; l. 7 : AL, [A]M( ?) ; l. 9 : RE, T[I] (?) AN[I] ; l. 10 : OH ; l. 11 : OH ; l. 12 : OH, AL ; l. 18 : OH ; la l. 5 a été partiellement érasée. L'inscription a été écrite sur la partie antérieure et sur le côté droit. La base n'a été vue que par A. v. Váradi et C. Torma. Le dernier l'envoya au musée de Cluj, où elle n'arriva pourtant jamais. Par conséquent, la pièce doit être considérée perdue. Sur le champ épigraphique très effacé A. v. Várady n'avait vu que quelques lettres<sup>2</sup>. En revanche, C. Torma publia un texte<sup>3</sup> et fit un moulage qu'il envoya à Th. Mommsen. Après quelques rectifications faites à l'aide du moulage, Th. Mommsen établit le texte suivant<sup>4</sup> :

*I(ovi) O(ptimo) M(aximo) / pro [s]alu[te] / dd(ominorum) nn(ostorum) / [Severi] et Anton(ini) /<sup>5</sup> Augg(ustorum) [et] Getae / - - - / - - - al(a) C[a]m(pagonum) / sub cur(a) Iul(ii) / Teret[i]an[i] pr(a)efecti /<sup>10</sup> eq(uitum ?) s(upra ?) s(criptorum ?) ; coh(ors) I Vind(elicorum) / coh(ors) II Fl(avia) Com(m)agenorum coh(ors) I Alp(inorum) n(merus m(ilitum) Ti[- - - - -].*

À la différence de Torma, Mommsen vit dans la l. 9 : AN ; l. 10 : EQ ; l. 12 : I ; l. 13 : TII. C'est N. Gostar qui a repris en 1968 cette inscription. Il mit la concentration de troupes auxiliaire à Micia en rapport avec une situation de crise à la frontière ouest de la Dacie<sup>5</sup>. Dans la l. 7 il lit *a[l]ae Ba[t]avorum (milliariae ?)* et dans les l. 13–15 *n(umeri) M(auretanorum) Tib[isc]ensium, n(umeri) Germ(anicianorum), [n(umeri) Camp]istr(orum)*. À son tour, C. C. Petolescu proposa des changements dans les l. 5–6 : *[et Iul(iae) / et Plaut]il(lae) [Augg(ustorum)] DEP ? / [... o bas(ili)cam] al(ae) Cam(pagonum)* ; dans la l. 16 : *[re]stituerunt*<sup>6</sup>. Selon Petolescu une *basilica*

<sup>2</sup> Th. MOMMSEN, ad CIL III 1343.

<sup>3</sup> C. TORMA, *ErdMúz* 2, 1861-1863, p. 133, n° 8; M. J. ACKNER, F. MÜLLER, *Inscripfen*, p. 193–194, n° 896.

<sup>4</sup> CIL III 134 ; voir encore G. TÉGLÁS, *Hunyadvármegye története I*, Budapest 1902, p. 136.

<sup>5</sup> N. GOSTAR, *AnUnIași* 14, 1968, p. 96; *AMN* 6, 1968, p. 498; *Germania* 50, 1972, p. 244, n° 4.

<sup>6</sup> C. C. PETOLESCU, dans: *Studien zu den Militärgrenzen Roms II*, p. 370; idem, *Arhivele Olteniei* 10, 1995, p. 33, n° 3; idem, *Auxilia*, p. 73.

*castrensis* aurait été construite sous la surveillance du préfet de l'*ala I Hispanorum Campagonum*. Aux travaux auraient participé aussi des soldats appartenant à des unités stationnées ailleurs<sup>7</sup>. La nouvelle forme du texte fut republiée dans AE 1977, 705 :

*I(ovi) O(ptimo) M(aximo) / pro [s]alu[te] / d(ominorum) n(ostorum duorum) / [Severi] et Anton(ini) /<sup>5</sup> [et] Getae Caes(aris) et Iul(iae) / et Plaut[il(lae)] Aug(ustarum duarum) DEP ? / [...]<sup>o</sup> bas(ilicam) al(ae) Cam(pagonum) / sub cur(a) Iul(ii) / Teret[ia]n[i] pref(ecti) /<sup>10</sup> eq(uitum) s(upra) s(criptorum) coh(ors) I Vind(elicorum) / coh(ors) II Fl(avia) Com(m)agenorum coh(ors) I Alpi[n(orum)] / n(umerus) M(aurorum) Ti[bis(censium)] / n(umerus) G[erm]anic(ianorum) et /<sup>15</sup> n(umerus) Camp[istr]or(um) / re]stituerunt .... /... MO[.] I[... / praefect]us coh(ortis) II I Fl(aviae) Comma]g(enorum)? / ponendam cur(avit)].*

I. I. Russu trouva les innovations de Petolescu risquées et revint au texte de Mommsen et aux propositions de Gostar<sup>8</sup> :

*I(ovi) O(ptimo) M(aximo) / pro [s]alu[te] / d(ominorum) n(ostorum) / [Severi] et Anton(ini) /<sup>5</sup> [.]CVIL ... DEP( ?) / [I]ae Ba[t(avorum) (milliariae) al(ae) Cam(pagonum) / sub cur(a) Iul(ii) / Tere(n)tiani pra(e)f(ecti) /<sup>10</sup> coh(ort.) S(a)g. coh(ort.) I Vind(elicorum) / coh(ort.) II Fl(av.) Com(m)agenorum coh(ort.) I Alp(inorum) / n(mer.) M(aurorum) Tib(iscensium) n(umer.) / [G]erm(anicianorum) [n(umer.) Cam]/<sup>15</sup>[p]estr(orum) [- - -] / [..]S[- - -] / [.]MO[...][I[- - -] / [praefect]us coh(ort.) II I Flav(iae) / Comma]g(enorum) [- - -].*

Russu partagea l'opinion de Gostar sur le danger qui menaçait la frontière ouest de Dacie. Un élément important de la construction du texte, notamment le cas dans lequel se trouvaient les troupes auxiliaires à partir de la l. 10, resta sans réponse.

Clair est que le monument fut dédié à Jupiter pour le salut des deux Augustes Septime Sévère et Caracalla et du César Geta, ce qui nous renvoie aux années 198–209.

L'impression qui se dégage de l'histoire de cette lecture est que l'on a manqué de surprendre l'essentiel. On ignore l'objet dédié par l'*ala I Hispanorum Campagonum* à Jupiter et on ne peut pas se faire une idée sur le rôle des autres troupes dans la dédicace. Il faut donc nous concentrer sur

<sup>7</sup> C. C. PETOLESCU, dans: Studien zu den Militärgrenzen Roms II, p. 371.

<sup>8</sup> IDR III/3, 77.

les l. 6–7. Dans la l. 6 Petolescu avait supposé *bas(ilicam)*, précédée par *Julia Domna* et *Fulvia Plautilla*. Les noms des impératrices ne sont pourtant soutenus par les restes conservés des lettres.

Ce sont tout d'abord les lettres CVIL au début de la ligne 6 qui nous offrent la bonne direction. Une solution acceptable serait *[a]quil[am arg]en[t(eam) / cum] bas(i)*. Qu'il s'y agisse d'un aigle est très probable. On pourrait accepter aussi qu'à la fin de la ligne on a en réalité affaire à GEN. Plus problématique paraît être le O dans la ligne 7, qu'il est difficile de confondre avec un M. Les analogies les plus proches sont AE 2007, 119 d'Apulum, dont nous apprenons qu'un *p(rimus) p(ilus) leg(ionis) XIII Gem(inae) / tetrastylum / fecit / et aquilam / argenteam / posuit*<sup>9</sup>, et CIL VIII 27768 = AE 1908, 167 d'Althiburos, selon laquelle un *flamen perpetuus* aurait érigé à Jupiter *aquilam [aeream] cum basei*<sup>10</sup>. Dans le second cas il s'agit, évidemment, d'une *aquila [argentea]* et pas *[aerea]*, comme on avait proposé. L'habitude d'ériger des statues avec leurs piédestaux est bien répandue<sup>11</sup>. L'aigle représente dans tous ces cas Jupiter : pour la légion il est le principal symbole<sup>12</sup>, mais il est objet de vénération pour l'ensemble de l'armée romaine<sup>13</sup>. On s'attend à ce que l'aigle ait été érigé à Micia dans la cour des *principia*. La garnison de Micia était normalement composée de trois troupes : *l'ala I Hispanorum Campagonum*<sup>14</sup>, la *cohors II Flavia*

<sup>9</sup> V. MOGA, I. PISO, M. DRÎMBĂREAN, AMN 43-44, 2006-2007, p. 177–184 = AE 2007, 1199: *L(ucius) Aninius L(ucii) f(ilius) / Pap(iria) Firminus / Tridente equo / publ(ico) ex (trecenario) /<sup>5</sup> p(rimus) p(ilus) / leg(ionis) XIII Gem(inae) / tetrastylum / fecit / et aquilam / argenteam / posuit*.

<sup>10</sup> CIL VIII 27768 = AE 1908, 167 (Althiburos) : *I(ovi) O(ptimo) M(aximo) / Q(uintus) Antonius Clemens Antul[l]ian[us] praef(ectus) iur(e) dic(undo) Ilvir / fl(amen) p(er)p(etuus) aquilam /<sup>5</sup> [aeream (?) ] cum basei quam / [C(aius) Anto]nius Clemens pater / [ob ho]nore[m] flamoni(i) / [perp(etui)] C(ai) Antoni Clemen[ti]s A[ntulliani] fili(i) eius / nep[ot]is sui ex duplicat(a) / honoraria summa / pr[o]miserat amplia[m] pecunia po[suit] / d(ecreto) d(ecurionum)*.

<sup>11</sup> E. DE RUGGIERO, DizEp 1, 1895, 979–980.

<sup>12</sup> A. V. DOMASZEWSKI, Die Fahnen im römischen Heere, Wien 1885, p. 29–34; idem, Die Religion des römischen Heeres, Trier 1895, p. 9, 41.

<sup>13</sup> Voir A. V. DOMASZEWSKI, Die Fahnen, p. 72–73, avec fig. 86.

<sup>14</sup> Parfois cette aile s'appelle tout simplement *ala Campagonum*, comme dans CIL III 1377 = IDR III/3, 56 du temps de Caracalla; voir pour cette troupe N. GUDEA, M. ZAHARIADE,

*Commagenorum sagittariorum*<sup>15</sup> et le *numerus Maurorum Miciensium*<sup>16</sup>. Il y a en Dacie aussi d'autres camps qui abritaient plusieurs troupes, ceux de Tibiscum<sup>17</sup> et de Porolissum (Pomet)<sup>18</sup>. On ne connaît pourtant dans ces camps qu'un seul édifice du commandement (*principia*)<sup>19</sup>, ce qui veut dire qu'il n'y avait qu'un seul commandant de la garnison, le plus haut en rang. À Micia le commandant de la garnison ne pouvait être que le préfet de l'aile, détenteur de la troisième milice équestre. Il est tout à fait normal que ce soit lui qui s'assumât la charge d'ériger le monument de l'aigle. L'acte de la dédicace est une toute autre chose et peut avoir incombé au gouverneur. Surtout, n'oublions pas que l'inscription est fragmentaire. Le préfet d'aile porte ici le titre de *pr(a)ef(ectus) eq(uitum)*, mais au début de la ligne 10 on pourrait compter aussi avec une ligature FE, suivie par un petit C. On aurait ainsi le prédicat *fec(it)*. Dans la première variante le prédicat serait sous-entendu, ce qui n'est pas très convaincant.

Les l. 6–7 peuvent être complétées aussi d'une autre manière, qui tient mieux compte des lettres DEP vues par Torma à la fin de la l. 6 et de l'O dans la l. 7 : *[a]quil[am] dep(osuerunt) / [antr]o( ?) bas(iliae)*. Le sujet resterait *al(a) C[a]m[p(agonum)]* et on gagnerait un prédicat, *dep(osuerunt)*, qui dans la variante antérieure reste douteux.

Une autre question est la signification de la liste des troupes auxiliaires qui commence dans la ligne 10. Les lettres SS ont été lues *s(upra) s(criptorum)* et se rapporteraient aux soldats de l'*ala I Campagonum*. Ce serait une spécification inutile, car des l. 8–9 il ressort clairement que Iulius Terentianus ne pouvait être que le commandant de cette aile. Dans ce cas, les SS se rapportent à la liste des troupes qui commence dans la ligne 10 et peuvent être développées *s(ub)s(cripserunt)*. Le sens en est que

AEA 53, 1980, p. 62–63, n° 2; J. E. H. SPAUL, *Ala*<sup>2</sup>, p. 74–76; C. C. PETOLESCU, *Auxilia*, p. 72–73.

<sup>15</sup> I. PISO, D. BENEÀ, *ZPE* 56, 1984, p. 292 = Nordgrenze, p. 138; J. E. H. SPAUL, *Cohors*<sup>2</sup>, p. 404–405; C. C. PETOLESCU, *Auxilia*, p. 97–99.

<sup>16</sup> C. C. PETOLESCU, *Auxilia*, p. 136; pour la garnison de Micia idem, dans: *Studien zu den Militärgrenzen Roms II*, p. 369; pour le camp F. MARCU, *Roman Forts*, p. 143–146.

<sup>17</sup> Pour le camp de Tibiscum voir F. MARCU, *Roman Forts*, p. 160–172.

<sup>18</sup> Pour le camp de Porolissum voir F. MARCU, *Roman Forts*, p. 88–101.

<sup>19</sup> F. MARCU, *Roman Forts*, p. 89–91, fig. 20; p. 162–166, fig. 35 a.

toutes les troupes mentionnées se sont assumé du point politique et financier la construction du monument. Les troupes ont-elles accompli ce geste chacune dans son camp d'origine ou bien à Micia ?

Il serait très difficile à expliquer pourquoi des troupes aussi lointaines auraient-elles eu l'obligation de contribuer à un monument à Micia, dans un centre militaire qui n'avait rien de particulier dans la hiérarchie du pouvoir. La seule explication reste que ces troupes ou, plutôt, des éléments de ces troupes se trouvaient à ce moment-là dans le camp de Micia. Pourquoi ? Pour supposer une situation de crise à la frontière occidentale de Dacie, il faudrait avoir de cette époque aussi d'autres indices. Or, il n'y en a rien. Dans ce cas, il peut s'agir de circonstances liées à une expédition externe.

Les guerres civiles étaient à peine finies, qu'en 197–199 a eu lieu l'expédition longtemps différée contre le royaume Parthe<sup>20</sup>. Il est normal que l'on ait de nouveau recours à des troupes de Dacie, car cette province ne se trouvait pas très loin du théâtre des opérations. Si l'on a retiré des effectifs importants de Micia, il est normal qu'on les ait remplacé par des vexillations venues d'autres camps de la province. Il existe pourtant une seconde explication, plus adaptée à la position géographique de Micia. Après la bataille de Lugdunum de février 197<sup>21</sup>, les vexillations daciques sont revenues de Gaule<sup>22</sup>. Des éléments des troupes auxiliaires auront été abrités dans le camp de Micia avant de partir pour leurs camps d'origine ou en Orient en vue de la guerre parthe. Tant qu'ils se trouvaient ici, ils partageaient les obligations de leurs camarades. Dans ce cas, en raison des deux empereurs et de la succession des événements, nous nous trouverions vers le début de 198<sup>23</sup>.

*L'ala I Batavorum miliaria*, ayant sa garnison à Războieni–Cetate<sup>24</sup>, n'est pas mentionnée dans l'inscription, car autrement elle se trouverait en

<sup>20</sup> H. HALFMANN, *Itinera*, p. 51, 217; A. R. BIRLEY, *Septimius Severus*<sup>2</sup>, p. 129–135.

<sup>21</sup> H. HALFMANN, *Itinera*, p. 217; A. R. Birley, *Septimius Severus*<sup>2</sup>, p. 125.

<sup>22</sup> Pour les légions voir I. PISO, *Epigraphica. Travaux dédiés au VII<sup>e</sup> Congrès d'épigraphie grecque et latine* (éd. D. M. Pippidi, Em. Popescu), București 1977, p. 175.

<sup>23</sup> Voir D. KIENAST, *Kaisertabelle*<sup>5</sup>, Darmstadt 1996, p. 156, 162.

<sup>24</sup> Voir I. PISO, D. BENEÀ, *ZPE* 56, 1984, p. 278 = *Nordgrenze*, p. 124–125; J. E. H. SPAUL, *Ala*<sup>2</sup>, p. 62–64 ; C. C. PETOLESCU, *Auxilia*, p. 64–65.

première place. La liste commence par la *cohors I Vindellicorum equitata miliaria*<sup>25</sup>, se trouvant à partir de Septime Sèvre ou de Caracalla à Tibiscum, et continue par la *cohors II Fl(avia) Commagenorum sagittariorum equitata*, abritée avec l'*ala I Hispanorum Campagonum* et le *numerus Maurorum Miciensium* dans le même camp de Micia, par la *cohors I Alpinorum equitata*<sup>26</sup> de Sărățeni et par le *numerus Maurorum Tibiscensium*<sup>27</sup> de Tibiscum. Possible est la présence ici du *numerus exploratorum Germanicianorum*<sup>28</sup> de Orăștioara de Sus et de la *cohors III Campestris*<sup>29</sup>, qui jusque sous le règne de Septime Sèvre ou de Caracalla se trouvait à Drobeta, localité appartenant à la même Dacie Supérieure<sup>30</sup>. Il faut y supposer la présence du *numerus Maurorum Miciensium*, qui à Micia se trouvait chez soi-même. D'ailleurs, la liste se prolongeait au moins jusqu'à la l. 18. Le texte prend la forme suivante :

*I(ovi) O(ptimo) M(aximo)*  
*pro [s]alu[te]*  
*dd(ominorum) nn(ostrorum)*  
*[Severi] et Anton(ini)*  
 5 *[Augg(ustorum) et [[Getae Caes(aris)]]]*  
*[a]quil[am arg]en[t(eam)?]*  
*[cum] bas[i](?) al(a) C[a]m[p(agonum)]*  
*sub cur(a) Iul(ii)*  
*Tere[n]t[ia]n[i] pr(a)ef(ecti)*

<sup>25</sup> I. PISO, D. BENEÀ, ZPE 56, 1984, p. 286–287 = Nordgrenze, p. 132–133 ; J. E. H. SPAUL, Cohors<sup>2</sup>, p. 288–289 ; C. C. PETOLESCU, Auxilia, p. 125–128.

<sup>26</sup> I. PISO, D. BENEÀ, ZPE 56, 1984, p. 279 = Nordgrenze, p. 126 ; J. E. H. SPAUL, Cohors<sup>2</sup>, p. 259–261 ; C. C. PETOLESCU, Auxilia, p. 81–82.

<sup>27</sup> D. BENEÀ, Banatica 8, 1985, p. 150–151 ; C. C. PETOLESCU, Auxilia, p. 135–136.

<sup>28</sup> N. GOSTAR, Germania 50, 1972, p. 241–247 ; V. WOLLMANN, Germania 53, 1975, p. 170–171 ; C. C. PETOLESCU, Auxilia, p. 131.

<sup>29</sup> I. PISO, D. BENEÀ, ZPE 56, 1984, p. 288–291 = Nordgrenze, p. 134–137 ; C. C. PETOLESCU, Auxilia, p. 92–95 ; I. PISO, dans : « Eine ganz normale Inschrift »... und Ähnliches zum Geburtstag von Ekkehard Weber. Festschrift zum 30. April 2005 (éd. Fr. Beutler, W. Hameter), Wien 2005, p. 326–331.

<sup>30</sup> L'appartenance de Drobeta à la Dacie Supérieure a été prouvée par le diplôme de 179 (RMD II 123 = AE 1987, 843).

10 *eq(uitum) s(ub)s(cripserunt) coh(ors) I Vind(elicorum)*

*coh(ors) II Fl(avia) Com-*

*m(agenorum) coh(ors) I Alp[in(orum)]*

*n(umerus) M(aurorum) Tib(iscensium) [n(umerus) expl(oratorum)?]*

*[G]erm(anicianorum)(?) [coh(ors) III?]*

15 *[Camp]ęstr(is) [- -]*

*[..]S[- -]*

*[.]MO[...][..]*

*[...]VE(?) coh(ors) II[..]*

*[- -]G[- -].*

Traduction : À Jupiter très bon (et) très grand. Pour le salut de nos (deux) seigneurs (Sévère) et Antonin (et du César Geta) l'*ala Campagonum* (érigea) un aigle en argent avec sa base (?). S'associèrent (à cet acte) la *cohors I Vindellicorum*, la *cohors II Flavia Commagenorum*, la *cohors I Alpionorum*, le *numerus Maurorum Tibiscensium*, (le *numerus exploratorum*) *Germanicianorum* (?), (la *cohors III*) *Campestris* (?), ..., la *cohors* .....

Indifféremment des circonstances de la présence de ces soldats dans le camp de Micia, ils semblent appartenir à une vexillation montée, recrutée de troupes de cavalerie comme le *numerus Maurorum Tibiscensium* et de *cohortes equitatae*. Ils ne semblent pas provenir de toutes trois Dacies, gouvernées à partir de Marc Aurèle par un unique *legatus Augusti pro praetore* de rang consulaire, mais bien de la seule Dacie Supérieure.

Bien que P. Helvius Pertinax ait été consulaire des trois Dacies, on apprend du diplôme militaire de Drobeta, daté du 1 avril 179, que les troupes se trouvaient *in Dacia Supe(riore) sub Helvio Pertinace leg(ato)*<sup>31</sup>. Il en ressort clairement que par les *tres Daciae* de la titulature des gouverneurs (*consularis trium Daciarum*) il faut entendre les anciennes circonscriptions militaires (Dacia Porolissensis, Dacia Superior et Dacia Inferior) d'avant la réorganisation de Marc Aurèle et pas les nouvelles circonscriptions

<sup>31</sup> Voir n. 29.

financières Dacia Porolissensis, Dacia Apulensis et Dacia Malvensis<sup>32</sup>. Un document récemment découvert vient de confirmer la survie de Dacie Supérieure au III<sup>ème</sup> siècle<sup>33</sup> et implicitement des deux autres. Quand nous publiâmes le diplôme, nous étions d'avis qu'un des motifs de la survie des trois anciennes circonscriptions militaires était plutôt d'ordre formel : les plus de 40 troupes auxiliaires des trois Dacies ne pouvaient pas être contenues dans une seule *tabella* d'un diplôme militaire<sup>34</sup>. Il paraît maintenant normal que le recrutement des vexillations eût lieu dans chaque province à part. C'est ce que l'inscription de Micia semble suggérer<sup>35</sup>.

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<sup>32</sup> I. PISO, *Fasti* I, p. 83–84.

<sup>33</sup> M. FACELLA, M. A. SPEIDEL dans: *Asia Minor Studien* 64, Bonn 2011, 207–215 : - - - *A[eliu]s / Vitalis / ex provincia Dacia sup(eriore) / ter(r)i(torio) Bassia/na(e)* - - -. Pour la correcte localisation du *territorium Bassianae* voir F. MATEI-POPESCU dans: *Studies in honor of Mircea Babeş at his 70th anniversary* (éd. D. MĂGUREANU, D. MĂNDESCU, S. MATEI), Piteşti 2011, 353–361; voir encore I. PISO, *Fasti* II, p. 4.

<sup>34</sup> I. PISO, D. BENEÀ, *ZPE* 56, 1984, p. 274–275 = Nordgrenze, p. 121.

<sup>35</sup> Il faudrait peut-être rouvrir aussi le dossier de l'estampille *Ex(ercitus) D(aciae) P(orolissensis)* (CIL III 8063). Il semblait être un axiome que *l'exercitus Daciae Porolissensis* soit apparue sous Hadrien avec la province au même nom (M. MACREA, *Dacia* 8, 1964, p. 148) et aurait disparu avec le caractère présidial de son procureur sous Marc Aurèle (D. PROTASE, dans: *Römische Geschichte, Altertumskunde und Epigraphik. Festschrift für Artur Betz zur Vollendung seines 80. Lebensjahres*, Wien 1985, p. 496; voir aussi I. PISO, *Fasti* I, p. 38. Pourtant, une des deux tuiles de Potaissa portant cette estampille fut trouvée dans le camp légionnaire construit à partir de 168 (M. BĂRBULESCU, *Din istoria militară a Daciei romane. Legiunea V Macedonica și castrul de la Potaissa*, Cluj-Napoca 1987, p. 37), ce qui laisse ouverte la possibilité que *l'exercitus Daciae Porolissensis* puisse désigner l'armée de cette province même à la suite de la réorganisation de la province; un autre avis chez M. BĂRBULESCU, loc. cit.

<i>ab una parte:</i>	<i>ab altera parte:</i>
I · O · M	C·M·T·FL·C·M
P R O · / A V / /	M·C·M·T A P / /
D · D N · N	N · M · TIT / / /
/// · E · ANON	· / E R M / / / /
5 / / / / /	5 / / ISTR / / / / /
/ CIVIL · / / / E P	/ / S / / / / / /
// O · BAS · A · CM	/ M O / / / / /
SVB · CVR · IVL	· / / VS · C·M / /
T E E T N · P R E F	/ / / / / G / / /
10 E · SS · C·M · I · VINO	

## ABRÉVIATIONS

- A. R. BIRLEY, *Septimius Severus*<sup>2</sup> = *The African Emperor. Septimius Severus*<sup>2</sup>, London 1988.
- H. HALFMANN, *Itinera* = *Itinera principum. Geschichte und Typologie der Kaiserreisen im Römischen Reich*, Stuttgart 1986.
- F. MARCU, *Roman Forts* = *The Internal Planning of Roman Forts*, Cluj-Napoca 2009.
- C. C. PETOLESCU, *Auxilia* = *Auxilia Daciae*, Bucureşti 2002.
- I. PISO, *Fasti I* = *Fasti provinciae Daciae I. Die senatorischen Amtsträger*, Bonn 1993.
- I. PISO, *Nordgrenze* = *An der Nordgrenze des Römischen Reiches. Ausgewählte Studien (1972–2003)*, Stuttgart 2005.
- I. PISO, *Fasti II* = *Fasti provinciae Daciae II. Die ritterlichen Amtsträger*, Bonn 2013.
- J. E. H. SPAUL, *Ala*<sup>2</sup> = *Ala*<sup>2</sup>. *The Auxiliary Cavalry Units of the Prediocletianic Imperial Roman Army*, Andover 1994.
- J. E. H. SPAUL, *Cohors*<sup>2</sup> = *Cohors*<sup>2</sup>. *The Evidence for and a Short History of the Auxiliary Infantry of the Imperial Roman Army (= BAR International Series 841)*, London 2000.

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Studien zu den Militärgrenzen Roms II = Studien zu den Militärgrenzen  
Roms II. Vorträge des 10. Internationalen Limeskongresses in der  
Germania Inferior, Köln–Bonn 1977.



OCCUPATIONS OF PRIVATE SLAVES IN ROMAN DACIA

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**Keywords:** private slaves, occupations, Roman Dacia, actor, villicus.

**Abstract.** This paper focuses on the inscriptions from Dacia, which mention, by various terms, the occupations of private slaves. The epigraphic texts of Dacia mention slaves used by their masters for various administrative, financial or domestic duties, like *actores*, *villici*, *dispensatores*, *vikarii* and others. Three different ways of their involvement in different economic activities can be observed: they worked directly for their masters, they were assigned to *actio institoria* and they could hold a *peculium*. All these functions demonstrate that the *servi privati* were involved in public services as representatives of their masters.

**Rezumat.** Articolul de față își îndreaptă atenția asupra epigrafelor descoperite în Dacia, care atestă prin diverși termeni ocupațiile sclavilor privați. Inscripțiile din Dacia menționează sclavi utilizați de stăpâni în diferite activități administrative, financiare sau domestice, precum *actores*, *villici*, *dispensatores*, *vikarii* și alții. Pot fi observate trei moduri diferite în care ei se implică în varii activități economice: pot acționa direct pentru stăpâni, pot fi agenți ai *actio institoria* și pot deține un *peculium*. Toate aceste ocupații demonstrează faptul că *servi privati* erau angajați în servicii publice ca reprezentanți ai stăpânilor.

## 1. Introduction

Like J. Andreau has synthetized, slaves could be used in manufacturing, trade or business in three different ways: 1) they worked directly for their master; 2) they were *institores*, acting like “managers” in their masters’ enterprises; 3) they held a *peculium*, a separate fraction of their master’s *patrimonium* (which could be taken back by their master in any moment); this *peculium* can include not only money, but also non-financial goods and slaves<sup>2</sup>. In the first category we can include *actores*, *dispensatores* or

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<sup>2</sup> ANDREAU 2001, 64 sqq.

*arcarii*<sup>3</sup>. The second one concerns bankers, but also rural estate “managers” (like *villici*). The third one can include many of the previous professions, in function of their “specialization” and of their masters’ interests. According to Roman civil law, the slave was not a person, and he/she had no rights<sup>4</sup>, but the Roman law acknowledged some kind of *persona* to the slaves, by granting them various legal capacities and a *qualitas* (status)<sup>5</sup>. Legal dispositions admitted for the slave to fall under internal family jurisdiction<sup>6</sup> (*ius domesticum*). Jurists approved certain aspects of this *ius domesticum*; hence, the slaves seemingly owned something through *peculium*, (according to the law, the slave was owned by the master<sup>7</sup>) and they could transform their sexual relationship through *contubernium*<sup>8</sup>.

This paper focuses on the inscriptions discovered in Dacia, which mention, by various terms, the occupations of private slaves. We shall try to observe the different specializations and, if possible, to distinguish their particularities in the historical context of the colonization of this province.

Following the massive colonization of the province of Dacia, it became a cosmopolite society, structured after the Roman model, which included private slaves, naturally. The number of slaves in Dacia does not seem to have been significant, as there were no many large properties in the province<sup>9</sup>. However, the last surveys indicate many *villae* which can sensibly change the rural landscape of the province<sup>10</sup>. Another argument in favour of this hypothesis would be that, in this period, in many areas of the Roman economy, slave labour force was no longer dominant. After A. Husar’s estimation, in Roman Dacia, the slaves (private and public) may have represented less than 10% of the province population<sup>11</sup>. This opinion can only be treated as supposition, because the epigraphic information is

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<sup>3</sup> ANDREAU 2001, 64–65.

<sup>4</sup> GARNSEY 1996, 64; JOHNSTON 2007, 173.

<sup>5</sup> GARNSEY 1996, 94.

<sup>6</sup> ERMAN 1986, 449; DUMONT 1987, 38; GARNSEY 1996, 94.

<sup>7</sup> JOHNSTON 2007, 174, 176.

<sup>8</sup> DUMONT 1987, 107, 111, 124. See also SCHUMACHER 2001, 243.

<sup>9</sup> BĂRBULESCU 2001, 208.

<sup>10</sup> OLTEAN 2007, 145, fig. 5.18, 5.19; 180 sqq.

<sup>11</sup> An estimation of HUSAR 2002, 321.

too poor in order to have solid quantitative estimation. However, we must admit that the slave labour force was low. In order to motivate this weak representation of the slave population in the province, we can exemplify that in Egypt, in the second century AD, slaves represented 7% of the population<sup>12</sup>. Among the aforementioned categories of slaves, private slaves seem to have been insignificant, because province elite or other *cives romani* were not comparable—in terms of wealth or influence—with the senatorial or equestrian aristocracy of the Empire. This fact is due to the peripheral geographical character of the province of Dacia (on the *limes*).

The epigraphic material discovered in this territory mentions slaves with various tasks. The most suggestive evidence regarding their functions was discovered in cities. Though the ancient world made the difference between a countryside slave (*familia rustica*) and one belonging to a *familia urbana*<sup>13</sup>, it was not the workplace—*familia urbana* or *familia rustica*—that determined the classification in the domestic hierarchy, but the nature of the task the slave performed<sup>14</sup>.

Therefore, slaves performed for household chores (the funerary relief of Rediu, Cluj County, which depicts the toilette of a Roman matron)<sup>15</sup>, they were stewards of municipal élites, *villici* in countryside houses, as well as in the financial administration. In the following lines, we will describe the various occupations of private slaves, as they are mentioned in inscriptions, directly or indirectly.

## 2. Slaves' occupations in Roman Dacia

### a. *Actores*

Most epigraphic texts concerning private slaves discovered in Dacia mention the occupation of *actor*. During the Early Empire, the term *actor* began to be used as a synonym for administrator. Their tasks were mainly

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<sup>12</sup> For the hypothetical distribution of slaves in the Roman Empire, see SCHEIDEL 2011, 287–310.

<sup>13</sup> EDMONDSON 2011, 340.

<sup>14</sup> BRADLEY 1994, 58.

<sup>15</sup> POP 1999-2000, 171.

of a financial character; starting with the second century AD, the *actor* slave and the *villicus* slave represented slaves with various functions and diverse positions in the hierarchy of domestic slaves<sup>16</sup>. In the Digest, *actores* are mentioned as being in charge with the financial transactions of the farm<sup>17</sup>. Apuleius relates in *Metamorphoses* how a young man was given the job of guarding a corpse all nights, and how, on the following morning, he was rewarded in cash by the *actor* of a widow (Apuleius, Met., 11,26). Numerous other inscriptions in the Empire confirm that many private *actores* were either cashiers or bookkeepers. The slave with such a function was chosen among the most skilled and intelligent slaves, with *bona fides* towards the master. An *actor* was a *servus fidelissimus*. L. Mihailescu-Bîrliba has already studied the *actores* in Roman Dacia<sup>18</sup>; that is why we shall not re-write all details in our analysis, but we shall add a two more sources. The *actores* slaves mentioned in epigraphic texts of Dacia represent the slave élite, because they also represented their masters under certain circumstances. Most inscriptions attesting slaves with such function belong to the family of P. Aelius Antipater. He is an illustrious figure of the provincial aristocracy in Apulum; he belonged to equestrian order, was *sacerdos area Augusti*, *duumvir* of the *colonia* and the owner of a great fortune. For the administration of all his belongings, the owner had private slaves, whom he used for the organization or monitoring of labour. Hence, Eutyches is one of the *actores* belonging to Aelius Antipater; at Ad Mediam, he set up an altar for the god Hercules<sup>19</sup>. The text fails to mention Eutyches' social status, but his name is typical for slaves. He is at Ad Mediam either for balneary treatment or in a simple journey<sup>20</sup>. Eutyches was probably a financial agent of the *eques* of Apulum<sup>21</sup>. Another text that mentions such a function held by another slave of the same master is the altar dedicated to Jupiter Optimus

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<sup>16</sup> See CARLSEN 1995, 124.

<sup>17</sup> CARLSEN 1995, 123.

<sup>18</sup> MIHAILESCU-BÎRLIBA 2009, 307–316, with bibliography.

<sup>19</sup> IDR III/1, 65.

<sup>20</sup> MIHAILESCU-BÎRLIBA 2009, 309.

<sup>21</sup> MIHAILESCU-BÎRLIBA 2009, 309.

Maximus by Onesimus<sup>22</sup>. The altar is set up at Apulum, where his master was magistrate. Onesimus, just like Eutyches, is a slave with financial duties. Another inscription that mentions *servi actores* of the Aelius family is an honorary altar dedicated to P. Aelius Antipater Marcellus, biological son of Aelius Antipater and adoptive son of his uncle — P. Aelius Marcellus<sup>23</sup>. The last is also a Roman *eques*, head of the *praefectura* of 7<sup>th</sup> legion Claudia and 1<sup>st</sup> legion Adiutrix; he gives money for the poor people of Umbria, where he also has significant properties<sup>24</sup>. Antipater Marcellus is also an important figure of the colony, both *eques Romanus* and *decurio* of the city. The text does not mention to whom the *actores* Dades and Filetus belong, but another inscription mentioning these *servi actores* allows us to emit a more exact hypothesis. At Apulum, the slaves set up another inscription to honour P. Aelia Iuliana Marcella<sup>25</sup>. She is the daughter of P. Iulianus, *flamen* and ancient *duumvir* of the Apulum colony<sup>26</sup>, adopted by P. Aelius Marcellus. We tend to believe that the slaves Dades and Filetus belong to P. Aelius Marcellus, since they dedicate the two altars to his adoptive children<sup>27</sup>. The two slaves probably accomplished their financial duties at Apulum, where inscriptions are set up. Mentioning both slaves can indicate that Dades and Filetus worked in the same field<sup>28</sup>. Another *actor* is Spatalus, a slave of C. Iulius Rufinus<sup>29</sup>. At Apulum, he sets up a monument dedicated to Deus Invictus. The master's legal status is an open matter, but he definitely had significant financial responsibilities. The place where Spatalus sets up the monument is an important clue for his function: we consider that this slave represented his master's businesses. Hermadio's<sup>30</sup> master is Turranius Dil(...), but he sets up the monument for P. Aelius Marius. The last is attested as *conductor pascui et*

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<sup>22</sup> IDR III/5, 210.

<sup>23</sup> IDR III/5, 439.

<sup>24</sup> CIL XI 5215; see also DONAHUE 2004, 116; CUPCEA 2009, 311.

<sup>25</sup> IDR III/5, 441.

<sup>26</sup> MIHAILESCU-BÎRLIBA 2009, 310.

<sup>27</sup> MIHAILESCU-BÎRLIBA 2009, 310.

<sup>28</sup> MIHAILESCU-BÎRLIBA 2009, 310.

<sup>29</sup> IDR III/5, 720; BĂLUȚĂ, PISO 2001, 89.

<sup>30</sup> IDR III/1, 145; PISO 1983, 109.

*salinarum*<sup>31</sup>. It was with him that the slave closed deals on behalf of his master, and he set up the monument as a sign of gratitude. D. Benea launches the hypothesis that the slave would be an employee of P. Aelius Marius in the office of Tibiscum, case in which M. Turranius Dil(...) would be the head of the regional centre, while Marius would run the business for the entire province<sup>32</sup>. We can also doubt on Benea's hypothesis concerning the origin of Turrani from Augusta Treverorum<sup>33</sup>. At Domnești, Atticus sets up an altar for the health of the *conductor* P. Aelius Marius, his master<sup>34</sup>. In this locality, traces of salt exploitation were discovered, which makes us assume the presence of an office managed by the *actor* Atticus. This occupation enabled him to gather a *peculium*, with which the slave could have bought his freedom, considering that—in another inscription—he is featured as P. Aelius Atticus<sup>35</sup>. At Micia, Ursius, an *actor* slave born in the house (*verna*)<sup>36</sup> sets up an inscription for his master [---]tilius Rufini, tenant of the salt mines<sup>37</sup>. Taking into account the other salt mine tenants—C. Iulius Valentinus, P. Aelius Strenuus, P. Aelius Marius—who worked around the same period (second half of the second century, beginning of the third century), we can consider that Ursius' master was a *conductor salinarum* before the others, or that he was the successor of P. Aelius Strenuus, who had this charge at the beginning of the third century. We have not to forget Iulius Omucio, freedman and *actor* of the *conductor salinarum* C. Iulius Valentinus, who certainly has exercised his charge as slave, too<sup>38</sup>. One of the waxed tablets discovered at Alburnus Maior mentions an agreement concerning the constitution of a monetary association. This *societas* is founded on 28 March 167 by two moneylenders: Cassius Frontinus and Iulius Alexander. The purpose of the association is to lend money with interest to the Illyrian-Dalmatian

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<sup>31</sup> IDR III/3, 119, PISO 2004-2005a, 182. See also BENEA 2010, 45–74.

<sup>32</sup> BENEA 2007, 44.

<sup>33</sup> BENEA 2003, 183. On the debate, see MIHAILESCU-BÎRLIBA 2009, with bibliography.

<sup>34</sup> ILD 804; GOSTAR 1966, 175–176.

<sup>35</sup> CIL III 7697.

<sup>36</sup> AE 2005, 1296.

<sup>37</sup> PISO 2004-2005a, 180.

<sup>38</sup> IDR III/4, 248.

*leguli*. Secundus is the *actor* slave of Cassius Palumbus, but he acts on behalf of Cassius Frontinus<sup>39</sup>. He deposits, in the accounts of the new *societas*, 267 *denarii*, besides the 500 *denarii* deposited by Iulius Alexander. Secundus closes the transaction in *nomine domini*, and he has the right to collect the interest and the capital, as well as to lend money directly<sup>40</sup>. In this case, the function of the *actor* slave Secundus is clear: he is a financial agent who acts on behalf of his master and of another person<sup>41</sup>. The *actores* have financial responsibilities and they are working for their masters, even they can also handle some others' money.

*b. Villici*

Another occupation ascribed exclusively to slaves is that of *villicus*. Besides the *villici* slaves mentioned by Columella or Varro as the slave that administers a farm, this function is also encountered in the financial administration or in other areas, such as *v. summarum*, *v. arkarii*, *v. tabularii*, *v. stationis*, *v. vectigalis*, *v. domus*, *v. insularis*, *v. officinarum*, etc<sup>42</sup>. Suetonius mentions that Caesar was the first to use his personal slaves for the administration of *vectigales*<sup>43</sup>. In Dacia, there are a few inscriptions mentioning *villici* slaves as part of the staff of *statio vectigalia* run by *conductors* and later by *procuratores*. A rich slave owner is T. Iulius Saturninus<sup>44</sup>, *conductoris publici portorici Illyrici* between 146 and 156, alongside C. Iulius Rufus and M. Antonius Fabianus. The career of Titus Iulius Saturninus is depicted in several inscriptions. A first inscription mentions him as *scriba tribunicius*, *apparitor*, during the reign of Antoninus Pius; after passing through two *militiae equestres*, he becomes *conductor* of Illyricum customs<sup>45</sup>. One of his *villici* slaves, part of the staff in tax-collecting offices, is Maximianus<sup>46</sup>. This *villicus* sets up the altar at

<sup>39</sup> IDR I, 44.

<sup>40</sup> TUDOR 1957, 96.

<sup>41</sup> MIHAILESCU-BÎRLIBA 2009, 313.

<sup>42</sup> CARLSEN 1995, 55.

<sup>43</sup> CARLSEN 1995, 43.

<sup>44</sup> CIL III, 1263; CIL III, 4720; CIL V, 5079; AE, 1940, 101.

<sup>45</sup> DE LAET 1949, 386.

<sup>46</sup> IDR III/5, 702; PISO, MOGA 1998, 106.

Apulum, where great tenants had central offices administered by slaves; Maximianus was probably one of them. The mention *ex privatis* means that he was a private slave who was given by his master public tasks. Another *villicus* slave known in Dacia is Mercator<sup>47</sup>. The inscription text did not preserve the master's name, but we tend to believe that he was the Roman *eques* T. Iulius Saturninus. To support the hypothesis, we mention both the title of the person to whom the monument is dedicated and the fact that another inscription in the province of Noricum dedicated to T. Iulius Saturninus mentions a slave by the name of Mercator<sup>48</sup>. The fact that a *villicus* slave sets up a monument at Partiscum can suggest the existence of a *statio portorium* related to the exchange of merchandises with the *lazyges* in the plain of the Tisza<sup>49</sup>. Felix is the slave who sets up at Porolissum an altar for the health of the emperor and of the protecting Genius of public customs, through the care of his master, the *procurator* Pompeius Longus<sup>50</sup>. After making the customs State property, the slaves of customs become imperial slaves submitted to a procurator, but Felix still calls himself *eius villicus*, as if he belonged to a *conductor*<sup>51</sup>. This slave either was not informed of the reform, or he paid no importance to it. At Porolissum, two other *villici*, Marcio and Pollio dedicate an altar to Emperor Commodus and to the protecting Genius of public customs in Illyricum, through the care of procurator and of Claudius Xenophon<sup>52</sup>. The inscription probably mentions two imperial slaves, but the fact that these monuments were set up at Porolissum may suggest the existence of other tax-collecting offices. This can be plausible, considering the administrative, economic, customary and fiscal role of the city<sup>53</sup>.

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<sup>47</sup> IDR III/1, 281.

<sup>48</sup> CIL III, 4720.

<sup>49</sup> TUDOR 1968, 57.

<sup>50</sup> ILD 678.

<sup>51</sup> PISO 2004-2005b, 185.

<sup>52</sup> ILD 677.

<sup>53</sup> TUDOR 1968, 247.

*c. Dispensatores*

For the province of Dacia, there is epigraphic evidence attesting the existence of *dispensatores* slaves in a *familia privata*. The slave Timostratus is mentioned in an inscription as the master of another slave, the *vikarius* Piperas<sup>54</sup>. By corroborating the function of *dispensator* with the place where the inscription was discovered—Moldova Nouă, a mining area (copper and lead exploitation)—, we tend to believe that Timostratus was a private slave, belonging to one of those mine *conductores*<sup>55</sup>. The *vikarii* slaves were very common for *dispensatores* and only seldom did an *actor* have his own slave<sup>56</sup>. This suggests that, though the *dispensator* had a similar function with the *actor*, because both were sometimes cashiers; however, the *peculium* of a *dispensator* was bigger than that of an *actor*. Besides the function of cashiers, *servi dispensatores* were also bookkeepers, treasurers, preceptors.

*d. Vikarii*

As for the *vikarius* slave, he is a slave's slave, part of the *peculium* of the slave-master. Roman texts mention such as slave seldom by the formula *servus servi*; a more common formula was *servus peculiaris*, and the most common was *conservus*<sup>57</sup>. In the language of inscriptions, these slaves are usually called *servus vikarius*. The origin of this term is military, where it designated the substitution or reassignment of a military. The *vikarii* slaves designate their master-slaves by their function; the formula *dominus* is extremely rare. The *vikarii* slaves could be *contubernales*, personal servants or substitutes. Piperas is the *vikarius* slave of Timostratus, probably a trustworthy substitute, because this status ensured a decent *peculium*, which enabled him to have a freedwoman *contubernalia*, as shown by the inscription. Another slave who had a *servus peculiaris* is Peregrinus. By all probabilities, he was a rich slave, in the *familia imperialia*, a clerk within an office, in whose *peculium* were included the slaves

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<sup>54</sup> IDR III/1, 26.

<sup>55</sup> For *conductores* of iron mines, see IDR, III/3, 37.

<sup>56</sup> CARLSEN 1995, 141.

<sup>57</sup> ERMAN 1986, 399.

Eufemus and Erastus<sup>58</sup>. The funerary inscription is set up at Porolissum, by Erastus the *conservus*. Considering that at Porolissum, the slaves Felix, Marcio and Pollio are attested as part of a *familia vectigalia*, we tend to believe that these *vikarii* slaves were auxiliaries of the slave Peregrinus, who was probably member of a *tabularium* staff. At Potaissa, a *vikaria* female slave is attested, but her name is uncertain<sup>59</sup>. Because the inscription text is incomplete, no information regarding her masters was preserved. If we assume that the funerary inscription was addressed to her master, then we assume that this *conserva* was in his personal service and that she was trustworthy, because she was in charge with setting up the inscription. Another *vikarius* is mentioned in the text of an inscription discovered at Sarmizegetusa. Hence, Protas is the slave of *dispensator* Ampliatus, within *familia imperialia*<sup>60</sup>. Sarmizegetusa was also the province capital; therefore, it counted numerous state administration offices, where this *Augusti servus* exerted his function of financial administrator. Protas can be a substitute of this *dispensator* or a close slave, since he sets up the inscription for the health of his master and of his family. *Servus servi* is also Diogenes, who sets up, at Sarmizegetusa, an altar to the Genius of Dacia felix and of the imperial house<sup>61</sup>. His *dominus* is *dispensator* Eutyches who, just like his counterpart Ampliatus, is part of the staff of state administration offices. Diogenes is, by all appearances, Eutyches' replacement, his closest slave, since he delegated him with setting up the inscription. Another inscription discovered at Sarmizegetusa mentions *conserva* Praedia<sup>62</sup>. There is no other information concerning her or her *dominus*, but we tend to believe she was a *vikaria* used in personal service, faithful to her master/ mistress, naturally.

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<sup>58</sup> ILD 699.

<sup>59</sup> CIL III, 925.

<sup>60</sup> IDR III/2, 307.

<sup>61</sup> IDR III/2, 216.

<sup>62</sup> IDR III/2, 563.

*e. Contrascriptores*

Only one inscription discovered in the province of Dacia mentions the function of *contrascriptor* held by a private slave. Bellinus<sup>63</sup> *servus contrascriptor* has as *dominus* T. Iulius Saturninus, an aforementioned figure. This occupation, ascribed exclusively to slaves, involved double-checking the calculations within customs registries, done by the personnel of these *stationes*<sup>64</sup>. Bellinus sets up the altar at Dierna—port and important customary point on the Danube—, where he was probably *contrascriptor*.

*f. Superiumentarii*

The occupation of *superi(u)mentarius* was held by the slave Libella<sup>65</sup>. *Iumentum* were the horses used for transportation or those attached to military vehicles<sup>66</sup>. A *superi(u)mentarius* was in charge of the stables where these animals were held. In this case, Libella had this function because he was a *servus privatus* of the province governor, Caius Iulius Septimius Castinus. This slave had the written records concerning the horses of governor's stables, and he was probably highly regarded by his fellow slaves.

*g. Uncertain occupations*

In Dacia, there are quite many epigraphic texts that fail to mention the occupations of slaves. In the opinion of Dumitru Tudor, they belong to *familia privata*<sup>67</sup>. Most slaves belonged to modest owners and they could not have special or important functions, which would have provided them a certain title<sup>68</sup>. They were most probably household servants, people who helped their master and who had various duties within a household or who administered farms. They often had the duties of an

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<sup>63</sup> IDR III/1, 35.

<sup>64</sup> TUDOR 1957, 110.

<sup>65</sup> IDR III/5, 71.

<sup>66</sup> TUDOR 1957, 113.

<sup>67</sup> TUDOR 1957, 122.

<sup>68</sup> TUDOR 1957, 123.

*actor* or of a *villicus*; though they had no title, they were somehow ahead of the other slaves in the same household. The situation of these slaves is best described in the inscription discovered at Potaissa, which ascribes the title of *menesteriis* to slaves who are faithful and close to their masters<sup>69</sup>. This is the situation of the slaves Victorinus<sup>70</sup>, B(r)eucus<sup>71</sup>, Myro<sup>72</sup>, Philetus<sup>73</sup>, Vitalis<sup>74</sup>, Tenax<sup>75</sup>, Securus<sup>76</sup>, Fortunatus<sup>77</sup>, Euprepes<sup>78</sup>, and Hermadio<sup>79</sup>. According to the place where inscriptions were discovered, we suggest that B(r)eucus and Vitalis were slaves administrators of these *leguli* (of gold pits) at Alburnus Maior and Ampelum, respectively. Taking into account the same criterion, we believe that Myro, Fortunatus, Securus, and Hermadio could be *actores* of *villici* on countryside properties owned by their masters. As for the master of Tenax, the slave who probably accomplished the duties of an *actor*, he could have owned workshops or he could have been a merchant at Apulum. Philetus, the slave of Iulius Rufinus, could have been an *actor* or a *villicus* of this local owner. Lucius Valerius Eutyches, the master of the slave Euprepes, is probably a foster slave who became a freedman. This deduction is based on the fact that Eutyches is a common name for slaves. Euprepes may have been in his personal service, thus accomplishing duties on behalf of his master. Other title-less, but trustworthy slaves are Fla(via?), Crispina, Vetillia and Maxima<sup>80</sup> or the female slave Rufina<sup>81</sup>. *Servae fidelissimae* are also considered Secundina, Frontina, Iunia, mentioned alongside the wife

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<sup>69</sup> CIL III 907.

<sup>70</sup> IDR III/3, 294.

<sup>71</sup> IDR III/3, 413.

<sup>72</sup> CIL III 6247.

<sup>73</sup> IDR II, 55.

<sup>74</sup> IDR III/3, 320.

<sup>75</sup> IDR III/5, 55.

<sup>76</sup> CIL III 873.

<sup>77</sup> ILD 577.

<sup>78</sup> IDR III/2, 161.

<sup>79</sup> IDR III/1, 145.

<sup>80</sup> IDR III/3, 16.

<sup>81</sup> CIL III, 107.

of the deceased P. Ael. Victor Plautianus<sup>82</sup>. This *decurion* of Potaissa also owned lands in the countryside<sup>83</sup>. The female slaves who set up the funerary monument alongside his wife Salvia are probably her closest servants.

Though there is no direct evidence on the existence of *villici* or *actores* on agricultural fields, we can still admit their existence. Therefore, P. Aelius Maximus, who lived at Napoca, is known to have owned a large farm (*villa rustica*) in the city (modern Ciumăfaia). This master must have used numerous slaves for agricultural labours<sup>84</sup>. The existence of agricultural slaves is proved by the eight *villae rusticae* discovered thus far, the most important of which was discovered at Hobîța<sup>85</sup>.

Some *actores* or *villici* slaves within the service of great tenants—*conductores* of salt mines, customs and pastures—deliberately failed to mention their function on the stone. In this case, we mention two inscriptions at Apulum, where the central offices of various *conductores* were administrated by faithful slaves, with financial skills or where they had to monitor the workers. This is the case of the slave Rufinus, who worked for his master P. Aelius Strenuus; he was probably an *actor* who was in charge with his master's finances<sup>86</sup>. P. Aelius Strenuus had high dignitary functions, such as *duumvir*, *sacerdos area augusti*, patron of *collegia*, *conductor pascui salinarum*; he was an important figure in the province of Dacia<sup>87</sup>. The slave Callistus<sup>88</sup>—within the service of the three Iulii brothers (Capito, Ianuarius, Epaphroditus)<sup>89</sup>, all of them *publican*—must have been a *villicus*, since his counterparts within the *familia urbana* who mention their function are all part of the customary staff. Another *villicus* can be identified in Felix, who dedicates a monument to his master, Titus Iulius Saturninus, *conductor Publici Portorii Illyrici tertiae*

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<sup>82</sup> IDR III/5, 488.

<sup>83</sup> TUDOR 1957, 94.

<sup>84</sup> PISO 2005, 251.

<sup>85</sup> PISO 2005, 251.

<sup>86</sup> IDR III/5, 443.

<sup>87</sup> PISO 2004-2005, 182.

<sup>88</sup> IDR III/5, 99.

<sup>89</sup> TUDOR 1968, 165.

*partis*<sup>90</sup>. Felix is *ex privatis*, a slave who was given by his private master public tasks.

*h. Slaves as mine workers?*

A special interest is stemmed by slaves used in mines. Three waxed tablets discovered at Alburnus-Maior mention the procurement of three slaves: a *puella*, a *puer* and a *mulier*, Passia<sup>91</sup>, Apalaustus<sup>92</sup> and Theudote<sup>93</sup>. The buyers of Passia and Apalaustus are Illyrian-Dalmatian *peregrini*, probably administrators of gold pits who, to extract the gold from the mines, used slaves. Diodorus underlines that not only men and women, but also children were used in mines<sup>94</sup>. Recent archaeological researches proved the existence of mining installations from Roman times<sup>95</sup>. However, the texts do not directly attest slave labour in mines. The work of free status people (especially *peregrini*) is more used in Dacian mines<sup>96</sup>, and we assume that slaves' labour in that field was rare, because it requested special skills: they could be used only for simple tasks. That is why we think that, even though slaves could be employed in mining, their number was low and their tasks were not very important.

### 3. Conclusions

The inscriptions of Dacia mention slaves used by their masters for various administrative, financial or domestic duties. They belonged to all categories of slaves involved in economic activities (working directly for their masters, like *institores* or possessing a *peculium*). Sometimes they can belong to both categories (Secundus from Alburnus Maior works for Cassius Palumbus, but he is managing the financial affairs of Cassius

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<sup>90</sup> IDR III/1, 60. See new restitution and commentary at MIHAILESCU-BÎRLIBA 2010, 145–152.

<sup>91</sup> IDR I, 36.

<sup>92</sup> IDR I, 37.

<sup>93</sup> IDR III/1, 38.

<sup>94</sup> Diodorus 3,12,1–4.

<sup>95</sup> BARON, TAMAS, CAUUE, MUNOZ 2011, 1090–1100; CAUUE 2011, 345–382; CAUUE, TAMAS 2012, 219–241; CAUUE 2014, 93–104.

<sup>96</sup> IDR I, 40–42.

Frontinus)<sup>97</sup>. Another remarkable thing: the most of slaves whose occupations are attested in Dacia are working for *conductores* and *procuratores* (in different fields). They are involved in public business (like customs or salt exploitation), but representing the personal affairs of their masters.

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<sup>97</sup> IDR I, 44.

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**RECONSTRUCTIONS OF THREE BRIDGES  
IN THE 4<sup>TH</sup> CENTURY ROME. HISTORICAL PERSPECTIVE\***

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**Keywords:** pons Valentinianus, pons Gratianus, pons Theodosius, topography, utilitarian architecture, Late Antiquity.

**Abstract.** *This study aims to present an historical perspective on utilitarian architecture in late antique Rome and focuses in particular on the reconstructions of three bridges in the 4<sup>th</sup> century Rome, namely the pons Aurelius/Valentinianus, pons Cestius/Gratianus, and pons Probi/Theodosius pons. I examine the narrative and epigraphic sources to assess the social aspects and communicative potential of bridges. The study considers the literary allusions to the three ancient bridges in order to achieve an historical evaluation of the bridges as social objects and as a suitable medium for messages of power in the period of Late antiquity.*

**Rezumat.** *Acest studiu urmărește prezentarea unei perspective istorice asupra arhitecturii utilitare în Roma din Antichitatea târzie, analiza fiind concentrată pe reconstrucția a trei poduri din capitala Imperiului în secolul al IV-lea, și anume pons Aurelius/Valentinianus, pons Cestius/Gratianus și pons Probi/Theodosius pons. Voi examina izvoarele literare și epigrafice pentru a evalua aspectele sociale și potențialul de comunicare al podurilor. În cadrul acestei evaluări istorice, mențiunile literare privind cele trei poduri sunt considerate în prezentul studiu obiecte sociale și un mediu al mesajelor puterii în Antichitatea târzie.*

Ancient bridges in imperial Rome were well visible and elaborate objects on which and in whose close proximity every-day and lively social life took place. I suggest that it is possible to identify their political significance and communicative aspects within the whole history of the

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ancient Roman state<sup>2</sup>. The bridges served as practical and strategic continuations of major trade roads and joined densely inhabited river banks, at least from the period of the late Republic when the *Pagus Ianiculensis* on the right bank of the Tiber was attractive enough as a residential district<sup>3</sup>. The Tiber river was one of the most important commercial arteries linking the capital of a large empire with Ostia, so a lot of pleasure boats and commercial ships passengers could see monumental bridges and their inscriptions from the river perspective<sup>4</sup>. Material and historical resources prove that the number, quality and appearance of the bridges reflected crucial changes in politics and the economy, and at the same time were active subjects as a medium of political self-presentation performed by the emperor and the senatorial aristocracy.

The city of 4<sup>th</sup> century Rome is very suitable place, if somebody wants to make a historical picture of bridges<sup>5</sup>. During the reigns of the

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<sup>2</sup> From the end of 19<sup>th</sup> century up to now some articles have been published which focus on historical context of ancient bridges in Rome, but no one has comprehensively treated their communicative, nor social aspect. See: MAYERHÖFER 1883; CLARK 1908, 144–147; KLEINER 1991, 182–192; GRIFFITH 2009, 296–321. However, none of these works have systematically considered the issue of bridges as social objects and suitable media for self-presentation of the imperial executives, or senatorial aristocracy. For the general communicative aspects of the public urban space see: WHYTE 2006, 153–177.

<sup>3</sup> The first bridge in Rome was wooden Pons Sublicius, according to Livy (1.33.6) built by Ancus Marcius, in late 7<sup>th</sup> cent. BC. See: GRIFFITH 2009: 301–310.

<sup>4</sup> There are literary indications that in the imperial period Tiber was full of commercial or specialist ships with plenty of passengers and harbour workers. E.g. Tacitus (*Ann.* 15.18.3) mentions two hundreds of ships destroyed by fire in the very harbour and one hundred more, which had sailed up the Tiber. Pleasure boats: Ov. *Fast.* 6.773–84; Juv. 9.130–2; Suet. *Ner.* 27.3. The principal work on Tiber in antiquity remains LE GALL 1953. The river as presented in ancient law, literature, religion, and art is also considered in the latest publication: CAMPBELL 2012.

<sup>5</sup> In no other ancient city were there so many bridges. Late antique and medieval lists (*Curiosum*, *Notitia*, *Polemii Silvii*, *Mirabilia*, *Graphia aurea urbis*) mention between eight and ten ancient bridges in Rome, with various names, according to their original builder, reconstructions and appearance in late antiquity and medieval times. In the geographical order, from north to south: pons Mulvius, Aelius/Hadriani, Neronianus/Triumphalis, Agrippae, Aurelius/Antoninus, Fabricius/Iudaeorum,

emperors Valens, Valentinian, Gratian and Theodosius were invested considerable resources to the constructions and reconstructions of the river crossings in eternal city. Although Rome was not the residential place of the emperors, they signed their names to the costly repairs of three bridges in the city — pons Aurelius/Valentinianus (271–275, rebuilt in 365–367), pons Cestius/Gratianus (62 to 27 BC, rebuilt in 369), and pons Probi/Theodosius pons (276 to 282, restored in 384–7)<sup>6</sup>. For the next two centuries nothing is known on repairs of the stone bridges elsewhere in the Roman world<sup>7</sup>. From the perspective of historical assessment, all three bridges are the best utilitarian objects, recognizable correspondingly by literary, epigraphic and archaeological evidence.

#### **Pons Cestius/Gratianus.**

No other bridge at late antique Rome is better glorified in a literary context than Pons Gratianus, the modern Ponte S. Bartolomeo. The bridge that connects the Tiber island with the Transtiberim, was probably built by *curator viarum* (between 62 and 27 BC) C. Cestius Epulo, who is recognized also as the builder of his own pyramid tomb outside the Porta S. Paolo and moreover as the friend of the influential M. Vipsanius

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Cestius/Gratiani, Aemilius/S. Mariae, Sublicius, Probi/Theodosii. Today it is possible to see ancient remains in six bridges — Mulvius, Aelius, Fabricius, Cestius, Aemilius, and Neronianus. The amount, quality and character of the literary references to the particular bridges in Rome are very divergent.

<sup>6</sup> In the specific historical circumstances of the later Roman Empire, relatively large resources were invested to the reconstructions of the bridges. In the provinces, immense bridges were built on the main strategic rivers, the Rhine and Danube. Constantine I. built a large bridge over the Rhine, in Colonia (Pan. Lat. 7.11; 13–14), and the famous bridge in Sucidava (today Celei in Romania), probably the longest ancient Roman bridge ever, at 2437m. Constans and Constantius II reconstructed the bridge-viaduct over the river Aniene in Tivoli (CIL XIV 35837). Constantius got involved with the bridge over the river Sava in Sirmium (Sremska Mitrovica). In the 6<sup>th</sup> century two exceptional bridges were known, one in Gallia – the bridge of boats at Arles (Auson. Ordo nob. urb. 16.10.4–8), and the second in Anatolia – Justinian's bridge over the river Sangarius (Procop. *Aed.* 5.3.8–11). See GALLIAZO 1994, 1: 78–81.

<sup>7</sup> In the second half of the 6<sup>th</sup> century the governor of Italy, Narses, rebuilt the Pons Salarius. The inscription says about the bridge, that it was destroyed down to water-level by the most infamous tyrant Totila CIL VI 1199 = ILS 832.

Agrippa. Nothing certain is known about its maintenance and repairs until the emperor Antoninus Pius reconstructed it in 152 AD<sup>8</sup>. The whole following century after the event we have no other information about this bridge. In 369, it was completely redesigned by the emperors Valentinian I, Valens and Gratian and dedicated in 370 as the public construction entitled *pons Gratiani*<sup>9</sup>.

What is crucial for the historical evaluation is that *pons Gratiani* is the only bridge in Rome, which was praised in a literary context. The praise occurs in Q. Aurelius Symmachus' (345–402) panegyrics to the emperor Gratian, delivered supposedly at Trier in 369. Symmachus came to the court of Valentinian in Trier as the official representative of the Roman Senate, to express (in person) the loyalty and devotion of the senatorial aristocracy to the Emperor<sup>10</sup>. He did it in two ways. Immediately after his arrival, on the 25<sup>th</sup> February, he delivered two panegyrics, the first in honor of Valentinian (*Oratio 1*), the second devoted to the young Valentinian's son Gratian, who had just been appointed *Augustus* (*Oratio 3*). The third speech (*Oratio 2*) was recited 10 months later, in January 370, to commemorate Valentinian's third consulship. Moreover, he offered the emperor a specific gift, *aurum oblativum*, a voluntary tax on the occasion of the emperor's *quinquennalia*<sup>11</sup>.

In the panegyric on Gratian, Symmachus contrasts two rivers – the Rhine and the Tiber, and as part of this, interpreted the bridges, which crossed them<sup>12</sup>. The Rhine was pictured as a defeated prisoner, which was

<sup>8</sup> InscrIt 13.1, 207, 238.

<sup>9</sup> In its reconstruction, the *spolia* were used, among them the travertine blocks from the Theatre of Marcellus. The bridge was 48 m long and 5.8 m wide. In 1885/9 the bridge was taken down. In 1892, a new bridge was built, the centre arch of which was rebuilt to its original measurements.

<sup>10</sup> For the chronology of the orations, see: PABST 1989, 152–54.

<sup>11</sup> On the relationship between Roman aristocrat and absent emperor Valentinian, see: HUMPHRIES 2003, 27–46. For a discussion of the orations delivered in Trier, see: SOGNO 2006, 8–21.

<sup>12</sup> Symm. *Oratio 3.9*. *Laudatio in Gratianum Augustum: En noster bicornis, caue aequalem te arbitrare Tiberino, quod ambo principium monumenta gestatis: ille redimitus est, tu subactus. Non uno merito pons uterque censetur: victus accepit necessarium, victor aeternum; pretiosior honori datus est, utilior servituti.* Symmachus 2009: 26 – 27. "Look here, you two-pronged river now

pressed in handcuffs of the bridges: *ille libera hucusque cervical repagulis pontium captivus urgetur*<sup>13</sup>. The Tiber is, however, a great winner crowned by the monuments of Roman emperors, to whom the Rhine is not equal: *en noster bicornis (Rhenus) te cave aequalem arbitrere Tiberina, quod ambo Principum Monumenta gestatis: redimitus ille est, tu subactus*. The most remarkable moment comes in the following sentence, where the author compares a bridge across the Tiber with a bridge across the Rhine<sup>14</sup>. In Symmachus' opinion it is not just to juxtapose bridges on two unrivalled rivers. While the bridge of the Rhine was in this section associated with attributes such as *necessarium, vilior*, the one that crossed the Tiber, (pons Cestius) was celebrated by the adjectives *aeternum, pretiosior*: *Victus accepit necessarium, victor aeternum; pretiosior honori datus est, vilior servituti*. These were apparently courageous words, since Symmachus expressed the indirect opinion that Rome and its monuments were more praiseworthy than extra-Roman buildings. In the context that Symmachus came to express loyalty to the Rome-absent emperor, it seems to be anachronistic. In fact, the bridge did play here a major figurative role; it served as a medium to memorialize the prominence and glory of the eternal city. The prominent Roman senator exercised the symbolic power of bridges not only in Rome, but also on the Rhine to remind the executives in Trier that the city of Rome remains a persuasive icon of political and military power, although the real political map appeared to be unlike that.

At the time when Symmachus was staying at Valentinian's court in Trier, the reconstruction works on the bridge in Rome were finished<sup>15</sup>. After completing the bridge, the Senate dedicated it to Gratian, at the

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ours — be careful not to think yourself the equal of the Tiber, just because you both carry structures built by our emperors: that river has been crowned, you have been conquered. The two rivers are not celebrated for the same quality. The conquered river has received a necessary bridge, the conquering an eternal one; the finer bridge was bestowed as an honor, the cheaper one as a mark of slavery."

<sup>13</sup> Symm. *Oratio* 3.9.

<sup>14</sup> While the bridge in Rome is recognized as the Pons Cestius/Gratianus, the bridge on Rhine is not exactly identified. It is likely that it was a pontoon bridge. Symm. *Oratio* 2. 26.

<sup>15</sup> The second bridge in Rome to be repaired in a short space of time — between 365 and 367 Valentinian's bridge was reconstructed, see below.

time, the eleven year old *augustus*. This project, which took place in a very short period of one year, has been immortalized by two inscriptions on marble tablets fixed in the parapet of the monument itself<sup>16</sup>. The inscriptions are still discernible at the present day, survived *in situ* (CIL VI 1175–76, 31250–51).

*Domini nostri imperatores Caesares / Fl(avius) Valentinianus pius felix maximus victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estas) VII imp(erator) VI cons(ul) II p(ater) p(atriciae) p(roconsul) et / Fl(avius) Valens pius felix maximus victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estas) VII imp(erator) VI cons(ul) II p(ater) p(atriciae) p(roconsul) et / Fl(avius) Gratianus pius felix maximus victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estas) III imp(erator) II cons(ul) primum p(ater) p(atriciae) p(roconsul) / pontem felicis nominis Gratiani in usum senatus ac populi Rom(ani) constitui dedicarique iusserunt<sup>17</sup>.*

From the historical point of view, this inscription is interesting for several reasons<sup>18</sup>. The first is that it allows us, using the titles of the emperors, accurately date the dedication of the bridge to the end of 369 or the beginning of the 370. Second, the contents of the inscription can be put into context with Symmachus' panegyrics, which he delivered at that time in Trier. Just as Symmachus in his panegyrics praised the victories of Roman emperors over the Germans on the Rhine, so this bridge inscription points up the Roman triumphs on the Rhine and Danube frontier. The most interesting connotations are, however, in regard to the

<sup>16</sup> CIL VI 1175, 1176 = ILS 771, 772.

<sup>17</sup> CIL VI 1175 = 31250 = ILS 771. On the interior of the north parapet. Translation of last two lines: *ordered the bridge consecrated to the eternity of the august name of Gratian, triumphant emperor, to be begun, completed, and dedicated for the use of the Senate and People of Rome.*

<sup>18</sup> It is the last public monumental inscription in Rome, on which appeared the pagan priest titlature *pontifex maximus* by the emperor's name.

person of the Emperor Gratian. The inscription by its contents corresponds to Symmachus' orations, in which he glorified the bridge over the Tiber. There is an implicit common message both in the bridge inscriptions and the panegyrics sent by Symmachus and Roman senate towards the imperial power. That is, in my opinion, the expression of senatorial approval with unexpected appointment of young Gratian straight to *Augustus*<sup>19</sup>. This unforeseen action had been criticized by Ammianus Marcellinus, who referred that Valentinian violated old habits, when he generously named his brother and son not for *ceasars* at first, but directly for *augusti*<sup>20</sup>.

In contrast to the retired military officer writing Roman history, this was evidently not the attitude of the ambitious and active fourth-century Roman aristocrats fully engaged in power struggles. Pons Cestius/Gratiani at the time of its reconstruction was the epitome of the obedience of the Roman senators to the wilfulness of distant emperors. At the same time it was a personification of the specific dialogue between remote emperor, generously investing to the buildings of the city of Rome, and the conservative aristocrats grateful for these investments and willing to see their princeps in the eternal city<sup>21</sup>. The communicative aspect of the bridge could not be better articulated than in this case.

### **Pons Theodosii/Probi**

The next Roman bridge, from which literary testimony survives from the period of late antiquity, is the Pons Probi<sup>22</sup>. This bridge construction cannot be dated nor identified precisely, because neither material trace,

<sup>19</sup> Gratian has got the same titulature as Valentinian and Valens in the inscription.

<sup>20</sup> Amm. Marc. 27.6.16. *In hoc tamen negotio Valentinianus morem institutum antiquitus supergressus non Caesares sed Augustos germanum nuncupavit et filium benivole satis.*

<sup>21</sup> HUMPHRIES 2003, 13.

<sup>22</sup> The name Pons Probi is identified in Constantinian Regionary Catalogue, which says nothing about its location. Medieval sources like *Mirabilia* and *Graphia aureae urbis*, which catalogue the Roman bridges in geographical order from north to south, name the last Roman bridge at Aventine as Pons Marmoreus Theodosii or Pons Theodosii in Riparanea. The bridge was demolished in 11th cent. and razed to its foundations in 1484 by Sixtus IV. NASH 1962, 196.

nor inscription has been preserved<sup>23</sup>. It is likely that the bridge was completely built by Probus (276–282), south of Porta Trigemina, not far from the middle of Aventine Hill<sup>24</sup>. It was fully rebuilt in 381–387 when the emperor Theodosius was in power.

The literary evidence is preserved by the same author, who has celebrated the Pons Cestius. Fourteen years after his embassy in Trier, Symmachus became prefect of the city of Rome, for the period of 384–385. In this office he was responsible, *inter alia*, for the construction of new public buildings and repairing old ones<sup>25</sup>. Although the urban prefect was highest executive official in Rome directly subordinated to the emperor, he did not possess a sufficient amount of his own resources for costly building projects, and had to rely on loans from the senatorial treasury (*arca quaestoria*), or from bankers, or in the case of bridges and sewers, from aqueduct funds. The deficiency of the urban prefect's resources often caused technical and economic problems in major construction projects<sup>26</sup>. One such problematic project was the construction, or rather restoration of the Pons Theodosii, which was officially sponsored by the emperor, but was in reality realized with the support of urban resources. In two *relationes* (*Relat.* 25 and 26, June 384), and two letters (*Ep.* 4.70 and 5.76, 387) there is some chronological data, some information on technological procedures, and control mechanisms, and also details of the interpersonal relationships of the main architects responsible for construction of a bridge in late antique Rome. The main unanswered question is whether the Senate or emperor initiated the restoration.

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<sup>23</sup> The last remnants of its piers indicating that the arches and piers were faced with travertine, were raised from river bed in 1878. JORDAN 1878, 421–22; NASH 1962 vol.2., 196–197; RICHARDSON 1992, 299; COARELLI 1999d, 111–112.

<sup>24</sup> TAYLOR (2002, 14–16) suggests that the bridge was erected to meet the need of effective distribution of flour required by the bakeries in the Transtiberim region. He also advocates that emperor Probus despoiled the pons Neronianus for his new bridge.

<sup>25</sup> Among other responsibilities he was in charge of the security of the river banks. In the major projects, such as reconstructions or constructions of bridges, was involved the emperor himself, who made money available in a designated city-fund. See: ECK 1983, 49–102.

<sup>26</sup> Symm. *Relat.* 34 (Orfitus affair). See: CHASTAGNOL 1950, 166–183.

In the summer of 384, Symmachus as urban prefect wrote to emperor Valentinian II about the problems in the construction of the basilica and the bridge (*super basilicae atque pontis*)<sup>27</sup>. In fact, the main theme was the bridge and two senators and architects (*comes et mechanici*), Cyriades and Auxentius, who were project managers for the construction of the bridge<sup>28</sup>. They accused each other of negligence and errors leading to the collapse of the bridge before completion in winter of 382<sup>29</sup>. Following this, the works were stopped and the emperor initiated an investigation, which he delegated to Auchenius Bassus<sup>30</sup>, later prefect of the Rome (382–83). The situation became very complicated because of a growing animosity between the architects, so the emperor then assigned the inquiry to Sallustius, who was prefect in 387<sup>31</sup>. Subsequently Auxentius disappeared and afterwards was succeeded by another architect Aphrodisius<sup>32</sup>.

The details of the building of the bridge appear gradually in Symmachus' report. Firstly in connection with the basilica, when Symmachus records that Auxentius personally accused Cyriades about the excessive cost of the basilica and the bridge (*super basilicae atque pontis inmodico sumptu*)<sup>33</sup>. It is a rare express reference in Latin literature about large investments for the construction of the bridge. Further he writes about "experts of construction", who had to appraise the work, for which Cyriades and Auxentius were responsible (*decrevi fabrilis artis magistros ...aestimationi operis admoventos*). Taylor deduces from these words, that Symmachus completely relied on the experts and he did not convince himself on the real state of the bridge in situ<sup>34</sup>, since at this moment he did

<sup>27</sup> This basilica is not San Lorenzo fuori le mura as it was supposed to be: MARTINEZ-FAZI 1972: 209–215.

<sup>28</sup> On the architects: JONES et al. 1971: voce Cyriades, 237, voce Auxentius 5, 142.

<sup>29</sup> Symm. *Relat.* 26. 4.5. On the affair see: Vera 1978: 45–94.

<sup>30</sup> JONES et al. 1971: voce Anicius Auchenius Bassus 11: 152.

<sup>31</sup> JONES et al. 1971: voce Sallustius 4: 797.

<sup>32</sup> JONES et al. 1971: voce Aphrodisius: 81.

<sup>33</sup> Symm. *Relat.* 25.2. With translation and introduction see: BARROW 1973.

<sup>34</sup> TAYLOR 2000, 221.

not report about the collapse of the construction<sup>35</sup>. The following passage is worth to be quoted in full:

*"It was established that a length of the bridge, short and standing by itself, had been begun at the beginning of the winter and had collapsed under the impact of the river. Craftsmen estimated the cost of repair at twenty gold coins, at the outside. But the collapse of this part, which was as yet separated from the rest of the structure, did not seem to have damaged in any way the more distant sites. Cyriades, of the distinguished order of senators, assured us that it would not be a difficult building operation to repair it. A second site was examined, and a block of stonework was discovered with gaps in it. Cyriades, comes and civil engineer, giving us the advice of his specialist knowledge, told us that the stones had been set in this way so the material could be run in later and the parts separated by gaps would thus be bound together. His successor in the work ought to have taken great care to do this, but he was said, instead of doing it, to have contrived that open places should be filled with bales of hay and esparto so as to bring the originator of the works into discredit. He supported this by quoting from the record of work done and skilled diver did not deny that was what had been done, but he said that it was in accordance with normal building practice, and not with a view to dishonoring Cyriades, of the distinguished order of senators, that this kind of measure had been adopted."*<sup>36</sup>

It is the longest passage about the processes of construction of the bridge, which has been preserved from the pen of late antique author, although it is in fact only necessary information explaining to emperor the cause of the antagonism of two influential architects. It also demonstrates

<sup>35</sup> He wrote (*Relat.* 26.4) it in the following year (385).

<sup>36</sup> Symm. *Relat.* 26.5. Transl. Barrow. *"Atque ita constitit, partem brevem atque discretam sub exordio hiemis inchoatam vi fluminis corruisse, cuius inpendium viginti solidorum definitione artifices aestimarunt. Sed casus partis istius utpote adhuc a cetero corpore segregatae nihil videtur iniuriae locis distantibus adtulisse; ipsam facili aedificatione reparandam Cyriades v. c. pollicetur. Post haec alterius loci exploratio hiulcam conpagem lapidum deprehendit, quam Cyriades comes et mechanicus consilio suo et ratione artis ita positam sugerebat, ut infuso postea inpensarum liquore hiantia stringeretur. Quod cum facere debuisset succedentis industria, adfectasse potius dicitur, ut in auctoris invidiam patula quaeque faeni et sparti manipulis clauderentur. Quod cum adstrueret recitatione gestorum, factum quidem urinandi artifex non negavit, sed ex usu operis, non in dehonestandum Cyriadis c. v. adserebat remedium huiusmodi esse provisum."*

the cautious approach of the author to technical matters of construction, which he did not understand well and fully relied on statements of architects and even *urinandi artifex*<sup>37</sup>.

The important point in evaluating the passage is not to underestimate the communicative or representative meaning of public works in the construction of the bridge. Although very little is known about specific investments — except unclear information about twenty gold coins of repair, the very nature of the edifice required a considerable number of workers, whether in engineering or logistic works, which inevitably would have been noticed by the general Roman public<sup>38</sup>.

Symmachus apparently responded to the intrigues of the Roman magistrature, perhaps also to the public defamation of the chief architects, of which the inhabitants of the city, or at least the senators and their families knew, that they were responsible for the effectual erection of the bridge. The unexpected and nervous reactions of both architects testified about the seriousness of the situation — Auxentius surprisingly disappeared in 382, immediately after the initiation of the investigation: *after a long search he could not be apprehended anywhere; when he was ordered to present himself to your Divinities' comitatus he fled*<sup>39</sup>, and Cyriades became very anxious lest his opponent should intrigue behind his back<sup>40</sup>. The emperor responded in this matter very quickly, but not emphatically enough, which can be interpreted in many ways. It may demonstrate the importance and extraordinary difficulty of the cause, or simply the inability of central power to solve the problem effectively<sup>41</sup>.

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<sup>37</sup> The third-century inscriptions from Rome testify about an alliance of divers: *corpus et urinatorum totius alvei Tiberis*. CIL VI 1080, 1872, 29700, 29702. For philological and historical discussion on ancient divers, see OLESON 1976, 22–29.

<sup>38</sup> For involving skilled labour, free builders, and slaves in bridge construction, see O'CONNOR 1993, 42–43.

<sup>39</sup> *Symm. Relat.* 25.3. Transl. Barrow.

<sup>40</sup> *Symm. Relat.* 25.3.

<sup>41</sup> *Symm. Relat.* 26.3.

The bridge was not completed in the next five years<sup>42</sup>. It is known from the letter of 387, in which Symmachus complained to Eusignius, who at that time held the position of *comes sacrarum largitionum*, that affairs are complicating even the emperor's good decision to entrust the matter to the trustworthy Bonosus. Symmachus expressed his concern: *sed vereor ne ludificationibus res iniuncta frigescat obluctante eo (=Cyriade) quem socium discussionis accepit, atque ideo clam te esse non patior eo rem deduci, ut labes magna sumptum publicorum studio occulatur. (Ep. 4.70).*

The communicative aspect of the bridge is rather vague here, since it is not known who initiated the reconstruction of the bridge and for what reasons<sup>43</sup>. The reconstruction of the bridge was a problematic building project from the very beginning, which triggered a lot of emotions in aristocratic circles, and probably also in the general public. Technical problems, lack of funds and perhaps also a lack of interest of the imperial executives caused, that its completion was variously delayed over the course of eight years. For a fuller assessment of the historical feature of this bridge there is a need for other literary sources, whether narrative or epigraphic.

### **Pons Aurelius/Valentiniani**

No other bridge in Rome than pons Aurelii/Valentiniani was a better symbol of ability of the Roman aristocracy to find a suitable way to present their own building merits while not offending the majesty and honour belonging only to the emperor<sup>44</sup>. This bridge was called by various

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<sup>42</sup> Christina Sogno argues that "Once again, in the exercise of his judicial power, the urban prefect was unable to find a solution to a judicial case that he had inherited from his predecessors and was forced to forward the case to the attention of the emperor". SOGNO 2006, 39.

<sup>43</sup> It is possible that the bridge was destroyed by a flood in 374, to which Ammianus (29.6.17) refers.

<sup>44</sup> There are some questions on its identity, and origins. Medieval sources are confusing - Pons Aurelius, represented by modern Ponte Sisto, was sometimes identified with Pons Antoninus, or Antonini in Arenula, and consequently with Pons Agrippae. The foundations of this bridge (pons Aurelius/Valentiniani) has been ascribed to emperor Caracalla by Richardson, and to M. Aurelius Probus by Taylor who asserts that the bridge

names according to its historical modifications throughout antiquity and the Middle ages, mostly as Aurelius, but also as Valentinianus, Antoninus, Antonini in Arenula, Ianicularis, Tremulus, and after its rupture in 791–2 Ruptus or Fractus<sup>45</sup>. It was probably first built in the period of high empire (possibly from Caracalla to Probus), just 140–160 m south of the former Pons Agrippae<sup>46</sup>, and enabled pedestrians and travellers on the via Aurelia to carry on their trip by the ends of Aurelian wall, from Transtiberim to the populated spaces of the Campus Martius. Only modest physical remains of the ancient bridge survived until present<sup>47</sup>, but what is key moment from the point of historical evaluation, is the existence of archaeological findings from 1878, when arrangements for the new canalization in the Tiber riverbed revealed the vestiges of the bridgehead arch with inscribed letters, which were positioned in

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was made from the spoils of Pons Agrippae. DEY (2011, 314) suggests that Pons Agrippae was simply “demolished and replaced by a new bridge ex novo 140 m downstream, at the point where the walls on both sides of the river were made to end”. The Aurelian bridge was destroyed in 791–792 and its foundations were afterwards used again by Sisto IV, who gave it a new name — the Ponte Sisto. The relics of the piers of the original Pons Aurelius were visible in 1878, when the left bank of the Tiber was drained. See: RICHARDSON 1992, 297; COARELLI 1999b, 107–108. For further discussion on topographical identification see: TAYLOR 2000, 157–161, and DEY 2011, 310–314.

<sup>45</sup> The name Pons Aurelius occurs solely in in lists of 4<sup>th</sup> and 5<sup>th</sup> cent. — Notitia (Appendix), and Polemius Silvius 545. Medieval literary evidence refers to *Pons Antonini in arenula*, *pons Ianicularis id est pons ruptus vulgarter nominatus et tremulus et Antoninus* (Anon. Magl. 158, Urlichs). The name pons Valentiniani appears only in *Mirabilia* (*Mirabilia urbis Romae*, 9.11).

<sup>46</sup> The existence of this bridge with uncertain purpose is proved by inscribed *cippus* (CIL VI 31545) set up by *curatores riparum* of Claudius, found in 1887, and at the same year were discovered foundations of the bridge, that attest it crossed the Tiber 160 m upstream of the Ponte Sisto. In 147 was the Pons Agrippae restored by Antoninus Pius, as proved by Fasti Ostienses discovered in 1939: *K. Febr. imp. Antoninus Aug(ustus) pontem Agrippae dedic(avit)*. (VIDMAN 1982, 51). There is also a confusing passage in Procopius (*Goth.* 1.19.10), where it can be read, that when the Aurelian walls on the eastern bank of Tiber were built, they were linked with the rest of walls on the other side of the river with a new bridge. COZZA (1986, 104) deduced, that the pons Agrippae was built along with the Wall.

<sup>47</sup> The relics of the first right arch and original foundations show that Pons Valentiniani was probably wider than the modern Ponte Sisto. For a picture of the ancient bridge foundation of the piers, see NASH 1961, vol. 2, 185.

multiples both on the bridge itself and on a bridgehead arch at the eastern end<sup>48</sup>. The inscriptions recorded the reconstruction of the bridge by the emperors Valens and Valentinian in 365–366. They provided explanation for up-to-date indistinct reference in Ammianus about a bridge, which was built by Lucius Aurelius Avianus Symmachus (†376), father of Quintus Aurelius Symmachus.

It is compelling to see these inscriptions together with Ammianus' reference to this bridge. It enables us to appreciate the communicative power of this bridge in the historical context of the aristocratic level of self-presentation. The section is worth quoting in full:

*"However, long before this happened, Apronianus was succeeded by Symmachus, a man worthy to be classed among the conspicuous examples of learning and moderation, through whose efforts the sacred city enjoyed an unusual period of quiet and prosperity, and prides itself on a handsome bridge, which Symmachus himself, by the decision of our mighty emperors, dedicated, and to the great joy of the citizens, who proved ungrateful, as the result most clearly showed. For after some years had passed, they set fire to Symmachus' beautiful house in the Transtiberine district, spurred on by the fact that a common fellow among the plebeians had alleged, without any informant or witness, that the prefect had said that he would rather use his own wine for quenching lime-kilns than sell it at the price which the people hoped for"*<sup>49</sup>.

These words together with the text of the inscription present an eloquent picture of the bridge as a suitable object for self-presentation of a

<sup>48</sup> LANCIANI 1878, 243–44; HÜLSEN 1892, 329. The vestiges of decorative sculpture from the period of Severan dynasty (except the bronze head of Valentinian I.) were found in the same location. It cannot be excluded that this statue decoration was installed on the Pons Agrippae. See: DEHN 1911, 238–259; TAYLOR 2000, 161.

<sup>49</sup> Amm. Marc. 27.3.3–4: *Multo tamen antequam hoc contingeret, Symmachus Aproniano successit, inter praecipua nominandus exempla doctrinarum atque modestiae. Quo instante urbs sacratissima otio copiisque abundantius solito fruebatur, et ambitioso ponte exsultat atque firmissimo, quem condidit ipse, iudicio principum maximorum, et magna civium laetitia dedicavit ingratorum, ut res docuit apertissima. Qui consumptis aliquot annis, domum eius in Transtiberino tractu pulcherrimam incenderunt, ea re perciti, quod vilis quidam plebeius finxerat, illum dixisse sine indice ullo vel teste, libenter se vino proprio calcarias extincturum, quam id venditurum pretiis quibus sperabant.* Translated by Rolfe.

Roman aristocrat in the period of increased building activity in the eternal City, where, despite personal absence, only sovereign emperors could be officially celebrated. There are a number of unspoken messages to readers inherent in this text, which says specific information about merits linked with building or repairing public monuments, particularly of bridges. Ammianus mentioned bridges several times in his historical treatise, but mostly in the context of military operations, and with two exceptions – Pons Mulvius and Pons Valentiniani, they all were provisional military constructions<sup>50</sup>. It is also interesting that the “civilian” bridges in Rome linked their construction not with emperors, but with aristocrats, the Valentinian bridge with Symmachus, the Milvian bridge with the elder Marcus Scaurus.

The key sentence in relation to Valentinian’s bridge is: “*et ambitioso ponte exsultat atque firmissimo, quem condidit ipse*”, which raises a number of philological and historical questions<sup>51</sup>. Above all, it is the curious formulation *condere pontem*, that is generally unusual in Latin texts<sup>52</sup>. Ammianus himself used this phrase only once, in other instances he expressed the constructing of the bridges by verbs *pontes iungere* (24.2.7), *digere* (24.6.2), *contexere* (18.8.1), *pontem contabulare* (24.7.8 and 30.5.13), *transmittere* (23.2.7), *compaginare* (21.12.9) or *struxisse* (27.3.9 – *Mulvium pontem*). This formulation gives a promising connotation when compared with the use of the verb in the inscription, where is written: “*instituti ex utilitate urbis aeternae Valentiniani pontis atq. perfecti*” (ILS 769 = CIL VI 31402–4). There is no reason to disagree with Boeft, who suggest that “it is possible that Ammianus chose the unusual *condidit* to emphasize that Symmachus did not simply repair the existing bridge, but built a new one to replace it, thus anticipating the opposition *instaurator* – *conditor* in §7”<sup>53</sup>.

<sup>50</sup> In Ammianus’ work the word *pons* appears 48 times. See: CHIABÒ 1983, 587–8.

<sup>51</sup> See: BOEFT et al. 2009, 45.

<sup>52</sup> Thesaurus Linguae Latinae lists these verbs: *pontem facere*, *inicare*, *frangere*, *transducere* (TLL, 2670).

<sup>53</sup> BOEFT et al. 2009, 45. Ammianus (27.3.7) criticised prefect Lampadius for displaying his name on many places at Rome not as restorer, but as builder of edifices, although he in fact did not erect any new buildings. Lampadius, however, had to follow a law of emperor Valentinian issued in May 365 allowing just restoration of old buildings, prohibiting the

The attributes that Ammianus gave to the bridge also deserve close attention. Given the very small amount of literary praise given to bridges, the words *ambitoso* and *firmissimo* sound extraordinarily laudatory in association with the object of a bridge. Perhaps it is possible to include this literary section among the modest amount of literary references glorifying bridges, along with the references in the writings of Cassius Dio and Symmachus<sup>54</sup>. In addition, Ammianus uses the verb *exsultat* in this sentence, which in relation to non-human objects appeared only twice in his work<sup>55</sup>.

The text and quality of building inscriptions indicate further historical circumstances, which complete the picture of the bridge as an object bearing the formulated message of power. The following dedication to the emperor Valens was placed on the well visible base that carried a column of a triumphal/memorial arch. This arch was probably erected at the eastern entrance to the bridge leading to the Campus Martius:

*Imp(eratori) . Caesari . d(omino) . n(ostro) / Fl(avio) . Valenti max(imo). p(io). f(elici). victori ac / triumphatori semper Aug(usto). / . s . p . q . r . / ob providentiam quae illi semper / cum inclyto fratre communis est / instituti ex utilitate urbis aeternae / Valentiniani pontis atq(ue). perfecti. / dedicandi operis honore delato iudicio princip. maximor / L(ucio). Aur(elio). Aviano Symmacho . v(iro). c(larissimo). ex praefectis . urbi<sup>56</sup>*

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erection of new — Cod. Theod. 15.1.1. (25 May 365). MATTHEWS (1975, 22) believes that the prefect just exploited the opportunities to express his building efforts in face of the emperor's attempt to limit investments on public structures.

<sup>54</sup> Cassius Dio's praise of Trajan's bridge (Cass. Dio 68.13) and Symmachus's celebration of Cestius bridge (Symm. *Oratio* 3.9).

<sup>55</sup> Amm. Marc. 14.8.3: *Ciliciam vero, quae Cydno amni exultat*; and 15.11.15: *Viennensis civitatum exsultat decore multarum*.

<sup>56</sup> CIL VI 31402 = ILS 769. *To the Emperor, our Lord Flavius Valens, maximus, pius, felix, victor and conqueror, ever Augustus, the Senate and the People of Rome, because of his foresight (which he has in common with his illustrious brother) in planning and completing the Valentinian bridge to serve the needs of the eternal city, the honor of dedicating the work being conferred, by decision of the emperors, upon L. Aurelius Avianus Symmachus, of senatorial rank, former Prefect of the city (Rome). Translated by Gordon.*

CIL VI 31403 – 31404: *victoriae Augustae / comiti dominorum / principumq. nostror / s. p. q. r. / curante et dedicante / L. Avr. Aviano Symmacho. v. c. / ex praefectis urbi*

The inscription is noteworthy for several reasons: The titulature of the inscription dates the repair of the bridge to the period before 367, since there is no mention of Gratianus, who was declared emperor in the summer of that year<sup>57</sup>. Symmachus was the urban prefect from 364 to 365, and in the inscription appears the word construction *ex praefectis urbi*, which means that bridge was dedicated after Symmachus' office. It is likely that the works on the bridge and triumphal arch standing at the eastern side leading to the Campus Martius lasted from 365–366<sup>58</sup>. The most noteworthy fact in the context of the aristocratic self-presentation was the “detail”, that the former urban prefect, who was probably fully in charge for the organizational tasks, did not manage to complete the work at the time of his office, and despite (or because of it?) got the privilege to place his name together with the names of emperors, on this large and highly visible inscription<sup>59</sup>. In this case, the clear message was sent to the inhabitants of Rome, that the merits of the reconstruction of the public monument are principally in the hands of the emperors, but there is also space and possibility for the presentation of Roman aristocrat as a person, not official<sup>60</sup>. Considering that the names of emperors in inscriptions were naturally expected, and therefore did not attract exceptional attention, or did not cause a great stimulus for reflection in the mind of ordinary Roman citizen, the Aurelian bridge served as a very suitable object for

<sup>57</sup> Without doubt before Valentinian's death in 375. A further inscription found in proximity, that mentions *decennalia* of Valentinianus indicates another *ante quem* date, which is 373.

<sup>58</sup> TAYLOR (2000, 162) insist that: “The job must have been done in haste, and the need for a thorough refurbishment in the late fourth century may have been acute. At this time the bridge was strengthened with an elaborate set of iron clamps similar to those in Gratian's rebuilding of the Pons Cestius”.

<sup>59</sup> Praescriptae sunt in basibus marmoribus n. 31402 – alta 1,45m, lata 1,30m, crassa 1,62 m.

<sup>60</sup> The grades of hierarchy are upheld in the inscription – a private aristocrat may gain honor by the connection of his person with a public building. The emperor is clearly shown to remain the ultimate source of honours. After Symmachus followed ambitious C. Ceionius Rufius Volusianus Lampadius (Amm. Marc. 27.3.5), who built or restored a castellum of the Aqua Claudia (CIL VI 3866). In 367–8 was the prefect of Rome the famous V. Agorius Praetextatus, who restored Porticum deorum consentium (ILS 40003), the last great investment to the pagan monument.

emphasizing the family prestige of a particular noble man. I suggest that the commemorative element of the bridge is clearly readable from the remaining historical traces, although it was explicitly stated that the honor of dedicating the bridge was conferred upon Symmachus by the emperors, as a personal favour.

### **Conclusion**

The Pons Cestius became a symbol of loyalty of senatorial aristocracy to the emperor, but also it represented the subtle desire to restore the status of Rome as a residential city of the emperors. The Pons Theodosius was an instructive example of the general resentfulness in investing in such a difficult and costly bridge construction at a time of dwindling public funds. In this particular case it is not possible to speak about the clearly-expressed communicative aspect, just the implicit consequences that can be deduced from the surviving letters of a fully engaged roman aristocrat. With regard to the ability of the Roman aristocracy to make use of the self-presenting potential of public monuments for celebrating their own names and the names of own families, no bridge served for this purpose better than Pons Valentinianus. At the historical period when the merits in restoring and erecting public monuments were attributed almost exclusively to the Christian emperors, one of the most influential pagan aristocrats found a way for self-promotion that did not offend the imperial majesty. On that occasion, the communicative potential of the bridge was utilized for sending the subtle message to all readers of the inscription, that the glory of the reconstruction of the public monument should first be assigned to the emperors, but in the second place to the particular city inhabitant involved, who at time did not hold the highest office of urban prefect.

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**LATE ROMAN–EARLY BYZANTINE KITCHENWARE  
FROM IBIDA–CURTAIN G AND TOWER 8\***

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**Keywords:** kitchenware, Ibida, Curtina G–Tower 8.

**Abstract.** *The aim of this article is to draw attention to the kitchenware found at Ibida (Slava Rusă), the sector Curtain G–Tower 8. In the same time, I will propose a typology of the artefacts meant to serve as a model of publishing for the entire pottery discovered through the whole territory of the city. This typology can be subjected to future changes, but, for the moment, this represents a starting point in classifying the pottery from this area.*

**Rezumat.** *Scopul acestui articol este acela de a prezenta materialul ceramic de bucătărie descoperit la Ibida, Slava Rusă, sector Curtina G–Turnul 8. Totodată vom propune o tipologizare a artefactelor care să servească ca model de publicare a întregii ceramici descoperite pe teritoriul întregii cetăți. Această tipologizare poate fi modificată de viitoarele descoperiri însă în stadiul actual al cercetării aceasta constituie un punct de plecare în tipologizarea ceramicii din sectorul în discuție.*

Situated in the centre of the northern part of the region of Scythia (figure 1.1), the ancient city of Ibida is one of the largest in this area, measuring 24 hectares and has an enormous defensive system (figure 1.2). Seven levels of living (three from the early Roman times and four Roman-Byzantine) were identified in 1987, during the rescue diggings<sup>2</sup>.

Among the archaeological areas investigated until now, we can also name Curtain G–Tower 8, which has provided the largest quantity of pottery of common use. The area in discussion is one of the most

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<sup>2</sup> For more details regarding the history of the discoveries within the city of Ibida, see OPAIȚ, PARASCHIV 2012, 113.

important areas of archaeological research from Slava Rusă, due to the richness and the diversity of the archaeological material collected during the campaign researches of 2001–2010.

The aim of this article is to draw attention to the kitchenware found at Ibida (Slava Rusă), the sector Curtain G–Tower 8. At the same time, I will propose a typology of the artefacts meant to serve as a model of publishing for the entire pottery discovered through the whole territory of the city. This typology can be subjected to future changes, but, for the moment, this represents a starting point in classifying the pottery from this area.

### A. Pots

#### *Type I* (figure 2/1, 2)

The colour of the clay, specific to this type of pots, is dark brick-red, but it can be found, although in small quantities, as a grey and whitish one. The composition of the clay contains a lot of iron oxide, lime, pebbles and crushed quartz.

This type of pot is characterized by a vertical rim, slightly thickened and bent towards the exterior, with a slight concavity on the inner side, meant to withstand the lid. This type of pot seems to be specific to the 4<sup>th</sup> century and, occasionally, to the beginning of the 5<sup>th</sup>, being, probably, the last version of an early Roman form evolution<sup>3</sup>. At Iatrus, this type has also handles, while in Dobrudja this version is quite rare. The body is globular while the base is flat, seldom concave.

These types of pots are also frequently found in the territory of Ibida, for instance the fortified *horreum* Topraichioi<sup>4</sup>, in some villages such as Babdag city<sup>5</sup>, Slava Cercheză, Slava Rusă, Caucagia, and Mihai Bravu<sup>6</sup>. Similar discoveries come from other parts of the province of Scythia:

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<sup>3</sup> OPAIȚ 1980, 330, type I, Pl. I.1,2; OPAIȚ 1996, 96, type I; OPAIȚ 2004, 44, type I; POPILIAN 1976, 90, Pl. 37; SUCEVEANU 2000, 119–122, type XXXVII, Pl. 52–53; PARASCHIV 2004, 145, Pl. III/11–13; KLENINA 2006, 78, fig. 40/316.

<sup>4</sup> OPAIȚ, ZAHARIADE, POENARU-BORDEA, OPAIȚ 1991, 233, type V, Pl. 47.4.

<sup>5</sup> NUȚU 2009, 134, Pl. 5/27.

<sup>6</sup> OPAIȚ 2004, 44.

Niculițel<sup>7</sup>, Murighiol<sup>8</sup>, Histria<sup>9</sup> and Tropaeum Traiani<sup>10</sup>. The type was also produced at the Telița-Valea Morilor pottery workshop<sup>11</sup>, but, due to lack of some laboratory analyses on the pottery found here, we cannot state with certainty if the products of these workshops reached Ibida. To the west of the Lower Danube area these pots have been found at Sadovec<sup>12</sup>, Novae<sup>13</sup> and Iatrus<sup>14</sup>.

*Type II* (figure 2/3, 4)

The colour of the clay is whitish-beige or grey, according to the type of firing; its composition consists of dark particles, fine quartz, sand, and it is covered by self slip. It is mainly characterized by a rectangular or triangular rim in profile.

The body is globular, sometimes it has handles, and the base is flat. It is mainly specific to the 4<sup>th</sup> century, and, in small quantities it occurs also in the first half of the 5<sup>th</sup> century. It has been found at Slava Cercheză, M. Bravu, Topraichioi, Aegyssus<sup>15</sup>, Murighiol<sup>16</sup>, Tropaeum Traiani<sup>17</sup>, Babadag<sup>18</sup>, and at Telița-Valea Morii<sup>19</sup>. South of the Danube, this type of pot was discovered in Bulgaria, where it is dated between the beginning with the second half of the 4<sup>th</sup> century and the beginning of the 7<sup>th</sup> century<sup>20</sup>. In the

<sup>7</sup> BAUMANN 1991, Pl. 5.11.

<sup>8</sup> OPAIȚ 1991a, 152, type I, Pl. 26/38766.

<sup>9</sup> SUCEVEANU 1982, 87, Fig. 7.12.

<sup>10</sup> BOGDAN-CĂTĂNICIU, BARNEA 1979, Fig. 146/5.1, 5.2, 5.3.

<sup>11</sup> BAUMANN 1995, 401–405, type I, Pl. I.1, 2.

<sup>12</sup> KUZMANOV 1985, 215, type 4, variant 3, Pl. 96.2.

<sup>13</sup> KLENINA 2006, 112, type 16, 114, type 25.

<sup>14</sup> BÖTTGER 1982, 66, type I, Pl. 45.84, 85.

<sup>15</sup> OPAIȚ 2004, 45 type II; OPAIȚ 1996, 96, type II, Pl. 36. 4–7; OPAIȚ 1991a, 152–153, Pl. 26. 154, 155; OPAIȚ, A., ZAHARIADE, POENARU-BORDEA, OPAIȚ, C. 1991, 232, type III, Pl. 40/ 4, 6, 8.

<sup>16</sup> TOPOLEANU 2000, 111 type V variant B, Pl. XXX. 261; 112, type VI, Pl. XXX. 264, 266.

<sup>17</sup> GĂMUREAC 2009, 256, type 1, variant 2, Pl. VI. 46, 47; BOGDAN-CĂTĂNICIU, BARNEA 1979, 188, Fig. 162/5, 11.

<sup>18</sup> NUȚU 2009, 134, Pl. 5/25.

<sup>19</sup> BAUMANN 1995, 405, Pl. I.7, 8.

<sup>20</sup> KUZMANOV 1985, 50–51, type II, Pl. 30/ Γ39, Γ40.

territory of Novae<sup>21</sup>, this type of pot was manufactured at Hotnița between the 2<sup>nd</sup> and the 4<sup>th</sup> centuries.<sup>22</sup>

*Type III* (figure 2/5, 6)

The colour of the clay is brick-red, rarely orange or pink-whitish, with crushed quartz, iron oxide, chalk, and small pebbles in fabric. The lip is thickened, with a slight leaning towards the exterior, creating a pronounced groove in order to set the lid. The body is globular, with large grooves, and the oval in cross section handles are attached directly to the rim. There are also pots without handles. The base is flat or, especially for the 5<sup>th</sup> century, concave<sup>23</sup>. This type of container was discovered at Murighiol<sup>24</sup>, Topraichioi<sup>25</sup>, Tropaeum Traiani<sup>26</sup>, Aegyssus<sup>27</sup>, Telița-Valea Morilor<sup>28</sup>, Histria<sup>29</sup>, Capidava<sup>30</sup>, and Dinogetia.<sup>31</sup> The form was also attested in the Lower Danube area at Iatrus and Sadoveč<sup>32</sup>.

*Type IV* (figure 2/7, 8)

The pots are made of grey, hard clay, with a fabric rich in quartz and pebbles. Seldom are other types of pots made of brick-red or dark clay. In contrast with the previous pot types, this one has a neck that separate the mouth from the body and it is always grooved. The rim is narrow, flared towards the exterior, with an internal concavity and presents a groove for

<sup>21</sup> KLENINA 2006, 109, type 2.

<sup>22</sup> SULTOV 1985, 85; KLENINA 2006, 109.

<sup>23</sup> OPAIȚ 1996, 96, type III; OPAIȚ 2004, 45, type III.

<sup>24</sup> OPAIȚ 1991a, 153, type III, fig. 26/156–159; TOPOLEANU 2000, 110, type V, variant A și B.

<sup>25</sup> OPAIȚ, ZAHARIADE, POENARU-BORDEA, OPAIȚ 1991, 231, type I, Pl. 46/1.

<sup>26</sup> BOGDAN-CĂTĂNICIU, BARNEA 1979, 188, fig. 162/5.6; GĂMUREAC 2009, 257, type I, variant 3, Pl. VI/48, 49, 51.

<sup>27</sup> OPAIȚ 1996, 96, type III; OPAIȚ 2004, type III, 46.

<sup>28</sup> BAUMANN 1995, 405, type II, Pl. I/4.

<sup>29</sup> SUCEVEANU 1982, 84, fig. 6/7.

<sup>30</sup> OPRÎȘ 2003, 96, type I variant A.

<sup>31</sup> BARNEA 1966, 253, fig. 14/1–3.

<sup>32</sup> OPAIȚ 2004, 46, type III.

setting the lid. Similar examples have been found at Tropaeum Traiani<sup>33</sup>, Murighiol<sup>34</sup>, Capidava<sup>35</sup>, Beroe<sup>36</sup>, Histria<sup>37</sup>, Ibida<sup>38</sup>, Argamum<sup>39</sup> and Axiopolis<sup>40</sup>. To the western part of the Lower Danube, this type of pot is well represented at Novae<sup>41</sup>, Iatrus, Nicopolis ad Istrum, and in some cities from Thracia<sup>42</sup>, mainly during the 5<sup>th</sup> and the 6<sup>th</sup> centuries.

### **B. Bowls** (figure 3/1, 2)

This type of vessel is represented by a series of large bowls, characterized by a flared or inturned rim with a flat base in order to assure stability when it was set on the hearth; also, a lid could be added. Two types of bowls, with or without handles, have been discovered in the Curtain G–Tower 8 sector and can be dated between the 3<sup>rd</sup>–4<sup>th</sup> centuries AD.

### **C. Lids** (figure 4/1, 2)

I included, into this typological group, those lids that were used in the kitchen to cover the pots and the pans. The clay used for the production of the kitchen lids is very similar to that of the pots and pans. Usually, their colour is dark brick-red, but other lids have a grey or pink-whitish colour, depending on the producing centre. Their texture is, in general, softer comparing to that of the pots, as there was no need to be directly exposed them to the flame. In contrast with the lids used for the table vessels, which, in general, are flat, the lids for the pots and pans have the calotte more arched, ending with a more or less high knob with a flat top<sup>43</sup>.

<sup>33</sup> GĂMUREAC 2009, 259, type III variant 1, Pl. VIII/68; BOGDAN-CĂTĂNICIU, BARNEA 1979, 190, NVIA, fig. 168, 5.3.

<sup>34</sup> TOPOLEANU 2000, 108, type II, Pl. XXVIII no. 241, 243; OPAIȚ 1991a, 154, type VIII, subvariant B2, no. 174, Pl. 28.

<sup>35</sup> OPAIȚ 1996, 99; OPRIȘ 2003, type IV, 97, Pl. XXXV/231–234.

<sup>36</sup> VÂLCEANU, BARNEA 1975, 210, fig. 2/1.

<sup>37</sup> CONDURACHI 1954, 463, fig. 395.

<sup>38</sup> OPAIȚ 1991b, 26–27, type VIII B 1.

<sup>39</sup> OPAIȚ 2004, 48, subtype IX-2–variant b and c.

<sup>40</sup> BARNEA 1960, 73–76, fig. 2.2.

<sup>41</sup> KLENINA 2006, 88, type 22, fig. 46/375, 377.

<sup>42</sup> KLENINA 2006, 113–114.

<sup>43</sup> OPAIȚ 1996, 111; GĂMUREAC 2009, 264.

### Conclusions

Taking into consideration the statistics regarding the pottery found in this area, we can say that the second place, after amphorae, belongs to the kitchen pottery, with 24% of all the discoveries. The vessels are divided into the following types: pots with four types, bowls with two types, and for lids a single type.

According to our analyses of the kitchen pottery discovered at Curtain G–Tower 8, there have been identified the existence of three types of fabrics used for the kitchen pottery. Therefore, we can infer that this pottery was coming from three different centres. The first centre can be localized in the north-west region of Dobrudja, the area Beroe–Troesmis–Arrubium, which is close to the Măcin Mountains, having as main characteristic a pink-whitish pottery, rich in kaolin<sup>44</sup>. The relative vicinity to Ibida could provide a possible explanation for bringing these products here by using the valley of the river Slava as the main access road. The origin of the grey, hard fabric is difficult to identify. So far this fabric is well identified at Halmyris<sup>45</sup>, but only a petrographic analysis can say if the Ibida finds were imported or not from that Danubian centre.

With regard to the red-orange pottery, rich in iron oxide, that occupies a major place within the discoveries at Ibida, we can supposedly assign it to a local production. However, again, only the laboratory analyses can offer certainty.

According to a preliminary statistics, the kitchen vessels types are represented as follow: the pots come to the first place, with the four types. The first type represents 29.76%, but it dated only during the 3<sup>rd</sup>–4<sup>th</sup> centuries. The pots belonging to the second type, with 22.22%, is typical only for the 4<sup>th</sup> century, the third type seems to be the most numerous with 38.88% but only during the 5<sup>th</sup>–6<sup>th</sup> centuries AD., while the fourth type is the less represented in this sector with 9.12% and it occurs only during the 6<sup>th</sup> century.

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<sup>44</sup> OPAIȚ 1996, 147; RĂDULESCU 1975, 343; OPRIȘ 2003, 189 see also DASZKIEWICZ, BOBRYK, SCHNEIDER, RĂDAN 2010, 37–38 and for details see the next page.

<sup>45</sup> OPAIȚ 1996, 147.

The same situation, but only with minor differences, exists in some other cities of the province of Scythia both with regard to the discovery and the evolution of the kitchen pottery. Worth mentioning, for the present stage of our research, is the lack of bowls at Capidava, and Tropaeum Traiani.

We also observe the rare presence of frying pans or even their lack in the 4<sup>th</sup> century and their disappearance in the 5<sup>th</sup>–6<sup>th</sup> centuries; for this reason, we consider their absence is due to the modification of the people's diet in this period.

With the 4<sup>th</sup> century and especially afterwards, we notice a unification and a rustication regarding the manufacturing technique and the pottery of common use. However, we can distinguish some tendencies of assertion of the zonal identity, which renders an answer to the supply and demand mechanism. From this point of view, we consider that the necessities of the local, provincial market could have been covered by the technical effort of some modest, but numerous workshops. Unfortunately the archaeological discoveries can only signal the existence of the ceramic production made in these workshops but we need to identify and excavate the workshops themselves.

Taking into consideration the presented pottery, we can state that the evolution of the ceramic types from the sector of Curtain G–Tower 8 of Ibida, due to the abundance of discoveries, can be considered as a case study for the whole city of Ibida. The situation identified in this sector is similar to other Roman-Byzantine centres from Scythia, such as Capidava and Tropaeum Traiani. Consequently, we can conclude that the entire region enjoyed the same diet. Following this idea, we think that it is necessary the corroboration of all the information provided by the faunal, floral, and archaeological studies in order to observe the connection between the type of alimentation<sup>46</sup>, of dwelling and the socio-economic background of the population that made and used the pottery found by the archaeological excavations.

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<sup>46</sup> For some comments on paleofauna of the area of Ibida see STANC 2009.

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Figure 1. Geographical map of ancient Scythia Minor

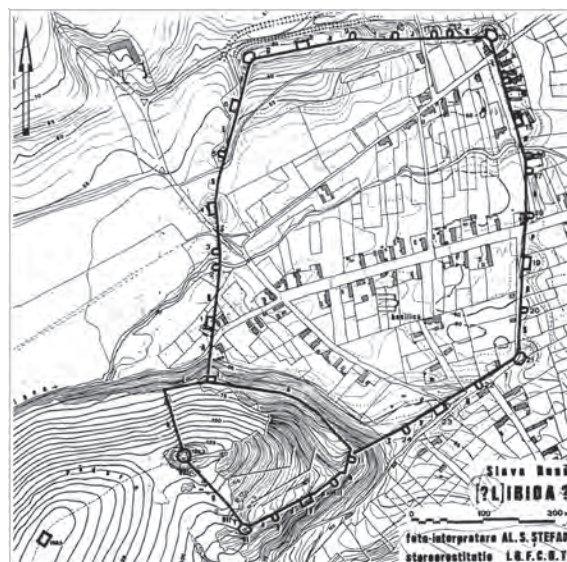


Figure 2. The plan of Irbida

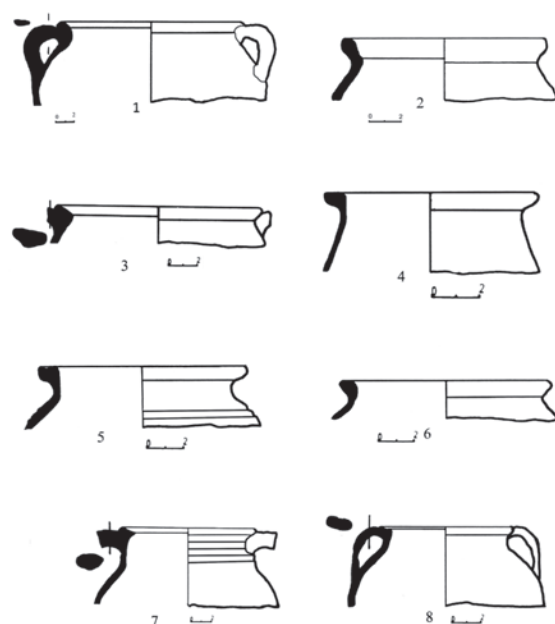


Figure 3. The main types of pots from Ibida

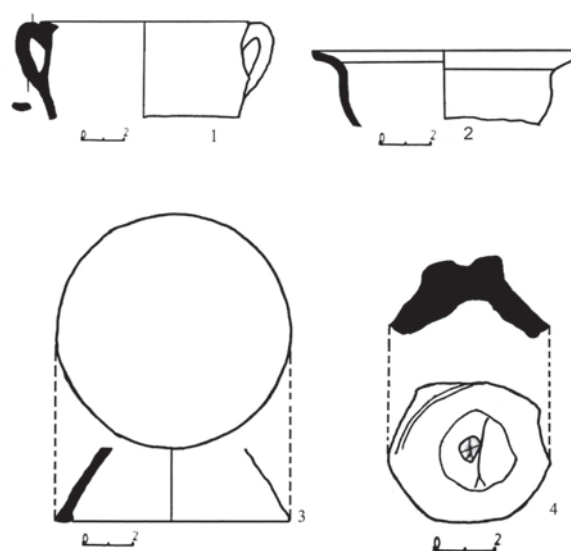


Figure 4. The main types of bowls (1–2), lids (3–4) from Ibida  
(sector Curtain G – Tower 8)



**CONSIDERATIONS ON TABLEWARE POTTERY OF (L)IBIDA III.  
X RESEARCH AREA\***

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**Keywords:** pottery, tableware, western Black Sea, (L)Ibida.

**Abstract.** *From the analyses of the table pottery sample found in the X research area on the archaeological site Slava Rusă, it result that the pottery centre with the most vessels (23 fragments of pottery) is represented by the Phocaeen workshops from western Asia Minor. This situation is not surprising, being encountered on the other research areas in Ibida but also in other Roman-Byzantine sites in Dobrudja. Noteworthy in the X research area is that all the Phocaeen pottery can be framed in a time interval not exceeding a century (second half of the 5<sup>th</sup> century and first half of the 6<sup>th</sup> century). The identified forms are only two: Hayes Form 3 with some of the versions and Hayes Form 8. We can notice that the first forms of Phocaeen workshops are absent (Hayes Form 1, 2 and the A version of the 3<sup>rd</sup> Hayes Form); that would be covered the second half of the 4<sup>th</sup> century and the first half of the 5<sup>th</sup> century. The Phocaeen bowls (Hayes 10 Form); specific to the second half of the 6<sup>th</sup> and the beginning of the next century are absent, too. The African workshops are certified by the presence of five pieces, each belonging to a different form. Beside the forms already attested in Dobrudja (Hayes 82, 87, 91 and 104), this research area offered another two forms: Hayes 70 and 71, for which there are no analogies in the West-Pontic area. These forms date from the late 4<sup>th</sup> century and the first half of the 6<sup>th</sup> century (Hayes 104 Form, version C). In terms of quantity, North-African tableware ranges within the limits already known for the contemporary sites within the region. As for the pottery produced in the Black Sea basin—identified by four ceramic fragments—it also ranges within the limits known at Ibida from the analyses of the Extra Muros Vest III research area. The identified forms have analogies in settlements in both the North Black Sea basin and the North of modern Turkey. Unidentified pottery, probably belonging to other subsequent ages (like the medieval ceramic fragment), may mean that the existing archaeological situation was disrupted by other subsequent interventions after the*

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*abandonment of the fortification system at Slava Rusă. Besides the modern intervention, a medieval settlement may have also existed, also certified in the Curtina G research area. Further analysis of other material categories from the X research Area, plus comparing data with those obtained by studying the table ware sample, will provide more complete information about the chronology and functionality of the archaeological complex identified in the mentioned research area from (L) Ibida.*

**Rezumat.** Din analiza eşantionului ceramic al veselei de masă individualizat în sectorul X al şantierului arheologic de la Slava Rusă rezultă că centrul ceramic cu cele mai multe vase (23 de fragmente ceramice) este reprezentat de atelierele phoceene din vestul Asiei Mici. Situaţia nu este deloc surprinzătoare, fiind întâlnită şi pe alte sectoare ale şantierului Ibida, dar şi în restul siturilor romano-bizantine din Dobrogea. Demn de remarcat în cazul sectorului X este că toată ceramica phoceeană se datează într-un interval cronologic ce nu depăşeşte un secol (a doua jumătate a secolului al V-lea şi prima jumătate a secolului al VI-lea). Formele identificate sunt doar două, Hayes 3 cu o parte din variantele sale şi Hayes 8. Remarcăm absenţa formelor de început ale atelierelor phoceene (Hayes 1, Hayes 2 şi Hayes 3, varianta A) ce ar fi ocupat intervalul cronologic din a doua jumătate a secolului al IV-lea până la jumătatea secolului al V-lea. Lipsesc şi castroanele phoceene specifice celei de-a doua jumătăţi a secolului al VI-lea şi începutul secolului următor (forma Hayes 10). Atelierele africane sunt atestate prin cinci piese, fiecare aparţinând unei forme diferite. Pe lângă formele deja atestate în Dobrogea (Hayes 82, 87, 91 şi 104) acest sector a oferit şi două surprize plăcute. Formele Hayes 70 şi 71, pentru care nu cunoaştem analogii în spaţiul vest-pontic şi care se datează la sfârşitul secolului al IV-lea şi în prima jumătate a secolului al V-lea, deci mai timpuriu decât ceramica phoceeană descoperită în acest sector. Tot atelierelor nord-africane datorăm şi singurul fragment ceramic specific celei de-a doua jumătăţi a secolului al VI-lea (forma Hayes 104, varianta C). Din punct de vedere cantitativ ceramica de masă nord-africană de înscrie în limitele deja cunoscute pentru alte situri contemporane din regiune. Despre ceramica produsă în bazinul pontic — identificată prin patru fragmente ceramice — putem afirma că şi aceasta se înscrie din punct de vedere cantitativ în limitele cunoscute la Ibida după analiza materialului din sectorul Extra Muros Vest III, iar formele identificate îşi găsesc analogii în diferite aşezări atât din bazinul nord-pontic, cât şi în aşezări din nordul Turciei zilelor noastre. Ceramica neidentificată, susceptibilă de a aparţine altor epoci ulterioare (cum este cazul fragmentului ceramic medieval) confirmă că situaţia arheologică existentă în ziua de azi a fost perturbată şi de alte intervenţii ulterioare încetării funcţionării sistemului de fortificaţii de la Slava Rusă. Deci iată că, pe lângă intervenţiile moderne pentru a scoate piatră de construcţie din ruinele fortificaţiei, se adaugă şi o posibilă locuire medievală, atestată şi în sectorul Curtina G, după cum aminteam în rândurile anterioare. Analiza ulterioară a altor categorii de material din

*sectorul X și compararea datelor cu cele obținute din studiul eșantionului ceramicii de masă vor putea oferi informații mai multe și mai corecte despre cronologia și funcționalitatea complexelor arheologice identificate în sectorul X al șantierului (L)Ibida.*

In 2007, archaeological research on the south-western wing of the Slava Rusă Roman-Byzantine fortification was initiated, mainly to establish the chronological relation between the city per se and the additional fortification. In that year, a first perpendicular section on the Curtina X research area (conventionally noted SX) was excavated — size  $4 \times 24$  m<sup>2</sup>. The 2008 campaign included the opening of an additional section, SX 1, parallel with the first one. Within the sixth square of the SX section (*extra muros*), a garbage chute was identified and studied; this complex provided a substantial amount of the pottery published in this article. According to the author of the excavation, the garbage chute was used in the chronological interval of the fourth-sixth centuries; the around 50 coins discovered in this point were proven to have belonged to this period<sup>3</sup>. The dwelling discovered in squares 1 and 2 within SX was researched in 2009; a series of pottery fragments, identified on this occasion, are included in the catalogue pertaining to this article. This habitation structure was also dated to the Roman-Byzantine period. Also in 2009, the *extra muros* research continued (square 6), and numerous pottery fragments were discovered in the garbage chute identified the previous year<sup>4</sup>. Considering the lack of necessary funds for archaeological research in Sector X and in the other sectors of the Slava Rusă site, the amount of materials (tableware pottery included) discovered has dropped dramatically starting with 2010.

The items featured in this paper represent the fruits of three research campaigns (2008–2010) in Sector X of the Ibida–Slava Rusă site. Among them, it is worth highlighting six pottery fragments with stamped decoration, which I have published in a recent article, thus not describing

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<sup>2</sup> APARASCHIVEI 2008, 282.

<sup>3</sup> APARASCHIVEI 2009, 197–198.

<sup>4</sup> APARASCHIVEI 2010, 174–176.

them here, too<sup>5</sup>. After processing (washing and marking) the material 54 pottery fragments (rims and bottoms of dishes, bowls or plates) resulted, among which 34 are rims of various tableware forms, which can be determined chronologically. I also mention a piece of Phocaean dish bottom with stamped decoration. All 35 items are featured in the catalogue. There are 19 bottoms, two of which belong to dishes pertaining to Pontic Red Slip, 15 bottoms came from plates or dishes produced in Phocaean workshops, while four belong to vessels with unidentified origin. The 19 bottoms are not featured in the catalogue and they are not taken into account for the quantitative analysis of the pottery sample within X Research Area because they cannot be ascribed a typology.

The 35 typical pottery fragments included in the catalogue pertain to several tableware pottery production centres that functioned throughout the Roman Empire during Late Antiquity. Five pottery fragments belong to northern Africa – more precisely, modern Tunisia. According to J.W. Hayes typology, they belong to African Red Slip. The five pottery fragments represent five distinct forms. A fragment of dish/bowl bottom with significantly arched walls, with short, ring-like bottom and horizontal rim, thickened outer edge, decorated on the upper surface with two incised parallel lines, pertains to Hayes 70. The fragment was discovered in the garbage chute of the sixth square 6 within Section X (Roman-Byzantine context), and the form dates to the first half of the fifth century; in the Athenian Agora, fragments pertaining to this form were discovered within a level dated to Theodosius II by coins<sup>6</sup>. J.W. Hayes also noted, in 1972, that Form 70 is a very rare encounter outside Tunisia. Thus far, this form has not been discovered in any other Late Roman settlement of Dobrudja. There are no analogies in the Roman basin, either. A similar vessel was discovered on the northern African coast, at Berenice, dated to the first half of the fifth century<sup>7</sup>.

A fragment of dish or bowl rim was discovered in the building area, second square of X Research Area. It pertains to Form 71, version B,

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<sup>5</sup> MOCANU 2011a, 293–309.

<sup>6</sup> HAYES 1972, 119.

<sup>7</sup> KENRICK 1985, 359–361, fig. 67/641.

as they it is similar to those of Form 70; the difference is that the rim is not horizontal, but chamfered, without decorations. The discovery context places the item between the fourth and the sixth centuries. Version B of Form 71 is specific to the first half of the fifth century<sup>8</sup>. The tableware pertaining to Form 71 has not yet been discovered in Roman Dobrudja or the Pontic basin.

Hayes 82 Form, version B is represent by a single fragment discovered in the same context as the pottery fragment ascribed to Hayes 70 Form. Hayes 82 plates have no analogies in Dobrudja, either. Only one ceramic fragment ascribed to Form 82 was discovered at Slava Rusă, in the Curtina X research area, in a context identical to the one of X Research Area (garbage chute *extra muros*, which functioned in the fourth-sixth centuries)<sup>9</sup>. Plates belonging to Form 82 are encountered in the Mediterranean basin, while Athenian Agora vessels were dated to the second half of the fifth century<sup>10</sup>.

The presence of Hayes 91, version C bowls is not singular at Slava Rusă. The fragment found in X Research Area was discovered in the building area within X Research Area, while the other fragment at Slava Rusă was identified in the pottery sample of Extra Muros Vest III Research Area. These contexts coincide chronologically<sup>11</sup>. In the Episcopal basilica of Histria, four vessels pertaining to version C of Form 91 were inventoried<sup>12</sup>. The form in question was extremely common mainly in settlements within the western Mediterranean basin, where it appears to have been the most common form in the second half of the fifth century<sup>13</sup>.

In the same *extra muros* garbage chute (X Research Area, square 6), a pottery fragment pertaining to Form Hayes 104, version C, was discovered. Thus far, we identified at Slava Rusă a pottery fragment

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<sup>8</sup> HAYES 1972, 120, fig. 20/71. KENRICK 1985, 361, fig. 67/642.

<sup>9</sup> MOCANU, 2012, 330.

<sup>10</sup> HAYES 2008, 79, p. 229/1118, fig. 35/1118.

<sup>11</sup> MOCANU 2011b, 228, pl. 2/4.

<sup>12</sup> SUCEVEANU 2007, pp. 208–209, pl. 75/29–31.

<sup>13</sup> HAYES 1972, 140–144, fig. 26/21, 23; KENRICK 1985, 364, fig. 67/654.2, 654.3; BONIFAY 2004, 179, fig. 95/type 52.

pertaining to version A<sup>14</sup>; version C was attested at Capidava<sup>15</sup>; at Halmyris, two fragments were identified on levels 10 and 11<sup>16</sup> and at Histria on level IV B<sup>17</sup>. Form 104 was widely disseminated in the Mediterranean basin; it was rarely encountered in the Aegean or Pontic basin. Among the Athenian Agora discoveries, version C of Form 104 was dated to the second half of the sixth century<sup>18</sup>.

Four pottery fragments belonging to vessels produced somewhere in the Black Sea basin pertain to Pontic Red Slip. They were classified into three distinct ceramic forms. The first two fragments were discovered in the garbage chute identified in the sixth square within X Research Area, pertaining to Form 4. The bowls/dishes in question have a vertical rim, hemispherical body, curved walls, quite short and annular bottom. In the Pontic basin, we found analogies at Tanais, where vessels are dated to the end of the fourth and the first half of the fifth century<sup>19</sup>. For Dobrudja, we have found no analogies thus far, but this form may have existed in other Late Roman settlements, too, all the more as the Romanian literature has ignored the Pontic Red Slip pottery or, in some cases, it has ascribed it erroneously to micro-Asiatic or even northern African workshops.

The ceramic fragment ascribed typologically to Form 7 was discovered in the same archaeological context with the other two fragments pertaining to the Pontic Red Slip group. Form 7 is known at Slava Rusă; a fragment was discovered in the Extra Muros Vest III Research Area and dated in the second part of the fifth century<sup>20</sup>. In the western Black Sea area, Form 7 is also present in the Topraichioi site, being dated to the first half of the fifth century<sup>21</sup>. In the northern Black Sea

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<sup>14</sup> MOCANU 2011b, 228–229, pl. 2/5.

<sup>15</sup> OPRIȘ 2003, 149, pl. 54/346.

<sup>16</sup> TOPOLEANU 2000, 78/169–170, pl. 19/169–170.

<sup>17</sup> SUCEVEANU 1982, 92, fig. 10/6.

<sup>18</sup> HAYES 1972, 160–166, fig. 30/23.

<sup>19</sup> ARSEN'EVA, DOMŽALSKI 2002, 427, fig. 13/568–574.

<sup>20</sup> MOCANU 2011b, 230, pl. 2/7.

<sup>21</sup> OPAIȚ 1985, p. 155; OPAIȚ 1996, 135 (Opaiț IV form).

area, there are similar vessels at Tanais, dated in the second half of the fifth century and even at the beginning of the subsequent century<sup>22</sup>.

A fragment of a dish with high, vertical rim, separated on the outside from the body of the vessel through a barely noticeable threshold, arched walls and annular bottom, comes from the same context as the rest of fragments pertaining to Pontic Red Slip Ware. This form was not included within a typological series; however, the best analogy is encountered at Pompeiopolis, where the item was dated to the second half of the fourth century and the first half of the subsequent century<sup>23</sup>.

Just like in all Late Roman sites in Dobrudja, the tableware pottery produced in the Phocaeen workshops—known as Late Roman C—is dominant. In case of X Research Area at Slava Rusă, were identified 23 pottery fragments pertaining to vessels imported from the west of Asia Minor. They were ascribed typologically to Forms 3 (versions from b to g) and 8. Five pottery fragments—four of which were discovered in the garbage chute of C 6 and one near the access stair on the precinct, identified in SX 1—pertain to version B. All these fragments have characteristics specific to version B; an incised decoration done with a small cogwheel is present on the outside surface of the rim. In the Ibida site, five other ceramic fragments that pertain to version B were discovered in the Extra Muros Vest III Research Area<sup>24</sup>. Among the Late Roman archaeological sites in Dobrudja where this version of Form 3 was pinpointed, we mention the following: Tropaeum Traiani<sup>25</sup>, Halmyris<sup>26</sup> or Capidava<sup>27</sup>. Version B of Form 3 circulated mainly in the eastern Mediterranean basin; in Athenian Agora, it was dated in the second half of the fifth century<sup>28</sup>.

All four pottery fragments classified as version C of Hayes 3 Form were discovered in the garbage chute of the sixth square. This version is

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<sup>22</sup> ARSEN'EVA, DOMŽALSKI 2002, 427–428, fig. 13/575–577.

<sup>23</sup> DOMŽALSKI 2012, 7, fig. 3/10–11.

<sup>24</sup> MOCANU 2011b, 232–233, pl. 3/13–15.

<sup>25</sup> BOGDAN-CĂTĂNICIU, BARNEA 1979, 187/NV/2(11), fig. 160/2(11).

<sup>26</sup> TOPOLEANU 2000, 48–49, pl. 3/23–26.

<sup>27</sup> OPRİȘ 2003, 151/355 (without illustrations).

<sup>28</sup> HAYES 2008, 239–240/1255–1263, fig. 38/1255–1263.

well documented at Slava Rusă: 22 fragments were discovered in Extra Muros Vest III Research Area<sup>29</sup>. Pottery fragments belonging to version C were identified at Halmyris<sup>30</sup> or at Histria<sup>31</sup>. The dissemination area of version C is similar to the one of the preceding version, just like the corresponding chronological interval<sup>32</sup>.

Hayes 3 Form, version D is attested by a single pottery fragment, discovered in the same garbage chute within the sixth square. The ceramic fragment within X Research Area adds to the four similar fragments discovered in Extra Muros Vest III Research Area<sup>33</sup>. Compared to the aforementioned ones, version D is less known in the Dobrudjan space; the only analogy is encountered at Halmyris<sup>34</sup>. In the case of this version, too, the dating coincides with the second half of the fifth century<sup>35</sup>.

Version E, along with version C of Hayes 3 Form, is the most common within the archaeological site of Slava Rusă. Six pottery fragments discovered in the garbage chute within the sixth square or in the area of the dwelling identified in the second square pertain to version E. This version is very well represented in the ceramic sample of Ibida: 23 fragments in Extra Muros Vest III Research Area<sup>36</sup>, as well as other discoveries from other sectors such as Curtina G research area. The Form Hayes 3, version E, is known in the scientific literature as an evolution of version C, and it circulated at the end of the fifth century and in the first decades of the sixth century<sup>37</sup>.

Hayes 3 Form, version F, is disseminated in all the important settlements of Late Antiquity in Dobrudja; it is attested at Tropaeum Traiani<sup>38</sup>, Halmyris<sup>39</sup>, Capidava<sup>40</sup> or Histria<sup>41</sup>. In X Research Area, were

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<sup>29</sup> MOCANU 2011b, 233–235, pl. 3/18–22, pl. 4/24–29.

<sup>30</sup> TOPOLEANU 2000, 49–50, pl. 3/27–30, p.4/31–34.

<sup>31</sup> SUCEVEANU 2007, 204, pl. 74/2–3.

<sup>32</sup> HAYES 2008, 240–241/1266–1273, fig. 39/1266–1273.

<sup>33</sup> MOCANU 2011b, 235–236, pl. 4.40–43.

<sup>34</sup> TOPOLEANU 2000, 50, pl. 4/35038.

<sup>35</sup> HAYES 1972, 329–333, fig. 68/13.

<sup>36</sup> MOCANU 2011b, 236–238, pl. 5 and pl. 6/53–57.

<sup>37</sup> HAYES 1972, 329–333, fig. 68/14–16.

<sup>38</sup> BOGDAN-CĂTĂNICIU, BARNEA 1979, 189, fig. 167/2(6).

discovered three pottery fragments, all in the same context defined by the garbage chute within the sixth square. Version F is considered the successor of version E and it circulated in the entire Mediterranean basin and in the Pontic area in the first half of the sixth century<sup>42</sup>.

Version G is the last Hayes 3 Form discovered in X Research Area; the only pottery fragment comes from the same garbage chute where most of the pottery items pertaining to tableware were discovered. This form, just like the preceding one, dates to the first half of the sixth century<sup>43</sup>. In Dobrudja, there are analogies for this version at Halmyris<sup>44</sup> and Histria<sup>45</sup>.

The second form that pertains to the Phocaeen workshops and that was discovered in X Research Area is Hayes 8. Both pottery fragments come from the garbage chute identified in the sixth square. This form is encountered especially in eastern Mediterranean settlements; in the Athenian Agora, it was discovered on a level belonging to the second half of the fifth century<sup>46</sup>. In similar stratigraphic conditions, Hayes 8 Form is attested at Thassos, too<sup>47</sup>. Besides the three fragments of Ibida discovered in Extra Muros Vest III Research Area<sup>48</sup>, in Dobrudja this form is attested at Halmyris on levels 9 and 10<sup>49</sup>.

The ceramic fragment with stamped decoration is ascribed to type I, with geometric or vegetal motifs; at Ibida, another 11 pottery fragments pertaining to this type were discovered. In the particular case of the fragment presented in the catalogue, the decoration shows rhombuses with a double frame enclosed within squares with a double square. The stamp was applied repeatedly around the centre of the vessel; it is framed

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<sup>39</sup> TOPOLEANU 2000, 51–52, pl. 5/47–52 and pl. 6/53–56.

<sup>40</sup> OPRİŞ 2003, 151, pl. 54/363.

<sup>41</sup> SUCEVEANU 2007, 205–206, pl. 74/4–13.

<sup>42</sup> HAYES 1972, 329–335, fig. 69/23–25.

<sup>43</sup> HAYES 1972, 331 (without illustrations).

<sup>44</sup> TOPOLEANU 2000, 53, pl. 6/57–61.

<sup>45</sup> SUCEVEANU 2007, 206, pl. 74/15–16.

<sup>46</sup> HAYES 2008, 242–243, fig. 40/1294–1297.

<sup>47</sup> ABADIE-REYNAL, SODINI 1992, 24/CF 108, fig. 7/108.

<sup>48</sup> MOCANU 2011b, 240, pl. 8/90–92.

<sup>49</sup> TOPOLEANU 2000, 59–60, pl. 10/94–97.

outward and inward by a circle made through incision with small cogwheel. The ceramic fragment belongs to the II B decorative style, according to the typology made by J.W. Hayes; hence, it can be dated to the second half of the fifth century.

Three fragments (classified as *varia*) among the 35 ones comprised in the sample, discovered in X Research Area, are still unidentified from the perspective of production workshops; therefore, we cannot determine their area of origin. The first ceramic fragment (catalogue — No 33) belongs to a dish/platter; the form is rather similar to that of vessels produced in workshops within the Pontic basin (Form 3, Pontic Red Slip) or in Phocaeen workshops (Form Hayes 2). The characteristics and texture of the fabric, the slip hue and the decoration applied on the upper side of the rim show that this vessel could not have been produced in one of the aforementioned production centres. Considering the morphological features of the fabric, the pottery was more likely produced in the western Black Sea area. Moreover, considering the slip hue and the decorative element, this vessel is probably older than the pottery featured above. The second pottery fragment (catalogue — No 34) belongs to some kind of dish. This time, we tend to believe that this is a medieval vessel, taking into account the decoration made with the comb and featured on the outside surface of the rim and of the body. The quality of the fabric and the lack of slip—along with the decorations—make us ascribe it to the people of Dridu culture. This discovery would not be extremely surprising, because we found traces of medieval habitation when researching the inside of Tower 8, in the level of ruins<sup>50</sup>. The last of the three unidentified fragments (catalogue — No 35) is a bottom fragment pertaining to Hayes 2 Form, produced in the workshops of Çandarlı; however, we mention that the slip is not very qualitative. Therefore, this pottery fragment, just like the first of the *varia* category (catalogue — No 33,) could be dated toward the end of the second or somewhere in the subsequent century.

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<sup>50</sup> PARASCHIV, et al. 2008, 281.

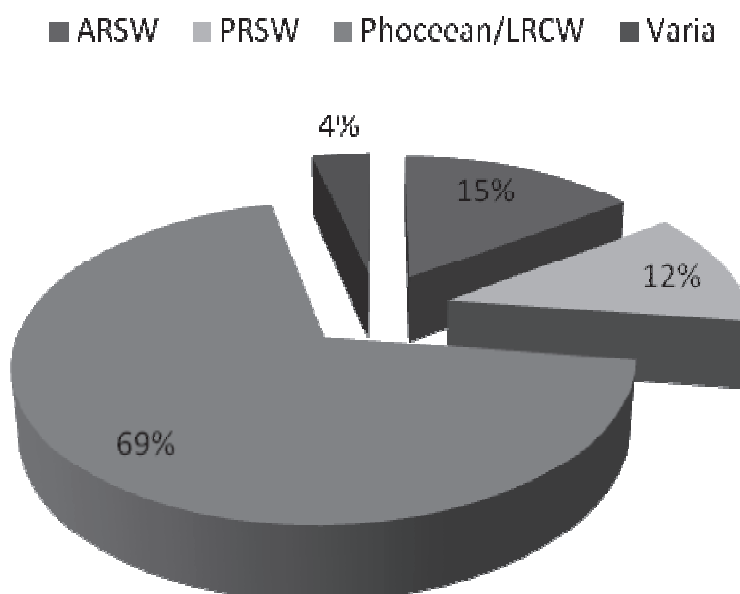
The analysis of the ceramic sample of individualized tableware within X Research Area, Slava Rusă archaeological site, shows that the ceramic centre with most vessels (23 pottery fragments) is represented by Phocaeen workshops in the west of Asia Minor. The situation is not very surprising; it is also encountered in other sectors of the Ibida site, as well as in the rest of Roman-Byzantine sites in Dobrudja. As for X Research Area, it is worth underlining that the Phocaeen pottery is dated to a chronological interval not exceeding a century (the second half of the fifth century and the first half of the sixth century). We have identified only two forms: Hayes 3, with some of its versions, and Hayes 8. We also highlight the initial forms produced by Phocaeen workshops (Hayes 1, Hayes 2 and Hayes 3, version A), which would have occupied the chronological interval between the second half of the fourth century and the half of the fifth century. Furthermore, we have not found the Phocaeen dishes specific to the second half of the sixth century and the beginning of the subsequent century (Hayes 10 Form).

African workshops are attested by five pieces, each belonging to a different form. Besides the forms already attested in Dobrudja (Hayes 82, 87, 91 and 104), this sector provided two additional surprises. The forms Hayes 70 and 71, for which there are no analogies in the West-Pontic space and which date from the end of the fourth and the first half of the fifth century, thus older than the Phocaeen pottery discovered in this sector. The North-African workshops are also the origin of the only pottery fragment specific to the second half of the sixth century (Hayes 104 Form, version C). From a quantitative perspective, the North-African tableware pottery ranges within the well-known limits for other contemporary sites of the region.

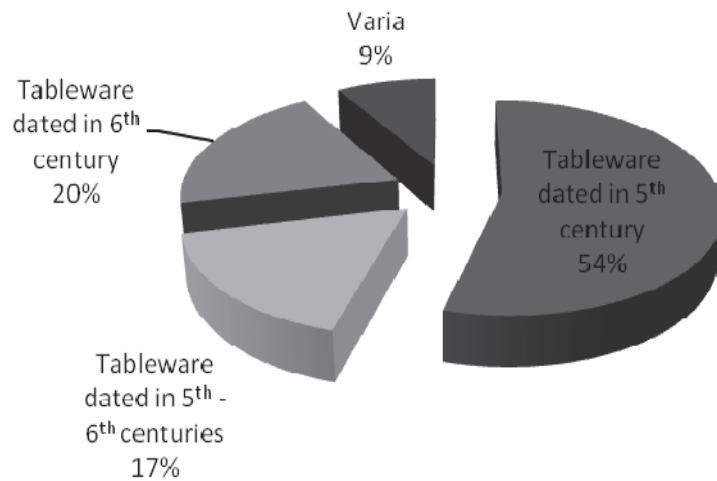
As for the pottery produced in the Pontic basin—present through four pottery fragments—we can posit that, from a quantitative standpoint, it ranges within the limits set for Ibida after analysing the material from Extra Muros Vest III Research Area. The forms identified have analogies in various settlements, from both the North-Pontic basin and settlements from the modern north of Turkey.

The unidentified pottery, susceptible of pertaining to later periods (such as the medieval pottery fragment), confirms that the existing archaeological situation was perturbed by other interventions, too, subsequent to the abandonment of the Slava Rusă fortification. Therefore, besides the modern interventions done to take out construction stone from the fortification ruins, a medieval habitation may have existed, also attested in X research area, as mentioned above.

The subsequent analysis of other categories of materials within X Research Area and their comparison with data obtained from the study of tableware pottery sample will provide more numerous and correct information about the chronology and functionality of archaeological complexes identified in X Research Area of the Ibida site.



Graphic 1. Workshops origin of tableware discovered in Research Area X



Graphic 2. Chronological frame of the fine ware assemblage discovered in Research Area X

### Catalogue

#### African Red Slip

##### Hayes 70

1. Dish, rim fragment. Ibida 2009, SX, C6, *extra muros*, -3.15 m. Reddish brown fabric (2.5 YR 4/6 reddish brown) with grained aspect. Red slip (10 R 5/8 red). Upper surface of the rim is decorated with two incised parallel lines.  
Size: 3.2 X 3.7.

##### Hayes 71, version B

2. Dish, rim fragment. Ibida 2010, SX, C2, -1.20 m. Reddish brown fabric (2.5 YR 4/6 reddish brown) with impurities. High-quality red slip (10 R 5/8 red). Fragment without illustration.

##### Hayes 82, version B

3. Plate/dish, rim fragment. Ibida 2009, SX, C6, *extra muros*, -3.10 m. Orange fabric (5 YR 6/6 orange). Slip of the same colour. Rim decorated on the outside surface with two incised parallel lines. Fragment without illustration.

Hayes 91, version C

4. Bowl, rim fragment. Ibida 2009, SX, C1-2, -1 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Red slip (10 R 5/8 red), shiny on the outside.  
Size: 5.9; Hp: 1.6.

Hayes 104, version C

5. Platter, rim fragment and the upper part. Ibida 2009, SX, C6, -2.80 m. (at the foot of the precinct). Orange fabric (5 YR 8/4 pale orange). High quality and shiny orange slip (2.5 YR 7/8 orange).  
Size: 33.8; Hp: 3.1.

Pontic Red Slip

Form 4

6. Bowl, rim fragment and the upper part. Ibida 2009, SX, C6, -2.90 m. Bright reddish brown fabric (5 YR 5/8 bright reddish brown). Red slip (10 R 5/8 red), porous on the outside surface.  
Size: 27.6; Hp: 3.5.
7. Bowl, rim fragment and the upper part. Ibida 2008, SX, C6, -2.80 m. Bright reddish brown fabric (5 YR 5/8 bright reddish brown). Slip of the same colour. Fragment without illustration.

Form 7

8. Dish, fragment the upper part. Ibida 2009, SX, C6, *extra muros*, -3.10 m. Reddish brown fabric (5 YR 5/8 bright reddish brown), with few impurities in composition. Red slip (10 R 5/8 red) unevenly applied on outside. The rim bears traces of secondary burning.  
Size: 27.7; Hp: 3.8.

Uncategorized form

9. Dish, rim fragment and the upper part. Ibida 2009 SX, C6, *extra muros*, -3.10 m. Bright reddish brown fabric (5 YR 5/8 bright reddish brown), slip of the same hue, porous especially on outside.

Size: 25.8; Hp: 3.5.

Phocaeen Red Slip / Late Roman C

Hayes 3, version B

10. Dish, rim fragment and the upper third. Ibida 2009, SX1, -2.80 m. (intra muros – near the stair). Bright brown fabric with limestone particles (2.5 YR 5/8 bright brown), Reddish brown slip (2.5 YR 4/8 reddish brown). Outside surface of the rim decorated with a small cogwheel.

Size: 29; Hp: 3.4.

11. Dish, rim fragment and the upper part. Ibida 2009, SX, C6, *extra muros*, -3.20 m. Reddish brown fabric with fine limestone particles (2.5 YR 4/8 reddish brown), Dark reddish brown slip (2.5 YR 3/6 dark reddish brown). Outside surface of the rim decorated with a small cogwheel.

Size: 27.8; Hp: 3.7.

12. Dish, rim fragment. Ibida 2009, SX, C6 *extra muros*, -3.25 m. Reddish brown fabric (2.5 YR 4/8 reddish brown) with traces of impurities. Bright brown slip (2.5 YR 5/6 bright brown). On the outside surface of the rim, decorated with a small cogwheel.

Size: undeterminable; Hp: 2.7.

13. Dish, rim fragment and the upper part. Ibida 2009, SX, C6, -3.20 m. Dark reddish brown fabric (2.5 YR 3/4 dark reddish brown) with numerous limestone particles. Slip of the same hue. Outside surface of the rim decorated with a small cogwheel.

Size: 29.8; Hp: 3.8

14. Dish, rim fragment. Ibida 2009, SX1, C6, -4 m. Reddish brown fabric (2.5 YR 4/8 reddish brown) with limestone particles. Orange slip (2.5 YR 6/6 orange). Fragment without illustration.

Hayes 3, version C

15. Dish, rim fragment and the upper part. Ibida 2008, SX, C6, -2.25 – 2.40 m. Reddish brown fabric (2.5 YR 4/6 reddish brown) with limestone particles. Orange slip (2.5 YR 6/8 orange).

Size: 31.8; Hp: 3.5.

16. Dish, rim fragment and the upper part. Ibida 2009, SX1, C6, -2.50 m (at the foot of the precinct). Dark reddish brown fabric (2.5 YR 3/4 dark reddish brown) with numerous limestone particles. Dark reddish brown slip (2.5 YR 3/6 dark reddish brown). Outside surface of the rim decorated with a small cogwheel and and covered with a layer of brownish dye. (21)  
Size: 31.6; Hp: 3.3.
17. Dish, rim fragment and the upper third. Ibida 2008, SX, C6, -2.25 – 2.40 m. Reddish brown fabric (2.5 YR 4/8 reddish brown). Orange slip (2.5 YR 7/6 orange). Fragment without illustration.
18. Dish, rim fragment and the upper part. Ibida 2008, SX, C6, -2.50 m. Reddish brown fabric (2.5 YR 4/8 reddish brown). Orange slip (2.5 YR 6/6 orange), darker hue on the outside surface of the rim. During the 2009 campaign, also in SX, C6, -3.15 m, another rim fragment pertaining to this dish was discovered. Fragment without illustration.

Hayes 3, version D

19. Dish, rim fragment and the upper third. Ibida 2009, SX1, C6, -3.15 m. Brownish black fabric (5 YR 2/2 brownish black). Very dark reddish brown slip (5 YR 2/4 very dark reddish brown).  
Size: 18.2; Hp: 3.2.

Hayes 3, version E

20. Dish, rim fragment and the upper part. Ibida 2009, SX, -2.80 m. (intra muros, near the stair). Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same hue. Outside surface of the rim dyed black.  
Size: 28.9; Hp: 3.
21. Dish, rim fragment and the upper part. Ibida 2009, SX1, C6, -3.15 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same hue. Outside surface of the rim decorated with a small cogwheel and dyed black.  
Size: undeterminable; Hp: 2.7.
22. Dish, rim fragment and the upper third. Ibida 2008, SX, C6, -2.60 m. Reddish brown fabric (5 YR 4/6 reddish brown) with numerous

impurities. Reddish brown slip (2.5 YR 4/8 reddish brown). Outside surface of the rim decorated with a small cogwheel. Size: 27.9; Hp: 3.3.

23. Dish, rim fragment. Ibida 2010, SX, G2, -1.20 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same hue. On outside, rim decorated with a small cogwheel on three levels. Size: 28; Hp: 2.5
24. Dish, rim fragment. Ibida 2009, SX1, C6, -3.15 m. Orange fabric (5 YR 7/6 orange). Slip of the same colour. Outside surface of the rim decorated on three levels with a small cogwheel. Size: undeterminable; Hp: 2.4.
25. Dish, rim fragment. Ibida 2009, SX1, C6, -3.20 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Orange slip (5 YR 6/6 orange). On the outside surface of the rim, decorated with the cogwheel. Fragment without illustration.

#### Hayes 3, version F

26. Dish, rim fragment and the upper part. Ibida 2008 SX, C 6, -2.60 m. Reddish brown fabric (2.5 YR 4/8 reddish brown). Slip of the same colour, darker on the outside surface of the rim. Size: 23.5; Hp: 2.6.
27. Dish, rim fragment. Ibida 2008, SX, C6, -2.25 – 2.40 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same colour. Size: 26; Hp: 2.4.
28. Dish, rim fragment. Ibida 2009, SX, C6, *extra muros*, -3 m. Reddish brown fabric (2.5 YR 4/6 reddish brown) with impurities. Slip of the same colour. Fragment without illustration.

#### Hayes 3, version G

29. Dish, rim fragment and the upper part of the body. Ibida 2009, SX1, C6, -3.15 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Orange slip (5 YR 6/6 orange). On outside, the rim is decorated with the cogwheel on three levels. Size: 25.7; Hp: 4.

#### Hayes 8

30. Bowl, rim fragment and the upper part. Ibida 2008, SX, C6, -2.60 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same colour.

Size: 14.2; Hp: 2.9.

31. Bowl, rim fragment. Ibida 2008, SX, C6, -2.25 – 2.40 m. Reddish brown fabric (2.5 YR 4/6 reddish brown). Slip of the same hue. Fragment without illustration.

Fragment with stamped decoration

32. Dish/Plate, bottom fragment. Reddish brown fabric (2.5 YR reddish brown) Slip of the same hue. Decor: rhombuses with a double frame enclosed within squares with a double square. Outward and inward, circles with the cogwheel.

Size: 8; Hp: 4.5.

Varia

33. Plate/Platter, rim fragment and the upper third. Ibida 2009, SX, C6, *extra muros*, -3.15 m. Light grey fabric (5 YR 8/2 light grey) with limestone particles and other impurities. Yellow orange slip (7.5 YR 7/8 yellow orange), darker on the upper surface of the rim and shiner on outside. The upper part of the rim is decorated in relief.

Size: 23.9; Hp: 3.4.

34. Dish, rim fragment and the upper part. Ibida 2010, SX, C5, -3.40 – 3.80 m (at the foot of the beak). Bright reddish brown fabric (5 YR 5/8 bright reddish brown) with impurities. Without slip. On the outside surface of the rim and of the body, wavy incised decoration made with a comb, reminder of medieval pottery.

Size: 21.8; Hp: 3.5

35. Dish, bottom fragment. Ibida 2009, SX, C6 *extra muros*, -3.10 m. Orange fabric (2.5 YR 6/6 orange) with silver mica particles. Reddish brown slip (2.5 YR 4/6 reddish brown). Fragment without illustration.

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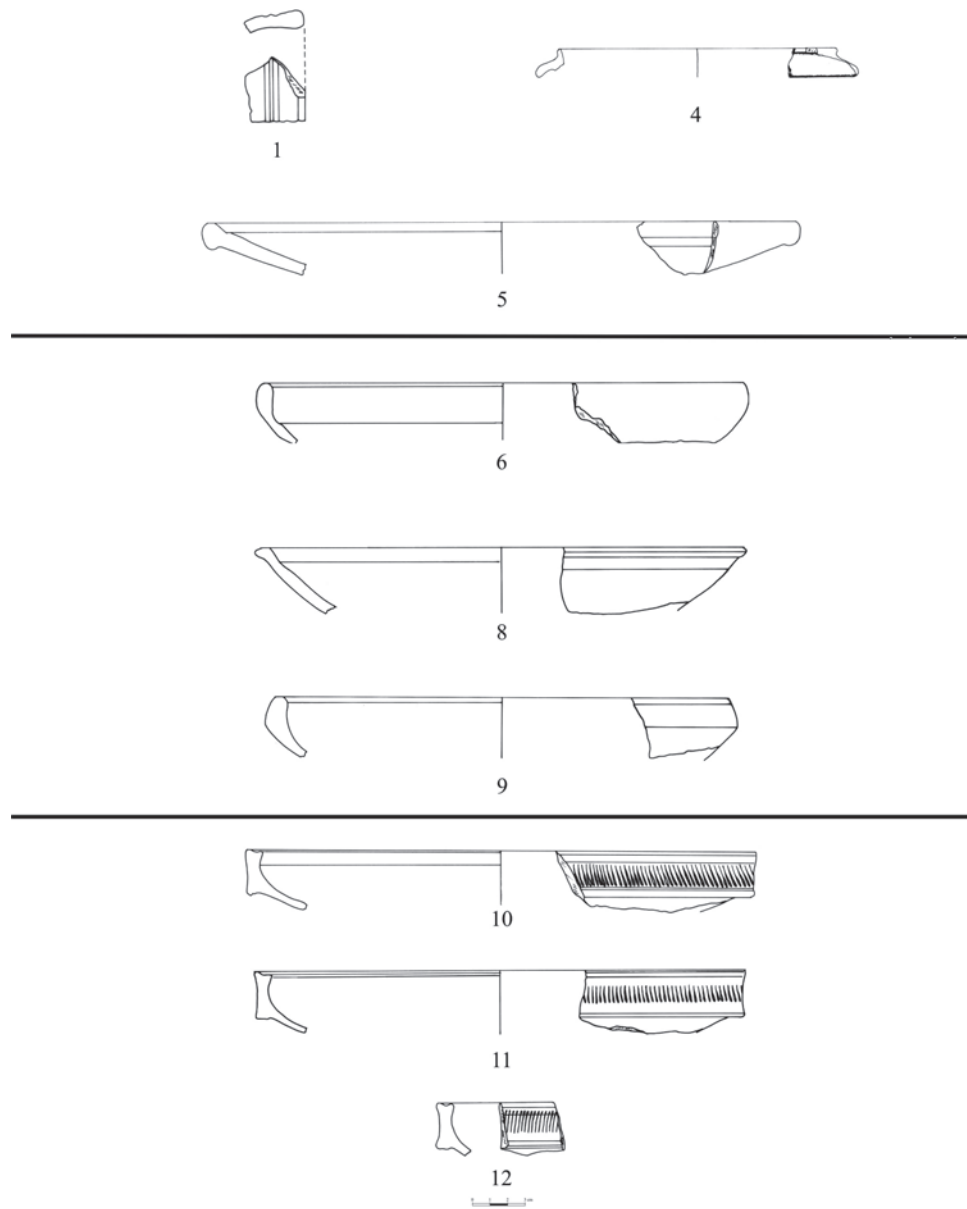


Fig. 2

1 - 5 African Red Slip Ware. 6 - 9 Pontic Red Slip Ware. 10 - 12 Late Roman C.

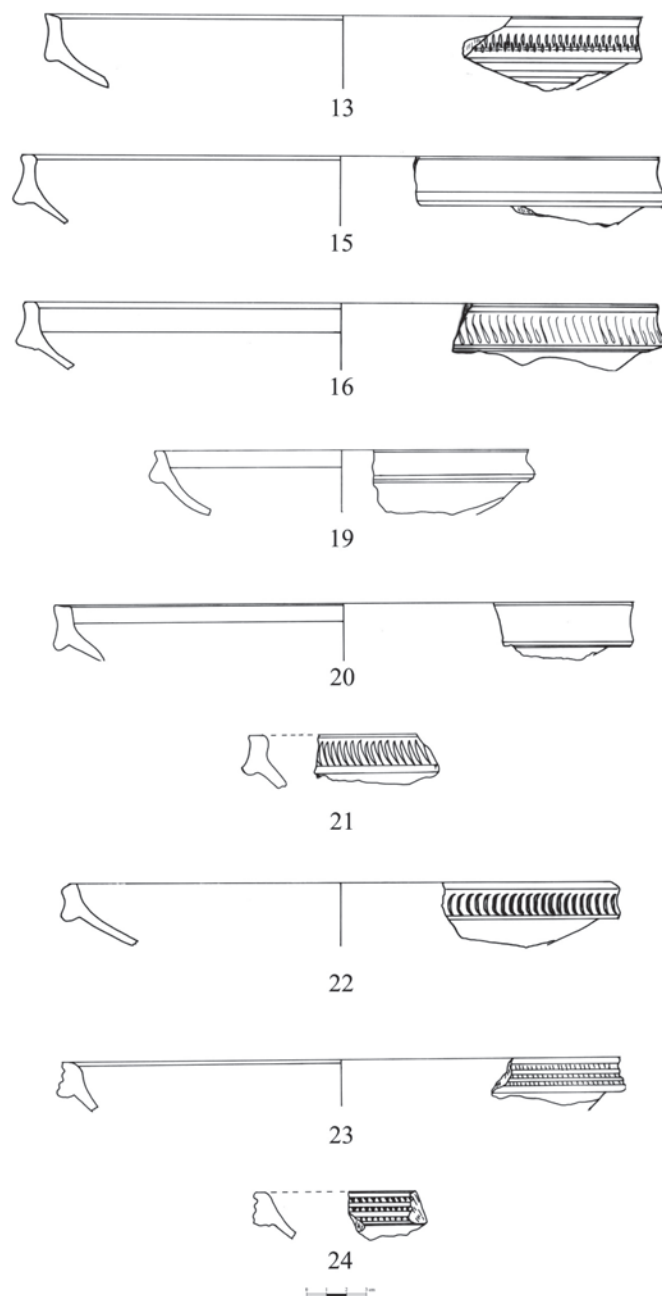


Fig. 3  
Late Roman C.

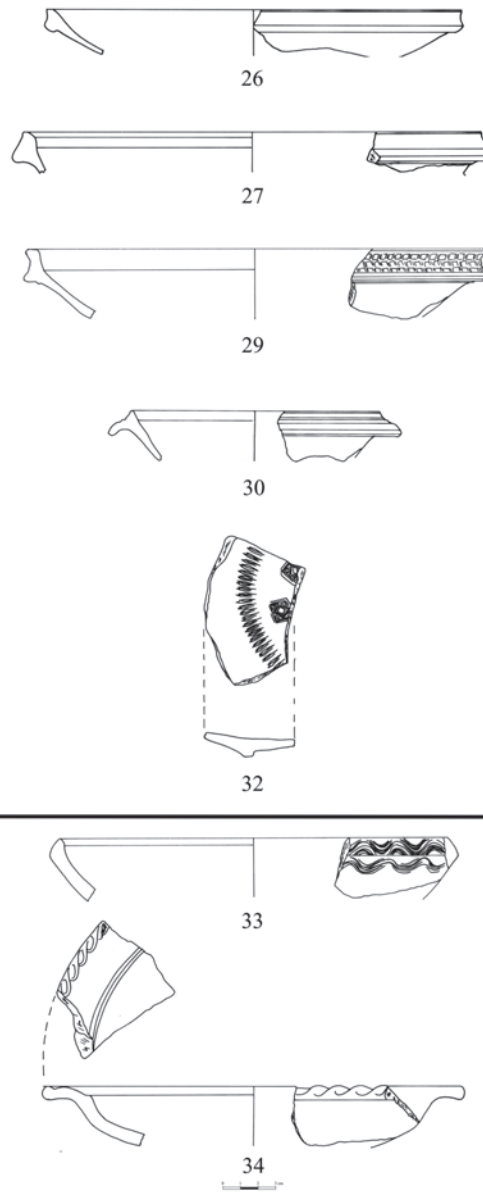


Fig. 4  
26 - 32 Late Roman C. 33 - 34 Varia.



**ULPIA TRAIANA SARMIZEGETUSA AND THE ARCHAEOLOGICAL  
RESEARCH CARRIED OUT BETWEEN  
1881 AND 1893\***

IMOLA BODA<sup>1</sup>

**Keywords:** historiography, Association of History and Archaeology (Hunedoara), Roman period, Ulpia Traiana Sarmizegetusa, Roman architectural structures

**Abstract:** *The aim of this article is to promote and capitalize on the contribution of the 19<sup>th</sup> century Transylvanian cultural elite, to the field of Roman archaeological heritage, namely: colonia Ulpia Traiana Augusta Dacica Sarmizegetusa Metropolis. The archaeological researches carried out between 1881 and 1893 were led by Gábor Téglás and Pál Király. Their work, which will be translated and reinterpreted in the present study, focused on five great Roman structures: the temple of the Palmyrene Gods, Mithras' sanctuary, the Roman bath, the Roman houses and the amphitheatre.*

**Rezumat:** *Scopul acestui articol este acela de a promova contribuția elitei culturale din Transilvania secolului al XIX-lea în domeniul arheologiei romane, mai precis săpăturile din colonia Ulpia Traiana Augusta Dacica Sarmizegetusa Metropolis. Cercetările arheologice desfășurate între 1881 și 1893 au fost conduse de Gábor Téglás și Pál Király. Lucrările lor, care vor fi traduse și reinterpretate în acest studiu, se concentrează asupra a cinci mari structuri de epocă romană: templul zeilor palmyrieni, sanctuarul lui Mithras, termele romane, casele romane și amfiteatrul.*

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The present study wishes to bring under the spotlight the archaeological research conducted in between 1881–1893 at *Ulpia Traiana*. This study, that had remarkable results thanks to a research grant in Budapest, is aimed at offering to those interested a large quantity of information (bibliographical and analytical), often not taken into consideration because of linguistic reasons.

The paper will present first of all the Historical and Archaeological Association of Hunedoara County (HTRT) and its most important members, such as Géza Kuun, president of the Association and Gábor Téglás and Pál Király, who were the first ones to officially conduct excavations at *Ulpia Traiana*. The study will further include information about the archaeological excavations they conducted for twelve years, the manner in which scientific activity was conducted in a new domain in Central and Eastern Europe, and will highlight the conceptions of intellectuals from Hunedoara County with regards to the protection and valorification of archaeological monuments. Also we analyse how they handled financial problems, and finally we will present the final period of the Association. We are dealing with men who spent their whole lives in the service of science, wise and passionate about their work, gathering daily—by means of donations, exchanges, archaeological excavations—artefacts that present the history of the county. These artefacts needed first of all a place where they could be deposited, where they could be studied and protected. But they were also to be presented to the public. In this context a separate chapter will present the “life” of the first museum from Deva, whose acting director appointed by the HTRT was Gábor Téglás.

At the end of this article we wish to present the reader a picture of the archaeological research at *Ulpia Traiana*, on how the monuments were capitalized upon. Those who are interested will also find information needed to salvage and protect those monuments that may yet be “rediscovered” by the present study and thus may be saved from destruction.

Regarding the excavation reports, they will not be translated mot-a-mot, but the reader will be offered all the needed information concerning the structure of the buildings that were excavated. Also we

have noticed that it is easier to follow the reports from the 19<sup>th</sup> century, if the initial texts are divided in small subchapters; this was unfortunately neglected by the Hungarian archaeologists when they first published them. The fact that these reports appear in this manner, in some cases, is not something to make us wonder: it was customary at that time for the author to present its excavation report in front of a larger audience<sup>2</sup>, and thus more “irrelevant” information for the present day archaeologist was included. The second category includes those situations when the author publishes the results long after the excavations were concluded, leading to errors<sup>3</sup>, and thus making the task of present day archaeologists even more difficult.

After presenting the excavation reports, wish to present its conclusions following the analysis of the Roman buildings from Ulpia Traiana, buildings discovered at the end of the 19<sup>th</sup> century. This part, the analytical one concerning the gathered information, is in the subchapter “Some considerations about the excavation report”<sup>4</sup>.

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<sup>2</sup> For example, the secretary of the Association, Róbert Kun presented at the general meetings of the Association the archaeological excavations from Ulpia Traiana, respectively their results. Because no report was written the information was lost. Such is the case of the temples—if they ever existed—of Malagbel II, III, Dis Pater and Proserpina, Bel Hamon, and last but not least of the sanctuary of Jupiter Dolichenus.

<sup>3</sup> The report concerning the temple of the Syrian gods was written in 1906, 25 years later after its discovery (1881) by Gábor Téglás, when he had already retired. After 25 years and with only some sketches in Budapest it was logical for him not to remember all the important details. This makes it much more difficult for current archaeologists. Many do not agree with Gábor Téglás’s interpretation that is why in time those who were interested in the subject formulated their own theories, leading to different plans depicting the orientation of the temple. What was its real position? After so many years it is hard to say, still we incline to believe the version of Alexandru Diaconescu. See: DIACONESCU 2011, 148–158.

<sup>4</sup> I would like to thank Dr Rada Varga for her help.

### 1. About *Hunyadvármegyei Történelmi és Régészeti Társulat*

By the end of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century, associations of history and archaeology were established in several counties. The aim of these associations was to manage the county's research in an orchestrated manner, therefore, they started organizing meetings, established museums and journals, but they also financed archaeological excavations. These kind of associations emerged, among other places, in Timișoara<sup>5</sup>, Hunedoara<sup>6</sup>, Alba-Iulia<sup>7</sup>, Cluj<sup>8</sup>, Oradea<sup>9</sup>, Sfântu Gheorghe<sup>10</sup>, and Baia Mare (for a short period of time)<sup>11</sup>.

Before the creation of the Association we can notice the manner in which attempts were made to stop the treasure hunters from Hunedoara County, especially from Ulpia Traiana, respectively their evolution up until 1880.

We wish to point out from the start the activity of András Lugosi Fodor, the chief surgeon of Hunedoara County and one of the first archaeology enthusiasts, who was interested in saving and protecting historical monuments from Hunedoara County. In 1844 a conference was organized in Cluj and one of the participants was András Fodor. He presented the "archaeology" of Hunedoara County. Immediately after this Ferencz Szilágyi asked archaeologists from the County and from outside it to conduct researches because up until that moment the country's neighbours claimed that Transylvania was "*terra incognita*" and that "the ancient history of Serbia is better known than that of Transylvania"<sup>12</sup>.

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<sup>5</sup> BODA, VARGA 2013, 397–412.

<sup>6</sup> See in this paper.

<sup>7</sup> *Alsó-Fehér-megyei Történelmi, Régészeti és Természettudományi Társulat* (The Association of History and Archaeology and Sciences of the Lower Alba County).

<sup>8</sup> *Erdélyi Múzeum-Egyesület* (Transylvanian Museum Society).

<sup>9</sup> *Biharmegyei Régészeti és Történelmi Egylet* (The Association of History and Archaeology of Bihor).

<sup>10</sup> *Székely Nemzeti Múzeum* (Székely National Museum).

<sup>11</sup> *Nagybányai Múzeum-Egyesület* (The Association of Baia Mare Museum).

<sup>12</sup> SZILÁGYI 1844, 76–78, 302–304.

Seeing the objects found by László Noptsa at Ulpia Traiana made András Lugosi Fodor exclaim that “if instead of rummaging and ransacking we would excavate carefully all the area we would find more mosaics and other important monuments that would change our history”. He wrote several letters to count József Kemény (the first dated 11<sup>th</sup> November 1844, Deva and the second dated 28<sup>th</sup> September 1845, Deva). In these letters Fodor expresses his intention to create an Archaeological Association tasked with researching and protecting the ancient monuments from Transylvania. In one of the letters addressed to the count (December 1846, Deva), he writes that he asked László Noptsa to be a member of the Association but that he answered: “I will not join any kind of association, I will be my own partner and starting next spring I will conduct excavations at Várhely (Sarmizegetusa — AN) for which I will pay myself”. In the letter the doctor emphasizes that this must be stopped at once<sup>13</sup>.

László Nopcsa (1794–1884) was Lord Lieutenant of Hunedoara County. He was very famous thanks to the name he had made for himself, being known as “Fatia Negra” (Rmn. “black face”); everyone was afraid of him. Imre Balogh, the notary of the Hațeg region wrote in the *Hazánk* newspaper (17.04.1897): “I am speaking about those persons who were scared to death after only seeing Fatia Negra”<sup>14</sup>.

Unfortunately, András Fodor’s initiative could not become reality due to several reasons. Luckily things did not stop here: in 1856 József Vass also desired the creation of an Association to gather “the treasures of ancient Hunedoara”<sup>15</sup>, but a positive answer was given only in 1876, 20 years later, by dr. Ferencz Sólyom-Fekete.<sup>16</sup> In October 1879, in the newspaper *Hunyad*, under the title *Derítsük föl multunkat és mentsük meg emlékeit* (Let us discover our past and serve the monuments), he wrote about the creation of an Association tasked with researching and protecting ancient monuments from Hunedoara County. In the next lines we can

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<sup>13</sup> FERENCZI 1913, 18–59.

<sup>14</sup> SCHREIBER 2011, 7–9.

<sup>15</sup> VASS 1863.

<sup>16</sup> SÓLYOM-FEKETE 1879.

read a few ideas from the article“... Our county was blessed with so many good things we barely notice them... monuments are now destroyed, everyone takes what he can, without shame and nobody is interested in science... let us get back on the right track. Let us start where we must — let us create as soon as possible an Association... its purpose being to excavate, protect and capitalize upon all historic monuments — I call all the men from Deva city, all intellectuals from the county, to participate at the general meeting with this purpose... May the love for this cause unite us!” (original in Hungarian, translated by the author). Here we also read the observation about the region of Hațeg, where ruins are destroyed by the inhabitants: “the Romanian boys clenching small coins in their hands upon seeing a stranger roaming the streets of Várhely, run quickly and surround the travellers, offering to sell them”<sup>17</sup>.

Finally, a third initiative led to the fulfilment of their wish: the Association from Hunedoara was established on 13 May 1880, by Ferencz Sólyom-Fekete, Géza Kuun, Gábor Téglás, Pál Király, etc<sup>18</sup>. The vote was secret and the result was read by György Pogány, Lord Lieutenant: first president was count Géza Kuun, and its vice president was Ferencz Sólyom-Fekete. Some of the members of that time were: Antal Szechen, Ferencz Pulszky, Károly Torma, Zsófia Torma, Sándor Szilágyi, József Hampel, Károly Szabó, Henrik Finály, Dezső Csánky, Sándor Márki, Lajos Szádeszky, Gábor Szinte, Sándor Torna, Imre Budai, László Tóth, Lajos Réthy, Oszkár Majland, Róbert Kun (secretary), and Endre Veress (secretary after the death of Róbert Kun on 12 April 1897). Thanks to Géza Kuun, this Association became known across Europe. It had its own museum (the office being in Deva), with Gábor Téglás as chairman. The museum experienced an increase in the number of artefacts mostly due to the research carried out by Károly Torma<sup>19</sup>, Zsófia Torma, and nonetheless by Gábor Téglás<sup>20</sup>. Over the years, the absence of a permanent office

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<sup>17</sup> KUUN 1899, 119.

<sup>18</sup> ARÁNYI 1880-1884.

<sup>19</sup> About his life and work see: BODA 2013a, 75–106.

<sup>20</sup> About his life and work see: GÁLL 2003, 141–169; BODA 2013b, 377–392, GÁLL 2014, forthcoming.

building had been a constant issue but beginning with 1916 (the year of Gábor Téglás's death), Magna Curia started to serve this purpose.

### **The Illustrious Figures of the Era**

The Association from Hunedoara had **Géza Kuun** (29 December 1838, Sibiu – 1905, Cluj-Napoca) as president. On 20<sup>th</sup> January 1867, he became a member of *Magyar Tudományos Akadémia* (*Hungarian Academy of Sciences*), on 17<sup>th</sup> May 1883 became an honorary member of this institution, and on 13 May 1904 its president<sup>21</sup>.

On 13<sup>th</sup> May 1880 he became the president of *Hunyadvármegyei Történelmi és Régészeti Társulat* (*Historical and Archaeological Association of Hunedoara County* – HTRT), and the Association started to function increasingly better during his term. He maintained contact with various scholars from around Europe, and he was definitely one of the illustrious figures of the 19<sup>th</sup> century cultural elite. At some point he spoke about his activity in the Association: “we have all felt that knowing our country is one of our duties, that superiority in everything is the result of science. This feeling was a call towards taking action and it also strengthened us to struggle with the difficulties from the beginning”<sup>22</sup>.

The life of **Pál Király (Kőnig)** (1853–1929) is an enigma to this day. No researcher was able, until now, to reveal issues regarding the private life of Király. However, one thing is known for sure: in 1887 he changed his name from German to Hungarian, from Kőnig to Király. The pieces of information we have regarding his life originate in his works related to the archaeology and history of Dacia, but also in the references made by István Téglás. Apparently, Király was good friends with Gábor Téglás, and the two of them made scientific journeys together. Thanks to Pál Király we have access to information regarding Dacia, which is why he became a figure in the field of archaeology.

He was simultaneously a school principal, an editor of school textbooks, and an archaeologist. In 1877 he was teaching in Deva, and three years later, in 1880, together with Gábor Téglás, he helped establish

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<sup>21</sup> SZÁDECKY 1905, 402–431.

<sup>22</sup> KUUN 1900, 1.

HTRT. Between 1882 and 1883 he examined the archaeological data from Mithras' sanctuary in Ulpia Traiana (one of his greatest works and scientific discoveries).

After his transfer to Fehértemplom (Biserica Albă, year 1891/2), the members of the Association said goodbye to him<sup>23</sup>: „As librarian and archivist of the Association he managed to gather diligently, year after year, books, manuscripts letters, thus now HTRT has a remarkable library. His departure meant a great loss both for the Association and his own 'projects'... HTRT always appreciated his effort”(original in Hungarian, translated by the author).

**Gábor Téglás** was born on 30<sup>th</sup> March 1848 in Braşov, and died on 4<sup>th</sup> February 1916 in Budapest, but his tomb was never found. Beginning with 2003, the Hungarian school from Deva is named after him, and from 2008 a torso of him was placed in front of the school.

Gábor Téglás helped establish HTRT, but he was also a teacher, an archaeologist, director of the Association's museum for twenty-three years, and since 1888 a member of *Magyar Tudományos Akadémia* (*Hungarian Academy of Sciences*). Between 1871 and 1904, he was a teacher in Deva, and between 1883 and 1904 he became the school's principal. In 1904 he retired and later on moved to Budapest<sup>24</sup>.

His colleagues say the following about his activity as an archaeologist: “his importance in the institution was of paramount importance, he sacrificed his whole life for science, for the society. When count Kuun Géza got sick and Sólyom-Fekete Ferencz stepped down there was a time when he alone carried the whole burden of the Association”<sup>25</sup>. About his own career Téglás says the following: “for my own part I do everything possible to enrich the museum and detect valuable materials from the county. If I have not succeeded completely in satisfying everyone's wishes my work is my excuse, which in spite of my best

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<sup>23</sup> BALLUN 1909, 55–56.

<sup>24</sup> ORTVAY 1916, 325–326; GÁLL 2003, 141–169; BODA 2013b, 377–392, GÁLL 2014, forthcoming.

<sup>25</sup> BALLUN 1909, 9.

intentions to fulfil them as correctly as possible also increasingly serves as an obstacle”<sup>26</sup>.

## 2. The Archaeological Research Carried Out by HTRT in Ulpia Traiana

As soon as the Association for History and Archaeology was established, its vice-president, Doctor Ferencz Sólyom-Fekete, was informed that a land owner from Várhely (today Sarmizegetusa) has several fragmentary statues he wished to include in masonry. Also Lajos Réthy<sup>27</sup>, announces he has also seen in Várhely two funerary lions and a statue representing a female character that can be bought for a low price. In this context, at the first county meeting on 11<sup>th</sup> June 1880, the Committee asks Sándor Tornya<sup>28</sup> to do everything possible to save as much as from the mosaics, respectively the objects found by the villagers<sup>29</sup>.

In Várhely, the first systematic excavations were carried out by HTRT in 1881, and they continued with considerable effort until 1893 (for twelve years). After this stage, work went on slower, and was frequently stopped. Short reports on these excavations were published in the Association’s journal, *Hunyadvármegyei Történelmi és Régészeti Társulat Évkönyve* (*The Yearbook of Historical and Archaeological Association of Hunedoara County – HTRTÉ*)<sup>30</sup>. HTRT offered the management of the site to Gábor Téglás and Pál Király, two Hungarian archaeologists who will mark the archaeological research of the Roman city<sup>31</sup>.

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<sup>26</sup> KUUN 1899, 54.

<sup>27</sup> Lajos Réthy was a royal counselor on school matters and member of the Association.

<sup>28</sup> Sándor Tornya, member of the Director Committee, lives in Hunedoara, also owns land at Sarmizegetusa, known as “Grohotya Tornyaszka”.

<sup>29</sup> BODÓ 2012, 377.

<sup>30</sup> *Hunyadvármegyei Történelmi és Régészeti Társulat Évkönyve*, 1882–1914, Deva.

<sup>31</sup> Here I would like to express my thanks towards Professor Dr emeritus Ioan Piso, for his advice concerning the archaeological excavations from Ulpia Traiana.

According to the report<sup>32</sup> of the interim director of the museum, Gábor Téglás, the systematic research of the Roman town was possible thanks to the financial help of Ágoston Trefort, Minister of Cults and Public Teaching<sup>33</sup>.

The start of the archaeological research took place in the temple of the Palmyrian Gods, in 1881, one year after the establishment of the Association, and until 1893 great discoveries were made, as for example the sanctuary of Mithras (summer of 1882).

In 1882, George Barițiu visited Ulpia Traiana, and in his report entitled *Report on the journey to the ruins of Sarmizegetusa and on the information gathered on-site in 1882* he pointed out that the poor state of conservation of the ruins was due to the carelessness of the locals<sup>34</sup>.

In order to continue archaeological researches at Ulpia Traiana funds were asked from the Ministry of Cults and Education<sup>35</sup>: between 1883 and 1885 there were provided 500 forints per annum and between 1886 and 1887, 300 forints per annum; this was usually announced in the spring of that year<sup>36</sup>. However, in order to justify the money spent a report containing information about the excavations and an expense account are sent. According to the report written by the management of the Ulpia Traiana excavation site, the archaeological research from the summer of 1883 led to expenses of 619 forints and 49 crowns—the verification committee checked the correctitude of the sum<sup>37</sup>. In all these years, archaeological excavations were conducted in the following sectors: in the summer of 1883, HTRT financed the excavations of the Roman public bath in Ulpia Traiana, situated southeast of the amphitheatre<sup>38</sup>. In the same year, the excavations began in the private Roman houses, where some mosaics were found. These houses were situated approximately 10 m

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<sup>32</sup> TÉGLÁS 1884, 111–113.

<sup>33</sup> BODÓ 2012, 381.

<sup>34</sup> BARIȚIU 1883.

<sup>35</sup> KUUN 1886, 91–92.

<sup>36</sup> BODÓ 2013, 369.

<sup>37</sup> KUN 1886, 83.

<sup>38</sup> KUN 1886, 87–88.

north of the "fort", on the territory of the houses 186 and 187<sup>39</sup>. During the excavations carried out in 1883, Gábor Téglás discovered several reliefs depicting underworld deities (Dis Pater and Proserpina, a few meters away from the patch of land owned by János Adameszk and György Radusa), in a structure which he later assumed to be a temple, situated eastwards the precinct of the city and the amphitheatre<sup>40</sup>. From here and to the east, the temple of Malagbel was identified<sup>41</sup>. In the same year, the sanctuary of Bel Hammon was found: it was built within the wall of the „fort”, on the western side, on the road which led to the Greek-Catholic Church, in house number 109 (Juon Dioniez Zyercze)<sup>42</sup>. Here, besides the "column with Ammon's head", a golden ring was found, and south from this point in the same year, the sanctuary of Dolichenus<sup>43</sup>, was discovered with his representative monuments. A year later, in 1884, the temple of Aesculapius and Hygeia was identified northeast of the amphitheatre.

At the amphitheatre, the excavations began in July 1890, and they were led by Téglás and Király. After Király's transfer to Biserica Albă, HTRT entrusts the excavations to Szinte Gábor alongside Téglás<sup>44</sup>. Struggling with financial difficulties, they managed first to reveal only its northern side. Another difficulty was due to its location, which was on a private property; however HTRT managed, in the end, to buy the land in order to reveal the amphitheatre to its extent. Between 1892 and 1893, on the occasion of the research carried out in the amphitheatre by Gábor

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<sup>39</sup> KUN 1886, 87.

<sup>40</sup> KUN 1886, 86–87.

<sup>41</sup> KUN 1886, 87. Téglás and Király discovered in the east side of the city, near the supposed temple of Dis Pater and Proserpina the base of a votive altar, IDR III/2, 265. Here it was believed to have existed a temple for Malagbel (KUUN, TORMA, TÉGLÁS 1902, 62), being conventionally named Malagbel II, by Constantin Daicoviciu (DAICOVICIU, 1924, 230).

<sup>42</sup> KUN 1886, 87.

<sup>43</sup> In the south-western corner of the city.

<sup>44</sup> BALLUN 1909, 57.

Szinte and Gábor Téglás, a temple dedicated to the goddess Nemesis was identified<sup>45</sup>.

Beginning with 1894 excavations became sporadic, and the archaeological surveys carried out in 1903–1907, 1911 and 1913 did not have spectacular results. This can be observed by reading the year-book of the Association (HTRTÉ), which focuses on presenting the beginning of archaeology in Hunedoara County, respectively on the life of some of its illustrious members. Between 1908 and 1909, while celebrating 25 years of existence of the Association, a study was written by Ernő Ballun, entitled *Adatok a Hunyadmegyei Történelmi és Régészeti Társulat 25 éves történetéhez* (Some information on the 25 years of The Association of History and Archaeology)<sup>46</sup>. Here we discover all “scientific endeavours” conducted by the Association, we notice the respect towards its members and even the admittance that, unfortunately, the research is dying: “Kuun Géza and Sólyom-Fekete Ferencz led the Association with exemplary understanding, with a great, powerful love for the cause and with respect for one another. When both of them got sick this shook the whole administration of HTRT and already one could see the first signs of the beginning of the end... Other partners were needed besides the two exemplary leaders... Téglás Gábor, Király Pál, Tornya Sándor”<sup>47</sup>. The reason the Association stopped working at Várhely, was mainly due to financial), but also because in 1892 Pál Király moved to southern Banat, at Biserica Albă (he is appointed director of the museum), in 1897 Károly Torma died, respectively Gábor Szinte (1898) and Gábor Téglás (1904) leave the Association for various reasons. Also the number of members of

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<sup>45</sup> SZINTE 1897, 35–37.

<sup>46</sup> BALLUN 1908, 18–40, 65–86, 97–129, BALLUN 1909, 5–29, 49–87, 113–148.

<sup>47</sup> BALLUN 1908, 20: “Kuun Géza és Sólyom-FeketeFerencz, ketten vezették a Társulatot példás egyetértéssel, lángolóügyszeretettel, egymás iránt való kölcsönös nagyrabecsüléssel. Annyira központját képezték ketten a társulat életének, hogy midőn a betegség megbénította működésüket, megingott az egész szervezet és már-már a felosztás jelei mutatkoztak... A két vezető mellett sok tevékeny tars közreműködésére volt még szükség... Téglás Gábor, Király Pál, Tornya Sándor...”.

HTRT dropped every year; we can read their names of the last pages of the yearbook, in the chapter *Hivatalos Értesítő* (*Official Communications*), subchapter *Társulati Névkönyv* (*A Journal of Onomastics*).

When analysing the scientific activity of the Association one can notice two periods in the 34 years of activity: the first period (1880–1892/3, twelve years) when it was mostly led by Géza Kuun (president), Ferencz Sólyom-Fekete (vice-president), Róbert Kun (secretary), Pál Kőnig (librarian), Zsigmond Reichenberg (treasurer), Lázár Petco (jurist), respectively by Gábor Téglás (director of the museum). By reading the excavation reports and the yearbook, we can conclude that despite financial problems it was a peak. Between 1894 and 1914 (the second period) excavations are sporadic, scientific studies are few in number. Now the Association was led mostly by Béla Fáy (president), Lajos Réthy (vicepresident), Samu Kolumbán (secretary), József Bottyán (deputy-secretary), Lajos Szöllősy (treasurer), Gyula Réthi (jurist), Oszkár Mailand (director of the museum) respectively by Ernő Ballun (librarian).

Ernő Ballun, while representing the Association, said in his speech from 1909 about the first period: “Just like enthusiasm that led to the creation of the Association of History of Archaeology, it also kept it alive. Depending on how it went up or down so too did the power of the Association”<sup>48</sup>. Also we read their conception regarding the desire for this Institute to function as well as possible: “The future could not desire anything else from the Association except that the work already started should be continued with result at least similar to those obtained in its first years of existence”<sup>49</sup>.

<sup>48</sup> BALLUN 1909, 145: “Valamint a lelkesedés szülte a Hunyadmegyei Történelmi és Régészeti Társulatot, úgy az is tartotta mindvégig fenn. A lelkesedés növekedése vagy csökkenése szerint emelkedett vagy hanyatlott a Társulat erő kifejtése is...”.

<sup>49</sup> BALLUN 1909, 148: “A jövőendő nem kívánhat egyebet a Társulattól, mint hogy az a megkezdett munkát legalább megközelítő eredményekkel folytassa...”.

### 2.1. The Temple of the Palmyrene Gods

The research in Ulpia Traiana began in 1881 with the Temple of the Palmyrene Gods (Pl. 1.)<sup>50</sup>. Under the influence of the first researchers, Gábor Téglás and Pál Király, the sanctuary was called, at first “the temple of the Syrian Gods”: „*A várhelyi syrus templom*”<sup>51</sup>. The issue was later resumed by researchers Adriana Rusu-Pescaru and Dorin Alicu, who generated a comparative table of the data relating to the dimensions of the temple, and observing the differences between the works of previous authors, reinterpreted the temple’s direction<sup>52</sup>. The most recent interpretation was provided by Alexandru Diaconescu. The researcher offers a different interpretation as against previous articles; however it is noteworthy to mention that he does not contradict the excavation report<sup>53</sup>.

The archaeological report was translated in full-length from Hungarian by Imola Boda and Katalin Sidó, and it was reinterpreted by Alexandru Diaconescu<sup>54</sup>. Each excerpt was discussed together, and following these, the researcher made a reconstruction of the temple. Given the fact that the translation and interpretation of the Palmyrene temple were already made, it will not be examined in the present paper.

### 2.2. The Sanctuary of Mithras

The sanctuary of Mithras was discovered in the summer of 1882 (Pl. 2.)<sup>55</sup>. The excavation continued until 14<sup>th</sup> August 1883, under the supervision of Gábor Téglás and Pál Király<sup>56</sup>. The sum paid for archaeological research in 1882–1883 was 500 forints per annum and it came from the Ministry of Culture and Public Instruction according to document no. 387141 881 issued on 21<sup>st</sup> March 1882<sup>57</sup>. Also, to help with publishing the Mithraic

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<sup>50</sup> KUN 1886, 85–86.

<sup>51</sup> TÉGLÁS 1906, 321–330.

<sup>52</sup> RUSU-PESCARU, ALICU 2000, 84–90.

<sup>53</sup> DIACONESCU 2011, 148–158.

<sup>54</sup> DIACONESCU 2011, 148–158.

<sup>55</sup> KUN 1886, 85.

<sup>56</sup> KIRÁLY 1886; KIRÁLY 1894, 134–151.

<sup>57</sup> BALLUN 1909, 6; BODÓ 2012, 383.

monuments, 50 forints were donated by Emich Gusztáv<sup>58</sup>; this was a monumental work done by Pál Király in 1886.

The results of the excavations were first reconsidered in Sarmizegetusa's guide<sup>59</sup>, but here one can read only a short summary of the report. In 2000, only the sanctuary's roof was reinterpreted<sup>60</sup>, having also a short summary. We have noticed that in the Romanian literature, one finds only a brief presentation of the sanctuary, which excludes details regarding the artefacts, and presents, in some cases, wrong dimensions. This is exactly why we have decided to review the full version of the Hungarian text.

### **The Report**

The first observation made by archaeologists Gábor Téglás and Pál Király after seeing the sanctuary of Mithras was its poor state of preservation. They noticed that first of all the sanctuary had been destroyed in a fire. Its traces can be found on discovered artefacts, carbonized or partly burned and in the thick layer of ash noticeable in the first layer. However, modern destruction did not spare the monument, because the whole area was filled with new constructions<sup>61</sup>. When the Hungarian archaeologists arrived, the structure was in a very poor condition, due to the fact that in 1879, "excavations" were made by the owner of the land, who built his home, and raised his crops on the *mithraeum*. The building was in such a fragmentary state that its reconstruction was possible only based on analogies. According to Király Pál, the best analogies were provided by Mithras' sanctuaries from Heddernheim and Ostia. By making a comparison with the aforementioned sanctuaries, he obtained a length of 24.88 m and a width of 12.44 m. Adding also the *pronaos*, he obtained a length of 42.82 m. According to this data, the *mithraeum* from Ulpia Traiana is the largest in the Roman Empire. Located in a field on a slight slope, it was partially

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<sup>58</sup> BODÓ 2013, 359.

<sup>59</sup> DAICOVICIU, ALICU 1984, 68–70.

<sup>60</sup> RUSU-PESCARU, ALICU 2000, 81–84.

<sup>61</sup> KIRÁLY 1886, 3.

deepened in soil. It was oriented towards north-south and the entrance was on the northern side.

In the report and on the attached plans, the walls were marked with Roman figures, from I to V. The relics and their finding places were marked with Arabic figures, and with letters, in alphabetical order<sup>62</sup>.

The Walls' Dimensions:

- I. Length: 1.20 m; Depth: 1 m; Height: 0.30 m
- II. Length: 5.40 m; Depth: 1 m; Outer height: 1 m; Inner height: 0.70 m
- III. Length: 6.15 m; Depth: 1.50 m; Outer height: 1.06 m; Inner height: 0.76 m
- IV. Length: 3.30 m; Depth: 1 m; Outer height: 1.20 m; Inner height: 0.20 – 0.90 m
- V. Length: 0.10 – 0.40 m; Depth: 1 m; Height: 0.15 – 0.32 m

Cella:

From the walls of the temple, only a side of the *cella* was preserved. The *cella* was bordered by the walls II and IV, encompassing a quadrilateral territory, with an inner length of 3.80 m and having 4.20 m deep stairs. Overall, the territory of the inner *cella* had 15.96 m<sup>2</sup>. The walls were 1 m thick, except for the wall behind the *cella*, which was 1.50 m thick. According to the supervisor of the excavation, the *cella* was about 1m deep in the soil.

The two stairs that lead from the *naos* to the *cella* were marked with the letters 'a' and 'b', and with the numbers 91–92. These two stairs were removed by the owner in 1897, and they were sold to the public notary of a nearby village. In 1882, the owner continued his "activity", and exposed the side which was marked with the letters 'v' and 'w', he basically removed all of the existing walls.

According to Pál Király, the central relief was stuck to the wall nr. III, and in front of the stairs, that were leading inside the sanctuary, there

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<sup>62</sup> I would like to mention the fact that in the original article, the sanctuary's structure is presented differently. I chose this method (divided in different sub-themes) so that the reader can have a more ample and coherent vision, in order to be able to draw his/her own conclusions.

was probably the huge altar for ritual, marked on the plan with the number 39.

The Central Nave, *Naos*:

With the statues of Cautes and Cautopates, marked with the numbers 13–15, the researcher defines one of the *naos* extremities, and with the “corner of the gate”, marked with the number 41, he defines the entrance to it. The fragmentary columns, marked with the numbers 25–33, give the opportunity to reconstruct the *naos*. Pál Király defines the sanctuary as having three naves, separated by two rows of columns. It is worth mentioning the fact that here were found most of the Mithraic reliefs, which were presented in the catalogue made by Pál Király.

Pronaos:

On outside of gate of the *naos*, on the spot marked with the numbers 34–38, several column fragments and altars were found which allowed the researcher to reconstruct a portico in front, completing the temple's *pronaos*. At the entrance, there probably was dedication *S(oli) I(nvicto) M(ithrae)*.

Decoration:

The *cella* was probably separated from the *naos* by a heavy curtain, common in the oriental cult ritual. The walls of the *cella* were painted, on a red background, with blue meandering lines and with geometrical figures, preserved up to 0.60 m height. The floor consisted of a layer of *cocciopesto* 0.05 m thick.

The Roof:

The discovery of a great number of brick vaults led the Hungarian researcher to believe that the nave had arches, probably three: one for the central nave and *cella*, and two smaller ones for the lateral naves, to the *pronaos* which was covered with a cross vault. Noticing the poor resistance of the preserved walls in sustaining the vaults, the author imagined some support walls between the *naos'* columns, having 0.60 m in height<sup>63</sup>.

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<sup>63</sup> According to RUSU-PESCARU, ALICU 2000, this kind of support walls between the interior columns are not familiar in Roman architecture, causing damage both to the construction's appearance and its functionality. This is why,

### Some observations regarding the excavation report

The excavation report, written in the 19<sup>th</sup> century, mentions tens of fragments of reliefs, altars, statue bases, column capitals, rush lights, inscriptions (over 200 pieces), discovered in the sanctuary of Mithras<sup>64</sup>. The archaeological materials discovered were deposited at the museum of the Association (with its headquarters at Deva). Dr Iulius Jang (1851–1910), professor at the German University in Prague made a study trip in Transylvania in August–September 1890. Upon seeing the spectacular discoveries from Ulpia Traiana he claims: “the person who wants to study the cult of Mithras must visit the Mithraic finds preserved at Deva”<sup>65</sup>.

Because of this large quantity of artefacts Gábor Téglás and later on Constantin Daicoviciu thought there were several *mithraeae* in the city<sup>66</sup>. For 150 years, nobody analysed the information gathered after 1883 from topographical and historical points of view (we do not refer here to the cult *per se*). In this study we would like to present some points of view that prove the possibility that there existed two sanctuaries for Mithras in the city.

Reading the Hungarian literature we have noticed that Pál Király, Gábor Téglás and István Téglás gave different information regarding the location of the sanctuary. According to topography, we already have information regarding the existence of at least two sanctuaries<sup>67</sup>, one of them exactly near the *dolichenum*. An unspecified relation between

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much closer to reality and easier to make would be an arch, built of successive arches of brick over the central nave.

<sup>64</sup> KIRÁLY 1886, 22–65, pl. IV–XXII; IDR III/2, 193, 274, 277, 278, 281, 282, 284, 285, 288, 290, 291, 292, 293, 294, 296, 297, 300, 302, 303, 304, 305, 306, 307.

<sup>65</sup> KUUN 1900, 3.

<sup>66</sup> DAICOVICIU 1924, 224–261.

<sup>67</sup> One of the *mithraeum* was located in Armion Áron’s yard. It is located south-west the “fort’s” wall, at about 100m towards Hobicza, right next to the stream. In Athanása Christián’s yard (house nr. 148) a marble column was found. His house was located to the east from where the stream entered into the “fort”. On its corner there was a Roman house, probably that of an important official and in it there was a sanctuary (*mithraeum*?).

Mithras and Dolichenus stands out more and more. Manfred Clauss, in his book *The Roman Cult of Mithras. The God and his Mysteries*<sup>68</sup>, reminds the fact that near a *dolichenum* one can permanently find a *mithraeum* (situation identified in Roman Dacia as well) moreover, inscriptions and Mithraic reliefs are found in the dolichenian sanctuaries. The *mithraeum* and *dolichenum* from Ulpia Traiana are situated around Armion Áron's land.

By analysing the circumstances and context of discovery of these monuments and of the votive inscriptions dedicated to this Persian god we have noticed that in a large number of cases they were not discovered in an archaeological context<sup>69</sup>. As mentioned above a systematic excavation could not be done because of modern destruction; in most cases the archaeological artefacts were simply found or gathered by Hungarian archaeologists. In IDR<sup>70</sup> we find information regarding the artefacts that got to be deposited in the museum of Deva through different means. Also, we find out about the buying or the donation of artefacts to the Association.

After identifying those monuments that ended up in the possession of the Association through "non-archaeological", means we have started examining them. Finally we have concluded that major objects were involved, objects that existed in Mithraic sanctuaries (e.g. the central relief, the representation of the taurochtony or of the birth of Mithras), which leads us once again to believe in the possibility that in the city indeed existed at least two sanctuaries for the god Mithras.

The hypothesis of the existence of two Mithraic sanctuaries in the area, as written above, is based on three arguments, all supported by bibliography. We have considered it necessary to argument this hypothesis by presenting an analogy from Dacia, thus we wish to inform the reader about the situation from *Apulum*, where we know until now at least two *mithraeae*. In order to advance the discussion we wish to mention the cities from the Roman Empire, whether large or small, where more

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<sup>68</sup> CLAUSS 2000, 158.

<sup>69</sup> IDR III/2, 273, 275, 276, 279, 280, 283, 286, 287, 289, 295, 298, 299, 301.

<sup>70</sup> Inscriptiile Daciei Romane.

than one *mithraeum* was found archaeologically: Rome (min. 15), Ostia (min. 18), Poetovio (5?), Carnuntum (3), or Aquincum (5) etc<sup>71</sup>.

### 2.3. The Roman Bath

In the summer of 1883, HTRT financed the archaeological excavations of the public Roman bath in Ulpia Traiana (Pl. 3.), which is situated north of the city's precinct. The Association charged Téglás Gábor and Király Pál with the research<sup>72</sup>. In 1984 the subject is reopened by Hadrian Daicoviciu and Dorin Alicu, in Sarmizegetusa's guide, but it is not presented in full-length<sup>73</sup>! The representation of the oven rooms is missing, as well as the mentioning of the dimensions and the conclusions.

#### The Report

The bath's substructure was preserved almost entirely; it was not touched by the treasure hunters. It had thirty rooms, divided in four different sections: one of them was for men, and the other one for women; separately there were a steam bath and a summer bath. The facade had 20 m in length, and the structure's overall length was 30 m (including also the wall thickness). The steam bath and the men's bath had a common entrance (a common vestibule), situated on the western side of the baths, where there probably stayed the person who distributed the tokens (on the plan: 1; 3.5 × 2.7 m).

In the report, and on the attached plan, the rooms are marked with Arabic figures, from 1 to 30, and the ovens that warmed the five rooms were classified in alphabetical order, from 'a' to 'd'. On the plan, we can distinguish the seven entrances that lead to the baths, the ovens, the rooms heated with *hypocaustum*, and the pipe which provided the water supply, all of which are represented with special symbols.

#### Men's Section:

On the left, there was the steam bath's cloak-room entrance (20), and on the right, there was the entrance to the narrow and the vestibule

<sup>71</sup> SZABÓ 2012, 125–156; SZABÓ 2014, 54–60.

<sup>72</sup> KIRÁLY 1891, 104–108; KIRÁLY 1894, 129–134; KUUN, TORMA, TÉGLÁS, 1902, 62–64.

<sup>73</sup> DAICOVICIU, ALICU 1984, 73–74.

(*apodyterium*), which was  $16.2 \times 2.7$  m long (2). From this point on, could enter the cold pool room (*frigidarium*; 3) which was:  $9.9 \times 3.4$  m. Two rows of marble stairs 0.3–0.3 m high, and 0.35–0.35 wide, ensured the access to the pool. The pool's depth was not great, offering the possibility to enjoy the water's coolness by sitting on its pool's floor. The pool's rectangular shape corresponded to that of the room, and its exterior was paved with a thick layer of pink cement, 0.8 m in length (a fine *opus signium* on which the marble plywood was placed).

From this point to the left, one could arrive in a warm bathroom, heated with a *hypocaust* system, called *tepidarium* (4), a room without pool and where the high temperature was intended to prepare people for the *caldarium*. It was a fairly big room of  $11.6 \times 3.5$  m, designed for a great number of people. On the room's sides, near the walls, there were benches for rest and discussions.

From this point, one could pass into the room with a hot plunge bath, *caldarium* (5). In the apse (opposite to the room's entrance) was positioned the pool with cold water (*labrum*; 6). On the room's left side we find a niche of small dimensions:  $2.2 \times 1$  m (7), and near it there was a room with high walls of 0.75 m (8). Here ends the bath; however this section was used only during winter.

#### The Summer Bath's Section:

During summer the entrance was made through a room situated on the baths' western side (9). This was a small room of  $2.2 \times 1.5$  m, from where one could get to the cloak-room (10), which was  $6.2 \times 2.9$  m in size. Next, one could get to the open air swimming pool (*natatio*; 11), which was fairly large:  $8.2 \times 6.2$  m. It had a 1 m parapet, from where one could descend into the pool through three flights of marble stairs  $0.31 \times 0.31$  m high and  $0.35 \times 0.35$  m wide.

Through a narrow corridor (12) of  $5 \times 1$  m, one could get to the *tepidarium* (4) and from this point to the *caldarium* (5).

#### Women's Section:

Women's bath section is similar to the men's, being, however, smaller in dimension. The entrance was made through the western side of the baths, into a small vestibule (12a) of  $3.5 \times 1.7$  m, from where, to the

left, one could get to the cloak-room (13):  $3.5 \times 2.3$  m. From this point on, through a door (1 m in length) one could get to the *frigidarium* (14). This one is very small, of only:  $4.6 \times 2.7$  m; probably it had a small pool somewhere in the centre. This room was greatly affected by destructions. From here, one could get to the *tepidarium* (15), which had the same dimensions as the *frigidarium* and the *caldarium* (16). Here, in the apsis, one could find the *labrum* (17), and on the northern side of the room there was a small section (19) of  $2.2 \times 2$  m, which probably was a room for massage and body anointment.

Dry Sweating Room Section (*laconicum*):

The entrance was made through the western side of the baths, sharing the same vestibule with men (1). From this point to the left, one could get to the cloak-room (20;  $4.3 \times 3.4$ ), and next, on the right, to the *laconicum* (21) which was of:  $7.5 \times 7.3$  m.

The Heating System:

The *hypocaust* system was found in the fifth room: in the men's *laconicum* (22), *tepidarium* (4), *caldarium* (5), and in the women's *tepidarium* (15) and *caldarium* (16). In the latter, the heat was coming from the same room or from a nearby room. Four ovens of this type were found, which were ordered alphabetically from 'a' to 'd'.

Oven 'a' was situated in room 22 and it heated the *laconicum* (21). Oven 'b' was situated in room 22 as well, but it heated men's *caldarium* (5).

From room 22, one could pass to room 23, where oven 'c' was situated, and which heated the men's *tepidarium* (4). Room 22 had a different entrance, on the northern side of the baths, and from this room one could enter directly only into room 23.

Oven 'd' was situated in room 24, having a separate entrance from the southern side of the baths. It heated simultaneously the women's *tepidarium* (15) and *caldarium* (16).

According to the Hungarian authors, the smoke resulting from the *praefurnia* was eliminated through the walls' rectangular orifices, extended through chimneys (25, 27, 28a). It is worth mentioning that these cannot be identified on the plan, but it is hard to believe that the walls were so well

preserved that the chimneys could be actually seen, as it is the case only in some places like Pompeii or Bostra.

#### The Water Supply:

The necessary water for the baths was provided, most likely, by the city's water network, coming from the base of Mount Retezat. The water was brought through a pipe (represented on the plan as a dashed line) which passed under the *apodyterium* and then it forked. It can be traced in the rooms with the *frigidarium*, the *natatio*, and in the two *caldaria*. The pipe's diameter was 0.1 m. Unfortunately, the precise route could not be reconstructed because its trace gets lost under the large pool's ruins, which collapsed exactly on this pipe system.

Regarding the interior, the *frigidarium*, the *natatio*, the *tepidarium*, the *caldarium*, and the *laconicum*, all had a cement floor, between 0.15 m and 0.3 m thick. The other rooms had brick floors of hexagonal shape, or of an L shape. The walls were covered with marble plates, many of them being discovered *in situ*. The less important rooms like those of the *praefurnium*, or of the small compartments, were only plastered.

Rooms 28–30 served as warehouses, or servants' room, who ensured the proper functioning of the baths. For example, room 30 was probably the administrator's room, and had a separate entrance.

Within the baths' perimeter, large fragments of colonnades were found, but also large fragments of tiles, which prove that the roof was made out of tiles.

#### **Some observation concerning the excavation report**

Apparently, the construction of the Roman bath from Ulpia Traiana was finished in 158 AD by *Cohors V Commagenorum*, with public funds, during the consulship of Tertullus and Sacerdos<sup>74</sup>. Considering that the building was near the amphitheatre, recent theories suggest it was used by gladiators. However, if we keep in mind, the separate sector used by women—according to the interpretation of the authors of the

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<sup>74</sup> Deduction based on the tile stamps of the type IDR III/2, 558 found as well in the amphitheatre, but later. At that time, the Hungarian authors were not able to draw any conclusion regarding who used it, and they simply named it "Közfürdő" (Hung. "public bath").

excavations—we can conclude that it could be used also by civilians and not necessarily just gladiators. Unfortunately the building is no longer present in the field today in order to conduct excavations focused on obtaining coherent and real information about the use of each room. Given the conditions we are stepping into the realm of speculations, like in the case of other buildings researched in the 19<sup>th</sup> century.

Still, we consider it necessary to mention that the dimensions of each room are not written down<sup>75</sup>. With this in mind we believe that the plan put together by Téglás Gábor and Király Pál could be in some parts purely theoretical, although, truth be told, the edifice was well-preserved when the archaeologists arrived, as written in the initial archaeological report.

We wish now to present some examples concerning the *thermae* from Pannonia, thus giving some analogies regarding the functionality of the bath from Ulpia Traiana. A thermal complex was discovered at Aquincum: part of it was used by women and the other part by men, just like the case of Ilişua<sup>76</sup>, entitled by the Hungarian researchers *A kettős fürdő*<sup>77</sup>. Besides this one, six other baths were discovered through archaeological excavations<sup>78</sup> (four of them inside a *domus*)<sup>79</sup> and one on the road from Aquincum (Budapesta) to Brigetio (Ószőny)<sup>80</sup>.

In the following lines we wish to present some conclusions regarding the comparison of *thermae* in Dacia (Ulpia Traiana) and in Pannonia (Aquincum): at a first glance, it stands out that in both provinces

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<sup>75</sup> The dimensions of the following rooms: 5, 6, 7, 8, 22, 23, 24, 25, 27, 28, 29, 30.

<sup>76</sup> BODA 2013a, 75–104.

<sup>77</sup> PÓCZY, HAJNÓCZY 1960, 21–24.

<sup>78</sup> PÓCZY, HAJNÓCZY 1960, 12–21 (“A nagy közfürdő”); PÓCZY, HAJNÓCZY 1960, 24–26 (“A harmadik közfürdő”).

<sup>79</sup> PÓCZY, HAJNÓCZY 1960, 26–28 (“A nagy lakóház fürdője”); PÓCZY, HAJNÓCZY 1960, 29–31 (“A katonai tábor nagy fürdője”); PÓCZY, HAJNÓCZY 1960, 31–36 (“A helytartói palota fürdője”); PÓCZY, HAJNÓCZY 1960, 36–39 (“A Korvin Ottó utcai lakóház fürdője”).

<sup>80</sup> PÓCZY, HAJNÓCZY 1960, 39–42 (“A csúcshegyi villa fürdője”).

Vitruvius' theory concerning the building of Roman baths applies<sup>81</sup>. Studying the drawings enclosed, we can notice the complexity of the public bath from Ulpia Traiana while also observing some absences: places for the latrine, a gate, eventually a yard or a court, such as the case with the baths from Aquincum. It is very likely that these are the roles of the rooms that Gábor Téglás and Pál Király failed to define.

#### 2.4. Roman Houses

In 1883 Téglás and Király carried out the excavations of the private Roman houses, financed by HTRT<sup>82</sup>. Until now, the subject has not been reopened. In Sarmizegetusa's guide we find only a description of the mosaics, decorating the Roman houses, but no mention was made of the original archaeological report, or of the plan of the building. This is exactly why we have decided to review the translation of the Hungarian text, in full-length, valuing therefore one of the greatest discoveries of the 19<sup>th</sup> century in Ulpia Traiana.

The Roman houses of the influential people were situated on the road side of the current national road. By accident, in the summer of 1823 two polychrome mosaics which formed the floor of two rooms, were found in Sarmizegetusa, but not in the vicinity of Nopcsa's house (as one can read in Sarmizegetusa's guide from 1984)<sup>83</sup>, but exactly on Nopcsa's house location. One of the mosaics depicts Paris' judgement, and the other depicts Priamos in front of Achilles, begging him for Hector's body. These mosaics were preserved until 1830, when Colonel Don Miguel, accompanied by his troops, started taking them out. After this, the villagers started selling the three mosaics piece by piece. The first two mosaics were found during the construction of the tavern from Várhely, a structure built from Nopcsa Elekné's initiative (Nopcsa László's wife). These two mosaics were presented to the Association by Béla Téglás in

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<sup>81</sup> *Apodyterium–Frigidarium–Tepidarium–Caldarium–Laconicum...* and other annexes according to the local needs. Here are some examples regarding the correct reinterpretation of the *thermae* from Ilişua by the author of this article.

<sup>82</sup> KIRÁLY 1891, 108–118; KIRÁLY 1894, 152–164.

<sup>83</sup> DAICOVICIU, ALICU, 1984, 66.

1898, when an assembly was organized in order to present the evolution of the research carried out between 1896 and 1898<sup>84</sup>. Unfortunately, today the only sources of information we have regarding these important monuments of provincial art, are the drawings made at that time by Johann Michael Ackner. The third mosaic was found by Ackner in 1832, during an excavation, and it depicts Victoria with a golden wreath. Unfortunately, only in 1883 (after 60 years) systematic archaeological excavations were carried out in the area.

**The Report:**

The researchers excavated three Roman houses, marked with Roman figures, from I to III.

House I:

The following method was used for the presentation of this house: the rooms were marked with letters, in alphabetical order, from 'a' to 'g' (resulting seven rooms), and the entrances were marked with Arabic figures, from one to ten. Its substructure was precisely determined (Pl. 4.).

The north-western gate's width was 4.75 m, which allowed two chariots to pass simultaneously. The wall thickness in front and on the side was 0.5 m, and in the back 0.75 m.

The entrance to the room 'a' could be made through doors 2, 3, and 4 (through door 4 one could directly enter and exit on the main road, there was no need to enter in the back yard). It was the largest room (it had the dimensions of: 6 × 10 m) and it was probably designed for servants or charioteers, it was actually a resting place.

Those with a high rank in society used room 'b' and 'c'. One could enter into the largest room (b; 4 × 10) also from the court through door 5, and one could also enter through door 6 into room 'c', which had also a separate door—number 7—from the road. From this point, door 8 (1.5 m long) was making the transition from room 'd', which was probably the kitchen. From this point, through door 10, one could exit into the interior court of the building. This door was situated opposite the entrance to the door 'f', which was undoubtedly the storehouse.

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<sup>84</sup> SZENTGYÖRGYI 1899, 244–247.

The room situated next to it, 'e', was probably a guest room. In this room one could enter from the kitchen, through door number 9.

The most monumental part of the Roman house is the *atrium*, a large open central court, half covered, from which the enclosed rooms led off.

#### House II:

For the description of this house (Pl. 5.), the researchers reversed their methodology, meaning that, the rooms were marked with Arabic figures, and the doors with letters. Often, in the case of a larger building, the owner used the first rooms as storehouses or as guest rooms. This is the case of the structure in question, where we find several *tabernae*.

The largest room is room 1, which has its entrance to the east. From this room, through the door 'a' we enter into room 2 and from here through the door 'b' into room 3. These three rooms are isolated from one another. Probably they served as "guest rooms". Room 2 and 3 were, taken together, as big as room 1. The kitchen was probably room 2.

Two storehouses had the same dimension ( $4.5 \times 4.5$  m) and were situated next to these rooms. Room 3a opened to the east, and room 4 to the west. Taking into consideration the fact that no room was found near these storehouses, it is likely that those who used them lived somewhere else.

Further on we find more storehouses. Storehouse 5 is small in dimensions ( $4.25 \times 2.5$ ), and this is why, it is likely that the tenant was living in room 6, next to it. Its entrance was from the east.

Behind it, there was storehouse 7, which had its entrance from west. This one was larger ( $4 \times 4.25$  m), for the next room, number 8, which was used by the tenant ( $4.5 \times 4.25$  m).

*Taberna* 7 was separated from *taberna* 9, by an unusually thick wall. *Taberna* 9 was  $4 \times 3.25$  m large, and the room next door (room 10;  $5 \times 4.5$  m) was probably used by the tenant.

From this point we enter the house. The western door ('e') was 5 m long and 1.75 m wide and opened in a long corridor, from where one could get into the *atrium* (number 12). This is the largest part of the

structure:  $6.25 \times 6.5$  m. In the middle there was a pool (number 13), 1.5 m long and wide.

From the *atrium*, the first room is the *tablinum* (number 14). This is the largest room, which was probably for welcoming the guests. From this point on could pass to the next room (number 15), which was probably a sleeping room, and through a door one could enter room number 16 which was the *oecus*, the place where the hostess took charge of the guests. From here one could exit directly into the *atrium*.

From the *atrium* one could enter the *triclinium* (room number 17), the dining room, and the small room on the corner (number 18), in which one could enter from the dining room. According to the first researchers, this was the storehouse or the child's room.

From the *atrium* one could enter room 18a (which probably had the same function as room 18), and room 19 was surely the kitchen. From the kitchen one could enter into a court (number 21), where two niches were found (1 m wide; numbers 22 and 23). From the court, door 'd' opens to the street. Through this door the tenants from the western side, servants, and family members, could enter to the landlord.

In conclusion, this structure had a small guest-house, composed of room number 1, 2 and 3. It had five *tabernae* (number 3a, 4, 5, 7, 9), and three rooms (numbers 6, 8, 10). Next, there was the actual house which had an *atrium* (12), a court (21) and nine rooms (numbers 14, 15, 16, 17, 18, 18a, 19, 22, 23). We can state that the owner of the building was for sure a rich man, being probably part of the town's *ordo*.

#### House III:

While the owners of the two previous houses were rich people, the owner of this house (Pl. 6.) lived in a small house, 11.5 m long and 4.5 m wide, near the bath. This building had only three rooms and the first one was rented (number 1). This can be observed on the plan as well, because it is separated from the other two rooms, having only a door, from the street. The other two were used by the owner, room number 3 being the bedroom.

**Some observations concerning the excavation report**

After reading part of the vast bibliography dedicated to the subject of Roman houses we have notice first of all that there are no two identical houses and secondly that we know very little on this subject for Roman Dacia. This is due to the fact that excavations were mostly done in the fortifications from the neighbouring area and only a few urban *villae* had been excavated. And areas that could have been properly investigated—such as the ancient cities of Apulum and Ulpia Traiana—were unfortunately destroyed by modern constructions.

Luckily we can get an idea about the Roman houses situated near military *vici*. Dragoş Blaga<sup>85</sup> researches this subject for his doctoral thesis. He analyses Vitruvius's work *De Architectura* and he superimposes the information over Dacian realities while at the same time bringing similar examples from the rest of the Empire, especially Pompeii<sup>86</sup>.

We turn back to Ulpia Traiana and analyse houses I and II. We can notice that the authors of the excavations present the plan of the buildings but unfortunately it is not represented proportionally and not all the dimensions of the rooms are given<sup>87</sup>. This makes it much more difficult for the present-day archaeologist trying to create a complete and correct image concerning the Roman houses from Dacia. In this context it is most likely that Gábor Téglás and Király Pál failed to excavate completely the building (probably because of financial matters, a constant problem as we have already stated) or we are faced with the same situation as in the case of the report concerning the excavation of the Syrian temple: the report was included by Pál Király in the monograph of Ulpia Traiana printed in 1891, 8 years after the excavations were finished. Probably the authors no longer had their complete notes and in time forgot the details.

Also we have tried to redefine the supposed child room from house no. II: From the *atrium* one could enter the *triclinium* (room number 17), the dining room, and the small room on the corner (number 18), in which one could enter from the dining room. According to the first

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<sup>85</sup> PhD candidate at the Babeş-Bolyai University, Cluj-Napoca, RO.

<sup>86</sup> BLAGA 2010, 49–60; BLAGA 2014, forthcoming.

<sup>87</sup> House no I, rooms: c, d, e, f. House no. II, rooms: 1, 2, 3, 6, 14, 15, 16, 17, 18.

researchers this was the storehouse or the child's room. In our opinion it is hard to believe that the room in question was the child's room because it was so far from the parents' room, in the first place, and second because it has no exit to the atrium, only to the dining room. Therefore it is likely, being also situated on the corner of the house, for it to be a storehouse, or maybe the servants' room. Unfortunately, the main authors do not present the archaeological materials, therefore having only the excavation's plan and not being located on the field, we cannot give more precise information. A description concerning the parts of a *domus*, the way they were built, the functions of the chambers and the way they looked like can be found in the monograph written by Michelle George; she analyses homes from the North-Italic area<sup>88</sup>.

We wish to end this subchapter by giving some analogies from the rest of the Empire. As mentioned above there are no two identical houses, they only resemble each other. Just like in the present day, the construction of a houses depended a lot on the climate, the sum of money to be spent, the land owned, the personal taste and last but not least the fashion. Mark Corney and Peter W. Cox offer a reconstruction of house III based on its plan<sup>89</sup>. We find an analogy for the most imposing house from Ulpia Traiana—house no. II—in the work of René Ginouvès<sup>90</sup>. We also find some analogies in the monograph of Michelle George<sup>91</sup>: in one of them we can see next to the *domus* the *via decumana*<sup>92</sup>. According to the report of the Hungarian archaeologists, one of the major roads passed in front of the houses<sup>93</sup>. When focusing on the areas surrounding Dacia, in Pannonia, we can see that Klára Póczy<sup>94</sup> and Katalin Ottományi<sup>95</sup> present the planimetric drawings of the houses excavated in Pannonia.

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<sup>88</sup> GEORGE 1977, 3–17.

<sup>89</sup> CORNEY, COX 2007, fig. 6, 13.

<sup>90</sup> GINOUVÈS 1997, Pl 87, no.4; Pl 88, no. 1.

<sup>91</sup> GEORGE 1977, fig. 20, 30.

<sup>92</sup> GEORGE 1977, fig. 4a.

<sup>93</sup> See also Aquincum: PÓCZY 1960, 26–28.

<sup>94</sup> PÓCZY 2004, 150.

<sup>95</sup> OTTOMÁNYI 2012, 14, 32.

Because of the climate of Dacia, the houses needed a heating system and the yards have a smaller surface as compared to those from Italy, for example. The organization of the open areas must be done carefully so that the heat needed during winter would not be lost through the walls; this must also be kept in mind in order to facilitate light entering the rooms from the back of the building.

By analysing the examples, an important conclusion can be drawn: in the houses from Aquincum, in a corner, there was also a bathroom for the inhabitants<sup>96</sup>, while at Ulpia Traiana no such room was found inside the constructions, neither in the excavation report nor represented on the plans. We would also like to mention the fact that houses number I and II are part of the group of houses with an inside court. There are many things that could point out the fact that Téglás and Király failed to completely excavate the complex and that is why we believe that some rooms are represented simply based on theory.

### 2.5. The Amphitheatre

Over the years, researchers paid special attention to Ulpia's amphitheatre (Pl. 7.). The first excavations took place in 1890, 1892–1893 and were led by Gábor Téglás, Pál Király and Gábor Szinte<sup>97</sup>. Even if the actual results were rather poor, the research *per se* had a great value mostly because following it, the amphitheatre was identified, the land which was private property was bought, and the excavation was interpreted.

The archaeological research was reopened between 1934 and 1936 by Constantin Daicoviciu. These results were briefly published. The only novel element was the exposure of the underground rooms and of the draining system which crossed the eastern gate<sup>98</sup>. The final restoration of the monument, in its present state, was made in between 1965–1972. Brief archaeological samplings were made between 1981 and 1987. The result of the 1993 research was surprising for the archaeologists, in this last

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<sup>96</sup> PÓCZY 1960, 26–42.

<sup>97</sup> KIRÁLY 1894, 109–129; SZINTE 1897, 35–38; KUUN, TORMA, TÉGLÁS 1902, 64–66.

<sup>98</sup> DAICOVICIU, ALICU 1984, 87–100.

campaign of archaeological research at Sarmizegetusa's amphitheatre, the wooden phase was identified<sup>99</sup>.

The Association of History and Archaeology from Hunedoara County has set as a goal, from the beginning, to research the Roman ruins from Dacia, particularly from Ulpia Traiana. It always had a vivid interest in the amphitheatre, but it succeeded only in July and August 1890 to start archaeological excavations, which were led by Téglás and Király. Fighting financial difficulties, they succeeded to expose only its northern side. The second issue was that the amphitheatre was on a private property, and HTRT succeeded, eventually, to buy the property for excavating the whole amphitheatre<sup>100</sup>.

Due to financial issues, in 1890 the excavation was suspended. Its reopening took place in 1892 (after two years) and Gábor Szinte joined the group. In 1893 the research carried out in the amphitheatre came to an end, information supported by a drawing made by the teacher Gábor Szinte, in 1893.

The main goal of this paper was to capitalize upon the archaeological research carried out before the First World War. This included the translation of the Hungarian literature. In the case of Ulpia Traiana's amphitheatre, the description of Pál Király<sup>101</sup>, and of Gábor Szinte<sup>102</sup> was translated by Sándor Ardós and Ferenc Papp<sup>103</sup>. Being an integral and correct translation we have decided not to reproduce the same information in the present paper.

### **3. The Museum of the Association**

A constant goal of the Association was to obtain a permanent building for its museum, where they could deposit and present objects representing the history of Hunedoara County<sup>104</sup>. Kun Róbert, secretary of the

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<sup>99</sup> ALICU 1997, 80–84.

<sup>100</sup> KIRÁLY 1894, 109–129; KUUN, TORMA, TÉGLÁS 1902, 64–66.

<sup>101</sup> KIRÁLY 1894, 122–129.

<sup>102</sup> SZINTE 1897, 35–38

<sup>103</sup> ALICU 1997, 116–122.

<sup>104</sup> KUN 1882, 158.

Association, wrote in his general activities report from the first year that, in spite of their effort, the general public still could benefit from the archaeological objects owned by the Association: "Apparently there is no space in Deva where the inscriptions found in such large numbers in the county can be deposited, (...), the Committee wrote to the Ministry of Cults and Education asking to mark the rooms from the castle from Hunedoara that are proper for housing the inscribed stones owned presently by the Association and for those that will be owned in the future"<sup>105</sup>. Finally, the committee rented a permanent area for the museum: the private house of Pogány Ádám from Deva, on Hunedoara street. On the 1<sup>st</sup> of August 1881 all the finds owned by the Association were moved in the above-mentioned house that will serve for a long period as Museum<sup>106</sup>.

On the 4<sup>th</sup> of February 1885 the Committee decided to send a letter to the management of *Magyar Nemzeti Múzeum* (Hungarian National Museum) from Budapest and ask them whether they have glass cases they no longer use and can donate for the museum of the Association. They had to appeal to the National Museum from Budapest because they received daily extraordinary artefacts that could no longer be deposited. On the 3<sup>rd</sup> of June 1885 the president of the Association announces that Ms Ádám Pogány is willing to close the access attic from the museum's antechamber and thus the surface of the museum would increase with one room, for an extra 20 forints in rent money. This was immediately accepted by the committee<sup>107</sup>. Until now no information was discovered about some answer from the *Magyar Nemzeti Múzeum* which leads us to believe that they did not donate anything for the museum from Deva.

The number of artefacts in the museum increased considerably because of archaeological research, field research, donations and acquisition of pieces. On the 6<sup>th</sup> of July 1887 after noticing that the space for the museum is already too small and the new discoveries could not be properly deposited, the Committee decided to rent the other two rooms of

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<sup>105</sup> BODÓ 2012, 382.

<sup>106</sup> KUN 1884, 85.

<sup>107</sup> BODÓ 2013, 361.

the building for 300 forints *per annum*. They had to do this because the Association was getting ready for the visit of the Austrian-Hungarian Emperor, Franz Josef, this took place on 18<sup>th</sup> September 1887. In this day, which was very important for the Association, the Emperor was awaited by Géza Kuun who thanked him for the honour. After, the greetings Franz Josef spent some time in the museum where he listened to Gábor Téglás who offered him information about the history of the county and he was very interested in the objects on display. At the request of the president of the Association the Emperor wrote his name in the Guest Book that was placed next to the Mithraic reliefs, respectively the finds from the temple. Also Franz Josef received as a gift the publications of the Association, Pál Király's book about the Mithraeum from Sarmizegetusa, respectively that of Gábor Téglás about the prehistory of the Transylvanian basin<sup>108</sup>. Before leaving, the Emperor of Austria-Hungary said the following: "Thank you. You gentlemen have gathered a lot in a very short time"<sup>109</sup>. To this those present answered "Éljen!" (Hung. "long may he live")<sup>110</sup>.

Only in 1916, after the death of Téglás Gábor, did Magna Curia become the official headquarters of the museum.

#### **4. The 19<sup>th</sup> Century Archaeological Technique**

While reading the sketches of the first archaeologists, we stumbled across some anecdotes, which reveal the importance of oral sources for the beginning of the archaeological research in Romania.

One of these anecdotes resulted while István Téglás was searching and measuring, in the summer of 1888, Trajan's road from Várhely (today: Sarmizegetusa) to Ostrov<sup>111</sup>. Téglás met several villagers and started to discuss: "What do you know about this ancient road?", was one of the first questions. The answers were different, some said that it was built by

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<sup>108</sup> KUN 1889, 143; BODÓ 2013, 374–375.

<sup>109</sup> "Köszönöm, önök roved idő alatt sokat gyűjtöttek".

<sup>110</sup> BALLUN 1909, 24.

<sup>111</sup> BAJUSZ 2005, 454.

giants; some said it was built by Jews, or even by “the emperor Franz Josef”<sup>112</sup>.

There is another similar story in the case of the amphitheatre. We notice that the Hungarian archaeologists wanted to involve the “public” in the archaeological research. Gábor Téglás went into the village to find out people’s opinions regarding their excavations. Looking at the amphitheatre from Ulpia Traiana, the villagers were able to say only that it was built by giants, sometime far away, when the earth was not yet inhabited by people. They invoked giants, fairies, the Satan, and even “Trajan and his ‘mother’ Maria Theresa”. As we can notice, they insert fantastical characters and they mix different characters<sup>113</sup>.

However, when making a deeper research, one can notice that once with Josef the II’s visit to Ulpia Traiana, in 1773, Hohenhausen presented him as the second Trajan. Sylvester Joseph von Hohenhausen, preoccupied by Roman archaeological issues, was deeply impressed by the multitude of relics, inscriptions and ruins, which confirmed the control of the Roman Empire in this part of Romania<sup>114</sup>. He was first of all a military man, but he was passionate about history. He worked on a book on Dacia’s relics from 24 June 1765 until 22 August 1767, while he was an officer in Transylvania. The book was published in Vienna, by the order and expense of Maria Theresa (1740–1780), in 1775 for the glorification of the first visit made by Joseph II (1765–1790) in the Great Principality of Transylvania, in 1773, while he was only co-ruler (1765–1780). Hohenhausen writes that two emperors visited Transylvania: Trajan and Joseph II. The author dedicated the volume to Maria Theresa, and he mentions that she is the one charged with the protection of the Roman monuments and relics from Sarmizegetusa and Transylvania, not only as an empress and the ruler of this province, which was the greatest acquisition, but also for being “Royal Mother” of the second Trajan,

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<sup>112</sup> It comes as no surprise that the boy answered like this; as we know the Austrian-Hungarian Emperor did visit Hunedoara County in September 1887. For the boy this was his “conception of the past”.

<sup>113</sup> KUUN, TORMA, TÉGLÁS 1902, 64–66.

<sup>114</sup> HOHENHAUSEN 1775.

Joseph II<sup>115</sup>. Seeing things from this point of view, it is not surprising that when the Hungarian archaeologists arrived in the area, the simple men confused things. They overheard these stories from their families, fathers, grandparents and they became convinced that Trajan and his mother, Maria Theresa existed (they knew both existed, but after Hohenhausen's presentation the situation became unclear). Gábor Téglás, following this information, considered the people from Várhely unwitting; of course, he mentioned that he did not know about Hohenhausen's book from 1775.

Reading these stories, one could notice the first archaeologists' curiosity towards the villagers' opinions. Sometimes these amuse them, sometimes they are displeased by their attitude, but in most cases one can read gratitude towards them. Also we have noticed an important thing while reading these stories: behind every phrase said in the 19<sup>th</sup> century there is a grain of truth. A grain of truth probably unknown to the first researchers of Ulpia Traiana and that is why they looked amazed at the inhabitants of Várhely. Now it is our duty to research these words in order to rediscover the truth and thus contribute to the image of the Roman period in Transylvania as viewed in the 19<sup>th</sup> century. By analysing the phrases "Traian and his mother Maria Thereza", respectively the fact that a 20–25 year old man considered that Trajan's road was built by Franz Josef we can notice the conception of the ordinary people of the 19<sup>th</sup> century about the past, what it means to them and how back in time they can go.

Through the archaeological reports one can notice, the desire to reveal and protect all of the existing buildings! The researchers carried out their work with great attention and care. Of course, from the reports one cannot tell if they made sections, but they rendered faithfully in writing the extent excavations' report.

It is worth mentioning that in the excavations report they recorded very accurately the finding place of the artefacts, the building's

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<sup>115</sup> Before this message, the empress' decision to publish, on her expense, Hohenhausen's volume is comprehensible. Moreover, on page 10, Hohenhausen urged Maria Theresa to inspire her successor the same military and governing qualities once proved by Emperor Trajan.

dimensions, their own interpretation (always bringing analogies from the Empire). Besides the actual text, we always find in the annexes plans, drawings of the buildings, and in István Téglás's journal<sup>116</sup> we find drawings of the artefacts. Thanks to him, we have a more precise chronology (months and days) of their activities and about the daily life of an archaeologist at the beginning of the 20<sup>th</sup> century<sup>117</sup>.

Reading these reports we have noticed that they do not give dimensions for all the rooms, especially in the case of private Roman houses. Also, besides Mithras' sanctuary, archaeological artefacts are not described, which makes it difficult to give a proper interpretation. Unfortunately, besides the amphitheatre the other buildings discussed cannot be identified in the field. Many of them were destroyed by villagers before the arrival of the Hungarian archaeologists: "*Ecce, quid non fecerunt barbari, hoc destruxerunt christiani!*"<sup>118</sup>.

The buildings found by the Hungarian archaeologists in between 1881–1893 can no longer be located in the field except for the amphitheatre; this is because archaeological research was continued in the following years (1934–1936, 1981–1987, 1993). The destructions did not take place in ancient times, no matter how strange this may sound. The plans and writings of medieval scholars, Austrian officers or academics indicate that a systematic dismantling of the researched monuments started only in the 20<sup>th</sup> century. In 1902, when Sarmizegetusa was visited by a group of 30 tourists from Bucharest the buildings were still standing<sup>119</sup>. Fortunately the reports written in the 19<sup>th</sup> century are thorough, both topographically and historically. Their safeguarding depends firstly on them being correctly registered. This involves analysing Hungarian documents, topographic measurements and

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<sup>116</sup> BAJUSZ 2005.

<sup>117</sup> BAJUSZ 2006, 323–339.

<sup>118</sup> LUGOSI-FODOR 1844, 347: A fact stated by a participant at a medicine conference in Cluj, on 20 September 1844, when András Lugosi Fodor presented Sarmizegetusa's ruins. After the conference, the attendees visited the ancient cities from Hunedoara county.

<sup>119</sup> TÉGLÁS 1904, 447–453; LAZĂR 1982–1983, 45–54.

verifying gathered information with geophysical measurements with the ground-penetrating radar and with a system for measuring the electrical resistance of the soil.

We can notice some “salvaging” of the ancient monuments in the 19<sup>th</sup> century by the members of the Association: during the winter of 1884, Gábor Téglás along with Pál Király studied the coins owned by Ádám Buda. As well they wanted to buy them, to save them from disappearance. The members of the Association also succeeded in buying other artefacts such as eight marble reliefs and a statue of Diana made of Bucova marble. Also, on the 2<sup>nd</sup> of July 1884 the Committee asked the vice-committee to instruct the leaders of the villagers and the jurists, so that alongside the representatives of the Association, they should convince villagers to ask a fair price for “stones with inscriptions” and other archaeological objects they might have; also they should not ask great sums of money for objects of small value<sup>120</sup>.

Until now we have managed to identify 11 persons who lived in Várhely during that time, respectively four houses where excavations were conducted: Christján Athanása (house no. 148), Elek Tornya, Sándor Tornya, János Janza, Alexa Arion, Áron Ármion, Petru Muntyán, Simeon Gircsik, Simion Ulpian, János Kurtján, Ádám Buda, respectively houses no. 85, 109, 186, 187. In the future they should be identified in the field and where possible, the information should be verified by geophysical means.

Further we wish to briefly present the prices in Transylvania for the time period that concerns this study. This will enable the reader to get an idea, by comparison, about the salaries paid and the finances of the Ulpia Traiana archaeological dig site<sup>121</sup>.

In the months July–August, considered the most important months for fieldwork, the average price for a workday, without food, was 0.70–0.90 florins/day. In Hunedoara, where day laborers were easy to find, a day of work without food cost 0.65 florins. The yearly income of a worker in the 1860s was about 90–160 florins, that of a teacher 120–150 florins. A

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<sup>120</sup> BODÓ 2013, 362–363.

<sup>121</sup> Here I would like to thank to Dr Vlad Popovici for his help in introducing the economy from the period 1850–1914 in the discussion.

clerk on the lowest position earned more than 180–200 florins/annum but his salary could go as high as 1000 florins<sup>122</sup>. The salaries of the employed at the Călan steelworks was—in crowns per day: 0.70–0.90 (1897), 1.50 (1898), 2.60 (1899), 2.40 (1900), 2.50 (1905–1907)<sup>123</sup>. Slavici, who was the director of the *Tribuna* editorial board, received an yearly salary of 2000 florins, father Nicolae received 5 florins for each article, Pompiliu Pipos, between 1894–1891, received 800 florins, Septimiu Albini 700 florins, and Ioan Brândă 360 florins per year<sup>124</sup>.

The main goal of this paper was to capitalize on the value of the archaeological research carried out before World War I. This meant, first of all, the accurate translation of the Hungarian archaeological excavation reports, which was either completely or only partially done before.

After having said this, we can state that the Hungarian archaeologists, led by the HTRT, were the first ones to carry out a systematic excavation in Ulpia Traiana, marking in this way the beginning of Roman archaeology in the area.

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<sup>122</sup> BALOG 2007, 212–217.

<sup>123</sup> NAGY 2011, annex 18.

<sup>124</sup> POPOVICI, RUȘETȚ 2010, 38–44.

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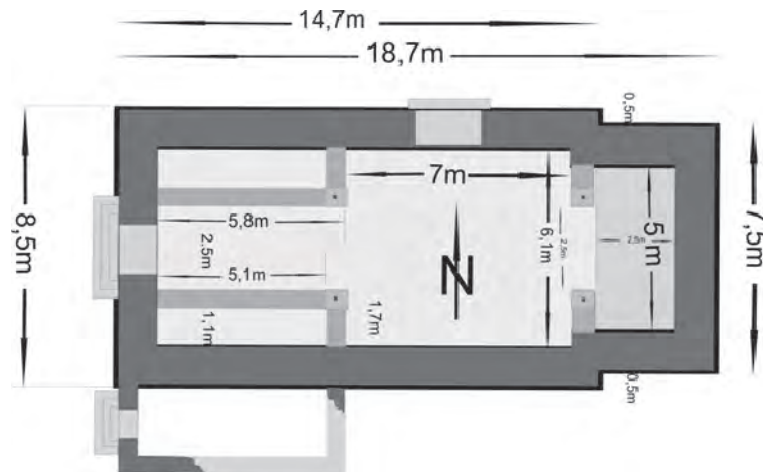


Plate 1. Plan of the temple of the Palmyrene Gods  
(after DIACONESCU 2011)

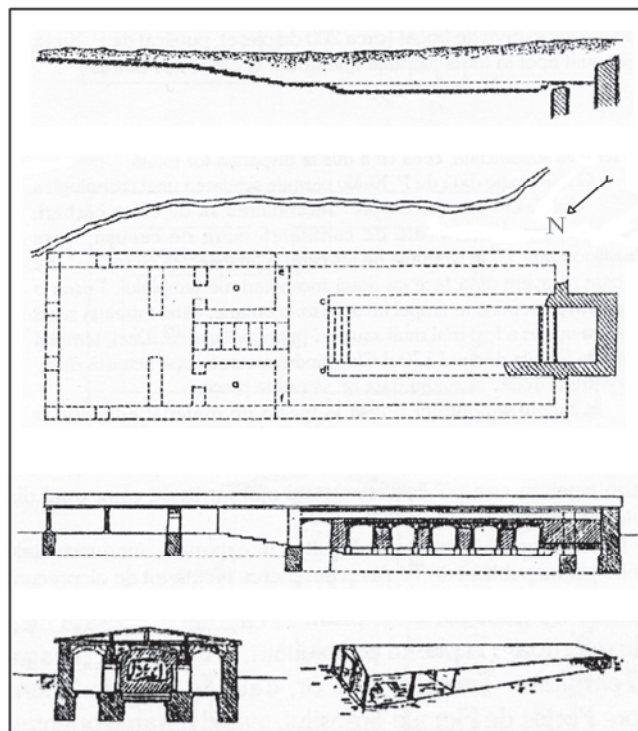


Plate 2. Plan of the sanctuary of Mithras (after CARBÓ GARCÍA 2010)

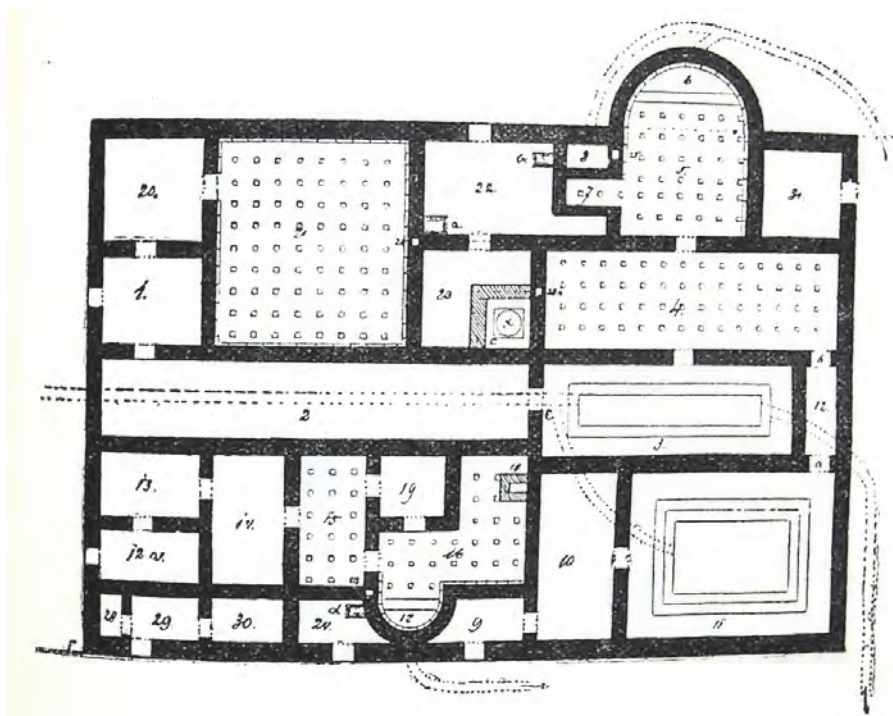


Plate 3. Plan of the roman bath (after KIRÁLY 1891)

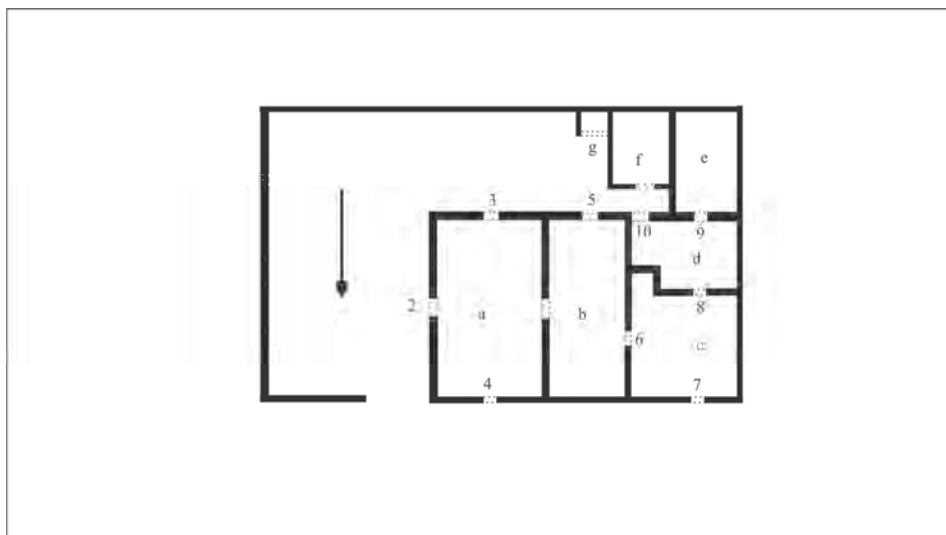


Plate 4. Plan of the roman house I (after KIRÁLY 1891)

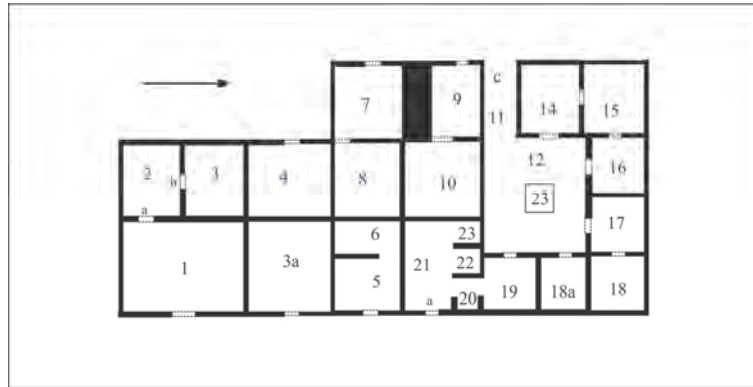


Plate 5. Plan of the roman house II (after KIRÁLY 1891)

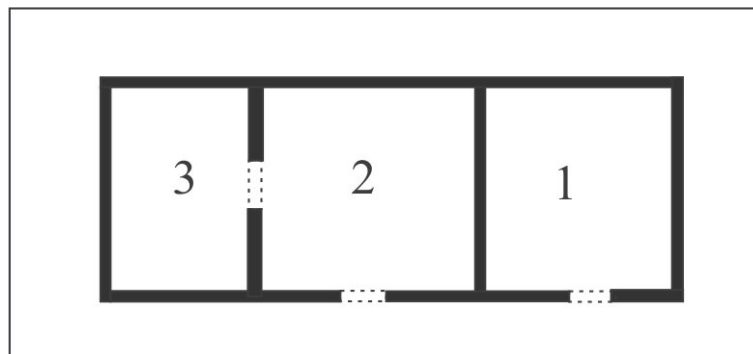


Plate 6. Plan of the roman house III (after KIRÁLY 1891)



Plate 7. Plan of the amphitheatre (after SZINTE 1897)



**SUSPENDING LIGHT DEVICES FROM SCYTHIA MINOR\***

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**Keywords:** suspending light devices, glass lamps, Scythia, early Byzantine period.

**Abstract.** *The authors present a series of suspended light devices discovered in Early Byzantine settlements from the province of Scythia. The finds were discovered in Halmyris/Murighiol, Beroe/Piatra Frecăței, (L)Ibida/Slava Rusă, Tomis/Constanța, Capidava, Ulmetum/Pantelimonul de Sus, and Tropaeum Traiani/Adamclisi. The archaeological contexts of these finds are mostly unclear, but we believe that were used for illuminating civilian houses, military barracks, warehouses and religious places.*

**Rezumat.** *Autorii prezintă o serie de piese din bronz folosite pentru suspendarea pieselor de iluminat descoperite în așezările bizantine timpurii din provincia Scythia. Agățătorile au fost descoperite în fortificațiile de la Halmyris/Murighiol, Beroe/Piatra Frecăței, (L)Ibida/Slava Rusă, Tomis/Constanța, Capidava, Ulmetum/Pantelimonul de Sus și Tropaeum Traiani/Adamclisi. Contextele arheologice ale descoperirilor sunt, în majoritate, necunoscute dar considerăm că acestea au fost folosite pentru iluminatul în construcții civile, barăci militare și edificii cu caracter religios.*

**Introduction**

In 2011 at Thessaloniki, an ILA Round-Table<sup>4</sup> took place, and an impressive catalogue of exhibition was printed with this occasion. This catalogue was prompted by a beautiful exhibition about lighting in the Byzantine age and covered the entire spectrum of lighting devices used in this period. It is therefore no surprise at all to find inside this outstanding

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<sup>4</sup> International Lychnological Association (ILA) — [www.lychnology.org](http://www.lychnology.org)

catalogue<sup>5</sup> a small discussion regarding the supporting and suspending light devices used in Byzantium. The overview is interesting as among the archaeological materials found inside early Byzantine settlements in Scythia, a series of suspending devices have been found and were, generally, neglected.

The aim of this paper is to present several finds discovered in the northern side of the province and in the south as well. The finds were uncovered at *Halmyris*/Murighiol, *Beroe*/Piatra Frecăței, *(L)Ibida*/Slava Rusă, *Tomis*/Constanța, *Capidava*, *Ulmetum*/Pantelimonul de Sus and *Tropaeum Traiani*/Adamclisi (**fig. 1**). For some of the artefacts the archaeological contexts are mostly unclear, but we believe that were used for illuminating civilian houses, military barracks, warehouses and religious places.

#### **Archaeological context of the finds**

The suspending light devices found at *Halmyris*/Murighiol, on the Sfântu Gheorghe branch of the Danube, were discovered in unclear contexts (**fig. 2/2–4**). Two of them were uncovered in 1991, probably in Early Byzantine habitation levels. The character of the occupation is probably civilian, without any connection with religious usage. No suspending light devices have been reported so far during excavations inside the *Basilica with crypt* of Epictetus and Astion<sup>6</sup>. The third example was a stray find in the area of the “civilian settlement”, south of the fortress in 2001.

Fieldwork in 1958 and later at *Beroe*/Ostrov, on the Danube, delivered several fragmentary suspending light devices (**fig. 3/5/6**). The archaeological context is also unclear, although glass lamps’ bases were discovered inside the cemetery of the city<sup>7</sup>. A different situation is met in the case of ancient *(L)Ibida* where excavations inside the city and the monastery located three kilometres West of the city provided a series of suspending light devices. A fragmentary polyangistrion has been recently found on the Tower 8 sector on a 5<sup>th</sup>-century occupation level and is

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<sup>5</sup> MOTSIANOS, BINTSI 2011.

<sup>6</sup> ZAHARIADE 2002-2003, 143–168; ZAHARIADE 2009, 131–150.

<sup>7</sup> PETRE 1987, pl. 83/120b, grave E226.

unpublished<sup>8</sup>. Opaiț on the other side, mentioned several fragments of suspending light devices discovered during researches at the monastery (4<sup>th</sup>–6<sup>th</sup> centuries AD), but he illustrated a single find (**fig. 2/1**). This one is fully preserved and still retained the Maltese cross in upper side and the three-hooked arms<sup>9</sup>. Three types of glass lamps are also illustrated and the suspending light devices may be connected with the three-ansae variety<sup>10</sup>, while for the conical-base variety<sup>11</sup> polykandela or single lamp-holders set into the walls were probably used.

During the archaeological campaigns carried in the mosaic-floored edifice from Constanta, in the 1950s and 1960s, a various and very rich inventory was brought to light. It is now displayed in the Museum for National History and Archaeology's showcases or kept in its storerooms. Some of these discoveries have already been analysed and published in scientific studies, or only presented in papers or guides designed for tourists or for popularization purposes. Sadly, the metal objects have not been thoroughly or fully analysed yet. Only scarce information was included in general studies or more detailed and specialized in recent ones. Over 50 years have passed since their discovery, therefore today the only information we have on their discovery context comes from the Inventory Registers. For some of them there is scattered and general information included in archaeologists' field notes. These two lamp-holders (**figs. 4/8 and 5/9**) both come from the mosaic-floored edifice, but the information we have on them is incomplete, especially when speaking about the context of their discovery. One of them bears no visible inventory number. While consulting the Inventory register the possibility that both of them have the same number emerged. Unfortunately there is no exact place of discovery registered. Since they were found in 1960, by consulting the excavation notes, we can assign them to one of the following parts which were researched in that year: the upper level — mosaic floored hall — *podium* area, the southern part of the hall or the

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<sup>8</sup> The authors wish to thank Prof. Lucrețiu Bîrliba (Iași) for this information.

<sup>9</sup> OPAIȚ 1990, 24, pl. 10/67.

<sup>10</sup> OPAIȚ 1990, 24, pl. 10/56–62.

<sup>11</sup> OPAIȚ 1990, 24, pl. 10/63–64.

*vestibulum*<sup>12</sup>, vaulted rooms B1 and B2, annexes in front of B1 and B2 and the debris or mixed strata in B4<sup>13</sup>. Even if there are no exact details regarding the context of discovery and we cannot assign them to a clear archaeological context, these artefacts are still important. Their existence there, along with other Byzantine items, confirms the fact that the edifice was still functional in this period.

During the systematic archaeological excavations, in the summer of 2014, at *Ulmetum*/Pantelimonul de Sus, in a pit (G34) found near the apsis of the basilica, a fragmentary suspending light device was found (**fig. 5/10**). The archaeological context in which the artefact was found distinguished itself by a very large capacity — about 2.50 m in diameter and a depth of -5 m from the current level. The material discovered there indicates a use of the pit in the last quarter of the 6<sup>th</sup> century AD, also sustained by the coins from the time of the Byzantine emperor Justin II (565–574 AD). In the filling top of the pit there were numerous elements that demonstrate most likely the disposal of the basilica (stones, tiles and roof tiles, glass windows). In this circumstance, we believe that the suspending light device was used for illuminating the basilica and can be dated in the 6<sup>th</sup> century AD.<sup>14</sup>

In the same year during the excavations at Capidava another fragmentary suspending light device (**fig. 6/11**) was found in the East sector of the citadel. The piece was discovered inside room C6, under the fallen roof tiles near the wall of the chamber, in a layer of rubble dated to the second half of the 6<sup>th</sup> century AD (a coin from 540 AD, emperor Justinian I's thirteenth year of rule, was found in this context). Near the artefact, fragments of wooden beam occurred, which can be associated with the bar from which the suspending light device was hanging<sup>15</sup>. On its hook, a small fragment from a glass lamp is preserved, and this is another

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<sup>12</sup> Doina Galbenu 1960, excavation notes, inv. no. 3740, MINAC archives.

<sup>13</sup> Al. Bogdan 1960, excavation notes, inv. no. 3741, MINAC archives.

<sup>14</sup> BĂJENARU, NOPCEA, VASILESCU 2014.

<sup>15</sup> For a reconstruction of this suspending light devices see the example found at *Novae*/Svishtov – OLCZAK 1984, 280, fig. 13.

reason we believe that it can be dated to the first decades of the 6th century AD<sup>16</sup>.

Unfortunately, the context of the suspending light device discovered at *Tropaeum Traiani*/Adamclisi (**fig. 4/7**) is lost. The rich religious and economic life in this citadel is well-known, so it is not surprising that artefacts such as these are discovered in the city founded by Emperor Trajan. In the following, we will present a catalogue of the suspending light devices.

### Catalogue

**1. Suspending light device** — (L)Ibida 1987, monastery, quadrant C14, -0.55 m (**fig. 2/1**). ICEM<sup>17</sup>, inv. 41983.

Copper alloy. Fully preserved. Two metal strips form a Maltese cross in the upper side; three-hooked arms in the lower side. H of the cross: 4.2 cm. Bibliography: OPAIT 1990, 24, 27, no. 67, pl. 10/67.

**2. Suspending light device** — Halmyris 1991, trench 3, -2.05 m (**fig. 2/2**). ICEM, inv. 43704.

Copper alloy. Partially preserved. Central wire is preserved, ends with a hook; two other parts are interlinked. Made of circular wire. H: 13.2 cm.

**3. Suspending light device** — Halmyris 1991, trench 3, -2.05 m (**fig. 2/3**). ICEM, no inventory number.

Copper alloy. Partially preserved. Three parts are still preserved: the central one consists in a small hook connected with a rectangular-shaped plat ended with circular holes; in the lower part a wire is partially preserved. H: 12.8 cm.

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<sup>16</sup> With this occasion, we would like to express our gratitude to Mr. Tiberiu Potârniche and Dr. Constantin Băjenaru from the History Museum of Constanța for supporting us in the research, and for the useful information that they provided us on the contexts in which the suspending light devices discovered at Capidava and Ulmetum.

<sup>17</sup> Institutul de Cercetări Eco-Muzeale "Simion Gavrilă" / "Simion Gavrilă" Eco-Museum Research Institute Tulcea, History and Archaeology Museum.

**4. Suspending light device** — Halmyris 2001, “civilian settlement”, south of the fortress, stray find (**fig. 2/4**). ICEM, no inventory number.

Copper alloy. Lower end of a suspending device, only the terminal hook and a small fragment of the wire are still preserved. H: 6.2 cm.

**5. Suspending light device** — Beroe 1958, trench XV B (**fig. 3/5**). ICEM, inv. 34809-34810.

Copper alloy. Fragmentary, one metal plate is missing. Two parts of a three-hooked polyangistrion. H: 27 cm.

**6. Suspending light device** — Beroe, on the sector III (**fig. 3/6**). ICEM, inv. 35631.

Copper alloy. Four fragments of three-hooked polyangistrion. The first is a ring-ended plate with three fragments of small hooks; the other three fragments belong to the arms. Probably two different lamp-holders. H: 5–10 cm.

**7. Suspending light device** — Tropaem Traiani (**fig. 4/7**). MINAC<sup>18</sup>, inv. 4757.

Copper alloy. Fully preserved. Three-hooked arms. H: 28 cm.

**8. Suspending light device** — Tomis, “Roman mosaic edifice” (**fig. 4/8**). MINAC, inv. 20048.

Copper alloy. Fully preserved. Three-hooked arms. H: 37 cm.

**9. Suspending light device** — Tomis, “Roman mosaic edifice” (**fig. 5/9**). MINAC, no inventory number.

Copper alloy. Partially preserved. It was discovered with only two arms. The third arm seen in the illustration (**fig. 5/9/3**) is a modern reconstruction by the restorers from the Museum of History in Constanța. Three-hooked arms. H: 25 cm.

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<sup>18</sup> Muzeul de Istorie Națională și Arheologie Constanța / National Museum of History and Archaeology from Constanța (MINAC).

**10. Suspending light device** — Ulmetum 2014, south sector, inside the Basilica, G34 (**fig. 5/10**). MINAC, no inventory number.

Copper alloy. Almost fully preserved. It was found broken in a lot of pieces. A small part from one of the hooks is missing. Three-hooked arms. H: 24 cm.

**11. Suspending light device** — Capidava 2014, east sector, room C6 (**fig. 6/11**). MINAC, no inventory number.

Copper alloy. Partially preserved. Only one of the three arms has been discovered. On its hook a small fragment from a glass lamp is preserved. Because of the massive destruction level in which it was found, the arm is twisted. H: 12 cm.

### Comments

Lamp holders of various types are frequent discoveries in early Byzantine provinces. Some finds were discovered south of the Danube, but a fairly large number of pieces were brought to light on the area of the Balkan Peninsula. As for example, one cross-shaped suspending light device was discovered at Hissar, 42 km from *Philippopolis*/Plovdiv, Bulgaria, in the Basilica no. 5. The cross has the inscription ΦΑΠΙΟΥ ΓΡΕCΒΥΤCΠΟΥ engraved on the surface and has been dated in the 5<sup>th</sup>–6<sup>th</sup> centuries AD. The basilica was built in this period, and has a central apse and a simple narthex<sup>19</sup>. Other simple lamps-holders were discovered at *Abritus*/Razgrad in Moesia Secunda, in a basilica in 4<sup>th</sup>–5<sup>th</sup> centuries AD context<sup>20</sup>.

The cross-shaped suspending light device is attested at *Byllis*/Vlorë in Albania, inside the basilicas investigated here<sup>21</sup>. Complex-suspending devices, both with cross terminal and simple parts, were discovered on the spot in 5<sup>th</sup>–7<sup>th</sup> centuries AD contexts. This finds were associated with liturgical usage, but also with everyday life, because some were discovered inside the annexes of the *Basilica B*. Suspending common eight-shaped chain mails from chains and the inferior parts are hook-like

<sup>19</sup> IVANOVA 1937, 232–255, figs. 211–212.

<sup>20</sup> RADOSLAVOVA, DZANEV 2007, 375, fig. 3.

<sup>21</sup> NALLBANI 2002, 683, figs. 18–19.

shaped to fit the glass lamps' ears. Beside glass lamps, brass lamps were also used. One such example was discovered inside the *atrium* of the *Basilica B* and was probably used for lighting, and not for liturgical purposes.

The chronology may prolong in middle Byzantine period. Several examples are known from Preslav in 13<sup>th</sup> century AD and are similar with earlier finds<sup>22</sup>. These artefacts are pieces of glass lamps. In 10<sup>th</sup>–11<sup>th</sup> centuries AD a suspension used for polykandela was unearthed at Beycesultan, near present-day Çivril, Turkey<sup>23</sup>. Parallels for this object are earlier, in 5<sup>th</sup>–6<sup>th</sup> centuries AD contexts, across the Byzantine world<sup>24</sup>. A new find from Sulumağara, near Islahiye, Turkey, shed new light on these hanging devices used for religious purposes. This find was discovered in the choir of the church and probably hung under the ceiling of the nave<sup>25</sup>.

The primarily<sup>26</sup> purpose of the suspending light devices was to secure a variable number of glass lamps. The simple ones consist in a central chain or copper alloy flattened strip with a ring on its end; three other arms were interlinked and ended with hooks for attaching to the three loops of the glass lamps. Polykandela are complex devices used for suspending a variable number of conical glass lamps.

Glass lamps were intensively used in Early Byzantine period, but their roots must be sought in the 3rd century Egypt and Levantine area<sup>27</sup>. During the 4<sup>th</sup>–6<sup>th</sup> centuries, they will gradually spread across the Byzantine provinces because of a series of specific advantages. In Scythia, the excavations inside urban and rural settlements yielded a large number of glass lamps<sup>28</sup>. A fine example is the glass lamp deposit discovered

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<sup>22</sup> ALADŽOV 1996, 81, figs. 4–5.

<sup>23</sup> WRIGHT 2000, 163, 167–168.

<sup>24</sup> For a discussion regarding suspending light devices see XANTHOPOULOU 2010, 54–56 and CHRZANOVSKI 2014, 256–257.

<sup>25</sup> FEUGÈRE 2008, 283–285.

<sup>26</sup> One can mention also another types of lighting devices or used for ritual purposes as kandelaor *thuribula*. For a discussion regarding the functionality of early Byzantine *thuribula* see PARASCHIV, NUȚU 2005, 339–349.

<sup>27</sup> MOTSIANOS 2011, 107.

<sup>28</sup> BĂJENARU, BĂLTĂC 2000–2001, with bibliography.

inside the NE annexe of the Bishopric Basilica of Histria in 1990<sup>29</sup>. Conical base lamps used for polykandela prevail in large numbers inside this assemblage, followed by kandelai with a raised base and three loops for attaching, and bowls with hemispherical handles (*Isings Form 134*). In spite of the large number of glass lamps discovered at Histria, only a few fragments of suspending light devices survived over time<sup>30</sup>. A production centre for glass lamps was discovered south of the Danube, at Gradishte, near Gabrovo in Bulgaria<sup>31</sup>. Other ubiquitous forms specific to the early Byzantine era—the stemmed goblets—were also used for illuminating, as their frequent occurrences in secular and Christian churches prove. A large number of this type of vessels is recorded in the province of Scythia<sup>32</sup>, and starting with the 5<sup>th</sup> century AD they become the main vessel-form in the Byzantine provinces<sup>33</sup>.

The analyses undertaken in the previous pages show that during the early Byzantine period, close links existed between the material culture of Scythia and that of various areas of the Balkans and Asia Minor. Illuminating devices used in houses, in churches or military buildings were standardised and local/regional or supra-regional workshops supplied civilian, religious and military demands.

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<sup>29</sup> BĂJENARU, BĂLTĂC 2000-2001, 469–513.

<sup>30</sup> BĂJENARU, BĂLTĂC 2000-2001, 479, 481, fig. 5.

<sup>31</sup> KOIČEVA 1990, 36–46.

<sup>32</sup> BOȚAN 2008-2009, 14–15.

<sup>33</sup> GOLOFAST 2009, 315.

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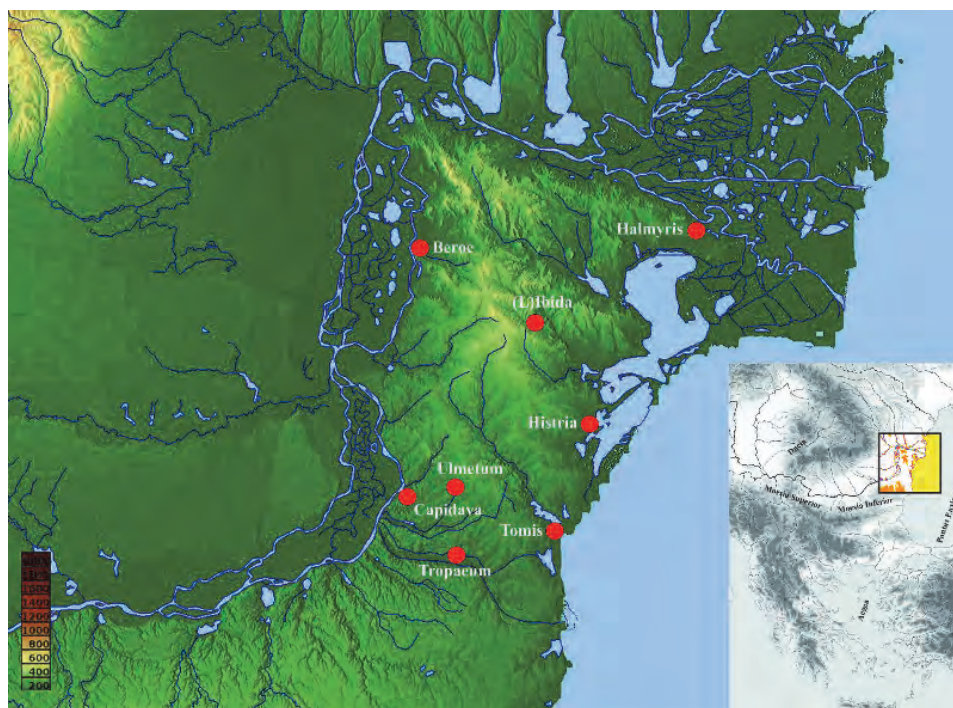


Figure 1. Distribution of the suspending light devices in Scythia



Figure 2. Suspending light devices from: 1. (L)Ibida; 2-4. Halmyris

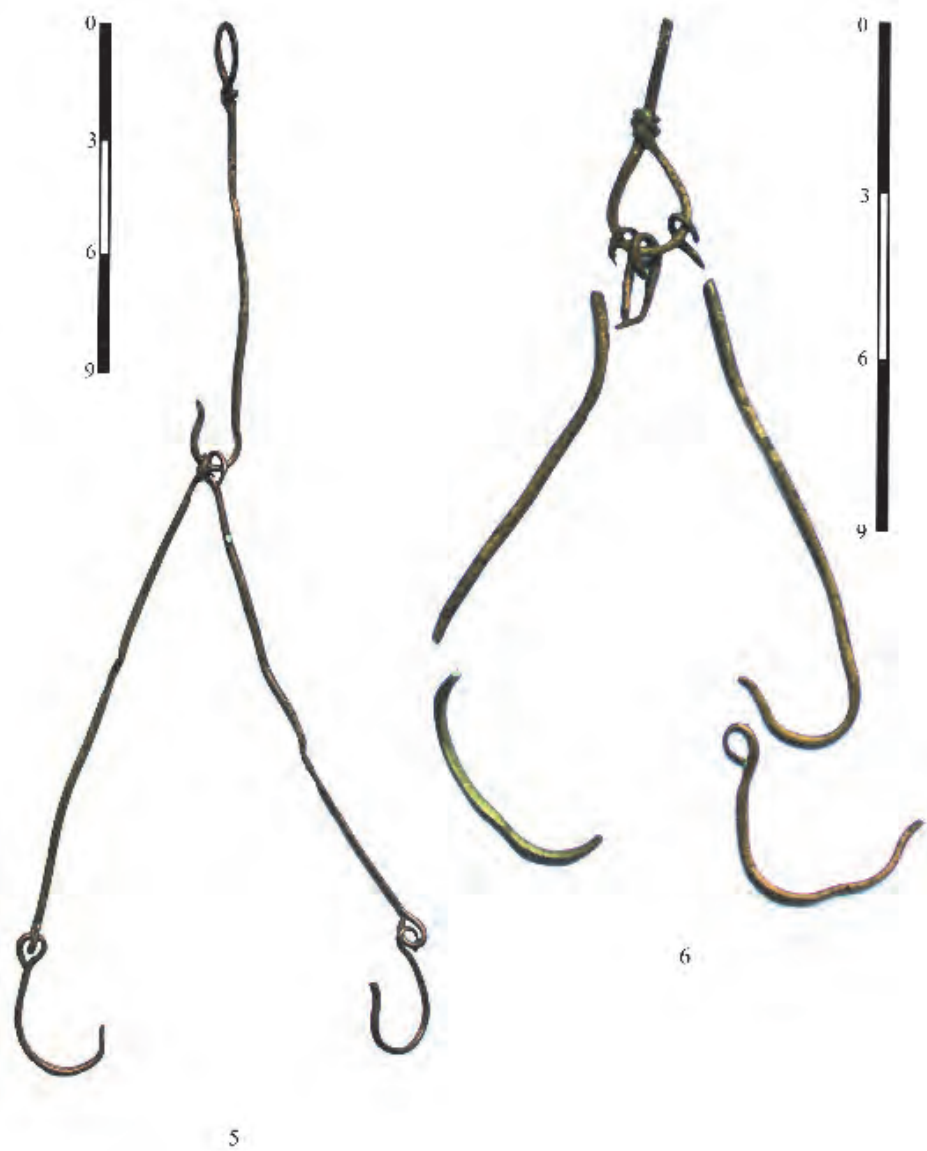


Figure 3. Suspending light devices from Beroe



Figure 4. Suspending light devices from: 7. Tomis; 8. Tropaeum Traiani



Figure 5. Suspending light devices from: 9. Tomis; 10. Ulmetum

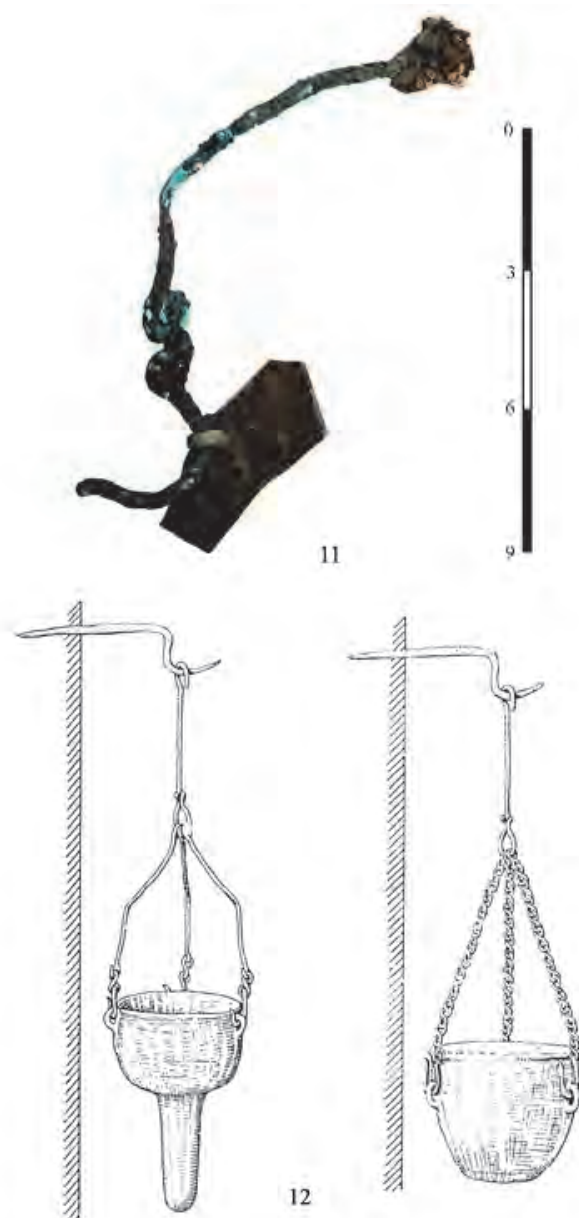


Figure 6. 11 - Suspending light devices from Capidava; 12 – Ideal reconstruction of suspending light devices from Novac 4<sup>th</sup>-6<sup>th</sup> century AD (drawing after OLCZAK 1984)

GREEK AND LATIN AUTHORS ON THE  
CARPATHIAN-DNIESTRIAN TERRITORY:  
AN ANTHROPOLOGY OF PERCEPTIONS\*

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**Keywords:** source theory, Greek and Latin authors, Carpathian-Dniestrian territory.

**Abstract.** *The paper focuses on the lexemes and expressions emphasized by the concepts of autopsía, akoé and autopátheia. Our research analyse these concepts in the works produced by historians, geographers and poets and the way that their perception on certain events is influenced.*

**Rezumat.** *Lucrarea se axează pe lexemele și pe expresiile puse în evidență de conceptele de autopsía, akoé și autopátheia. Cercetarea noastră analizează aceste concepte (așa cum sunt întâlnite în lucrări scrise de istorici, geografi și poeți) și modul în care a fost influențată percepția acestor autori cu privire la anumite evenimente.*

### **Introduction**

This paper aims to explore the different types of perception of the Carpatho-Dniestrian territory, as reflected in ancient literary sources. Our approach, based on the difference between professional (historians and geographers) and non-professional authors (especially poets), presents important implications for the endeavours that attempt to reconstruct the protohistory of the area in question. We provide a classification of ancient

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authors, following criteria which are found in the concepts of *autopsía*, *akoé*, and *autopáttheia*. I mention the fact that I have used these three concepts on exegetical grounds, with the terms that designate them not having been employed by the cited authors. The taxonomy proposed is relevant to the credibility of historical information provided by literary sources.

The Carpathian-Dniestrian territory progressively catches the attention of the Greek and Roman authors, initially through simple general mentions and considerations, developing afterwards into detailed presentations. Though the ancient literary sources do not have the same historiographical value, the simplest reference to this area or the adjoining territory was sufficient to produce reverberations in the minds of authors with various backgrounds and of different calibres. From the perspective of *source theory*<sup>2</sup>, we have included in our analysis a selected and non-exhaustive collection of several fragments from historians, geographers, and poets. We will not discuss the controversies related to the presence or non-presence of these authors in the mentioned territory; our selection of excerpts was based only on the authors' appeal to lexemes or expressions denoting their own autopsy and personal experience or information heard from another source concerning the area in question<sup>3</sup>.

#### ***Autopsía, akoé, and autopáttheia as historical sources***

It is common knowledge that ancient historiography displays a constant preoccupation not only for the information in itself, but also for the way it was obtained. Thus, a distinction was made between three types of

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<sup>2</sup> MORENO LEONI 2008, 150.

<sup>3</sup> See, for example, the recent exegesis on the credibility of Herodotus' work (VULPE 2009, 117–119), Dion Chrysostomos travel to the Getae (DANA 2001, 27; 2011, 13–14) or the famous case of Ovidius relegation at Tomis (LUISI, BERRINO 2008; MCGOWAN 2009; see also the discussion concerning the "subjectives/objectives arguments" of the exile at EZQUERRA 2010, 107–126, with an updated bibliography).

historical perception: αὐτοψία (“seeing with one’s own eyes”)<sup>4</sup>, ἀκοή (“hearing, sound heard sense of hearing”)<sup>5</sup>, αὐτοπάθεια (“one’s own experience”)<sup>6</sup>. In order to prove the truthfulness of the information, one of the most important characteristics of the historical narrative act is the *autoptic* perception. The idea of autopsy as historical source appears both in the Greek and the Latin historiography and a whole series of papers in the exegesis has valorised this concept<sup>7</sup>. For the Greeks, *autopsía* was one’s own visual perception, the author’s presence in the area he is writing about<sup>8</sup>. The *akoé* type of perception comprises the information directly heard by the historian, as well as the questioning of eye witnesses. It also implies taking over information based on the visual (auditory) perception of another person (including information provided by other authors)<sup>9</sup>. *Autopátheia* implies the personal experience of the author and the information provided by him could be characterized, as a consequence,

<sup>4</sup> LIDDELL, SCOTT 1996, 284 < αὐτός, -ή, -όν as a compound “self, independently” (LIDDELL, SCOTT 1996, 284) + ὄψις, -εως “aspect, appearance, visual impression, act of seeing or looking” (LIDDELL, SCOTT 1996, 1282).

<sup>5</sup> LIDDELL, SCOTT 1996, 51.

<sup>6</sup> LIDDELL, SCOTT 1996, 281 < αὐτός, -ή, -όν + πάθος, -εος (“that which happens to a person or thing, what one has experienced”).

<sup>7</sup> NENCI 1953, 14–46; SCHEPENS 1970, 163–182; 1980; MARINCOLA 1987, 121–138; 1997, 63–86; BUCKLER 1992, 4788–4830.

<sup>8</sup> Hdt. II, 99, 1: “Μέχρι μὲν τούτου ὄψις τε ἐμὴ καὶ γνώμη καὶ ἱστορίη ταῦτα λέγουσά ἐστί, τὸ δὲ ἀπὸ τοῦδε Αἰγυπτίους ἔρχομαι λόγους ἐρέων κατὰ [τὰ] ἤκουον: προσέσται δὲ τι αὐτοῖσι καὶ τῆς ἐμῆς ὄψιος — Thus far all I have said is the outcome of my own sight and judgement and inquiry. Henceforth I will record Egyptian chronicles, according to that which I have heard, adding thereto somewhat of what I myself have seen”. The unequivocal proof of the consistent autoptic perception is constituted by the presence in the cited text of the expression ὄψις τε ἐμῇ.

<sup>9</sup> Hdt. II, 52: “ὥς ἐγὼ ἐν Δωδώνῃ οἶδα ἀκούσας — this I know, for I was told at Dodona. The expression οἶδα ἀκούσας means “I know from hearsay”, hence it is rather borne by the *akoé* perception. About the importance of *autopsía* and *akoé* as methods of obtaining historical information, see PETROVIC 2004, 255–273; LEVENE 2005, 627–629; KLEBERG 1995, 72, APUD MORENO LEONI 2008, 150, NOTE 28; SCHRADER 2010, 25–48; PARASCHIV 2010, 384–396.

with a higher degree of veracity<sup>10</sup>.

***Autopsía, akoé, and autopátheia at historians, geographers and poets***

In the description of Ister, Herodotus use of the verb ἴδμεν (ionic form for ἴσμεν < οἶδα – “see with the mind’s eye”<sup>11</sup>) is very interesting from the perspective of source theory. The author’s choice for this verb at first-person plural validates, as common knowledge, his statement, without being necessary to indicate the source of his information<sup>12</sup>. However, the explanation on the constant height of the Ister during summer and winter<sup>13</sup> is advanced with a certain degree of incertitude by the verb δοκέω<sup>14</sup>.

We find particularly interesting a fragment of Polybios regarding the quality of necessities of the living (cattle and slaves) in the Pontic area<sup>15</sup>. The adverb ὁμολογουμένως (“conformably with, by common consent”), derived from the verb ὁμολογέω – “agree with, say the same

<sup>10</sup> Polyb. 12, 25h–4: “ἡ γὰρ ἔμφασις τῶν πραγμάτων αὐτοῖς ἄπεσι διὰ τὸ μόνον ἐκ τῆς αὐτοπάθειας τοῦτο γίνεσθαι τῆς τῶν συγγραφέων — there is nothing vivid in their presentment of events, for that can only come from the personal experience of the writers”; SIMPSON 2001, 65–68.

<sup>11</sup> LIDDELL, SCOTT 1996, 483.

<sup>12</sup> Hdt. IV, 48: “Ἰστρος μὲν, ἐὼν μέγιστος ποταμῶν πάντων τῶν ἡμεῖς ἴδμεν — The Ister, the greatest of all rivers known to us”.

<sup>13</sup> Hdt. IV, 50: “ἴσος δὲ αἰεὶ ῥέει ἔν τε θέρει καὶ ἐν χειμῶνι ὁ Ἰστρος κατὰ τοιόνδε τι, ὥς ἐμοὶ δοκέει — But the Ister is ever of the same height in summer and winter, whereof I think this to be the reason”).

<sup>14</sup> LIDDELL, SCOTT 1996, 441–442: δοκέω < “expect, think, suppose, imagine, have or form an opinion seem, pretend”.

<sup>15</sup> Polyb. IV, 38, 4: “Πρὸς μὲν γὰρ τὰς ἀναγκαίας τοῦ βίου χρείας τά τε θρέμματα καὶ τὸ τῶν εἰς τὰς δουλείας ἀγομένων σωμάτων πλῆθος οἱ κατὰ τὸν Πόντον ἡμῖν τόποι παρασκευάζουσι δαψιλέστατον καὶ χρησιμώτατον ὁμολογουμένως — For as regards necessities it is an undisputed fact that the most plentiful supplies and best qualities of cattle and slaves reach us from the countries lying round Pontus”.

thing as, correspond”<sup>16</sup>) has the potential to confirm the truthfulness of the sentence.

Dion Chrysostomos’ declaration of autopsy is emphasised in the description of his peregrinations among the Scythians and Getae<sup>17</sup>. However, the claims of his *autopsía* were put under suspicion by some scholars, taking into account the belligerent territories of the above-mentioned populations<sup>18</sup>. The autoptic perception is stressed by the verb θεάσομαι (< θεάομαι – “contemplate, see clearly, view as spectators”).

One of the main research directions for the Carpathian-Dniestrian space is afforded by the references to the geographic context, focusing, according to the current practices of historical geography, on the extent to which the *geographical knowledge* is based on *visual knowledge*. This happens because it is well-known that the information of such nature may be the result of research on the scene, but also of using direct or other witnesses. Moreover, this information should be understood from the perspective of the ancient cognitive universe.

The description of the Black Sea space by the geographer Pseudo-Scymnos is made from a heteroptic-heteroekphrastic perspective<sup>19</sup>, as he had not known this space *de visu*, and he had only taken over the information from Demetrius of Callatis, whose work, *On Asia and Europe*, is unfortunately lost. The reliability of the information given by Demetrius is supported, *expressis verbis*, by Pseudo-Scymnos himself, who

<sup>16</sup> LIDDELL, SCOTT 1996, 1226.

<sup>17</sup> Dion Chrysost., *Orat.* XXXVI, 1: “Ἐτύγχανον μὲν ἐπιδημῶν ἐν Βορυσθένει τὸ θέρος [...], διὰ Σκυθῶν εἰς Γέτας, ὅπως θεάσωμαι τὰ κεῖ πράγματα ὅποιά ἐστι. — I happened to be visiting in Boristhenes during the summer [...], with the purpose of making my way, if possible, through Scythia to the Getan country, in order to observe conditions there”.

<sup>18</sup> DANA 2011, 13–14.

<sup>19</sup> The heteroptic perspective (< ἕτερος, -α, -ον “one of the two, another” + ὄψις, -εως “aspect, appearance, visual impression, act of seeing or looking”, LIDDELL, SCOTT 1996, 702, 1282) regards the information obtained from other sources; the heteroekphrastic perspective (< ἕτερος, -α, -ον + ἐκφράσις, -εως “description”, LIDDELL, SCOTT 1996, 526) involves, in our case, the detailed description of Black Sea assumed from other author.

appreciates the accuracy of the information provided by the Callatian geographer<sup>20</sup>. In the description of Danube and the surrounded territory, as well as the characterization of the Sarmatians, the author uses different verbs or expressions in order to stress the *akoé* perception, such as ὥς φασι<sup>21</sup>/ὥς λόγος<sup>22</sup>/ὥς συγγράφει Δημήτριος<sup>23</sup>/φησι<sup>24</sup>. We observe that the author is constant in the indication of his sources; when he mentions the Scythians, he is very accurate in indicating the source<sup>25</sup>.

The claims of *akoé* occur also in the case of Strabo's *Geography*. Concerning the location of the Bastarnae, the author invokes the testimonies of other authors ("Whether one should say the Bastarnae, as most writers suspect, or say that others lie in between, either the Iazyges, or the Roxolani [...] – it is not easy to say")<sup>26</sup>. The verb ὑπονοοῦσιν<sup>27</sup> emphasizes the idea of presumption. He stresses the value of autoptic information in the presentation of geographical knowledge. In the description of the Thracians' habits regarding women, the literary testimony of Strabo is based on one of Menander's paragraph. In this case, the author intends to demonstrate the truthfulness of Menander's statement, quoting the confirmation of other authors. Also, the mention that this was not an invention and it was "taken by the history" offers a supplementary confirmation of information veracity<sup>28</sup>.

<sup>20</sup> Ps.-Scymn., *Perieg.*, 720: "ἔοικεν ἐπιμελεστάτως πεπυσμένος — it seems he was very well informed".

<sup>21</sup> Ps.-Scymn., *Perieg.*, 779.

<sup>22</sup> Ps.-Scymn., *Perieg.*, 783.

<sup>23</sup> Ps.-Scymn., *Perieg.*, 793.

<sup>24</sup> Ps.-Scymn., *Perieg.*, 863.

<sup>25</sup> Ps.-Scymn., *Perieg.*, 842–843: "εἶρηκεν Ἐφορος — as Ephoros said".

<sup>26</sup> Str. VII, 2, 4 (C. 290).

<sup>27</sup> LIDDELL, SCOTT 1996, 1890.

<sup>28</sup> DUECK 2005, 96–97; Str. VII, 3, 4 (C. 296): "ὅρα δ' ἃ λέγει Μένανδρος περὶ αὐτῶν οὐ πλάσας, ὥς εἰκός, ἀλλ' ἐξ ἱστορίας λαβόν [...]. ταῦτα γὰρ ὁμολογεῖται μὲν καὶ παρὰ τῶν ἄλλων — And see the statement of Menander about them, which, as one may reasonable suppose, was not invented by him but taken from the history [...]. Indeed, these facts are confirmed by the other writers as well".

In what concerns Valerius Flaccus<sup>29</sup>, he makes brief references to: the seven mouths of the Danube<sup>30</sup> which he describes as scary (*torvus*) and with dangerous shores (*ripa metuendus*)<sup>31</sup>, to the Tyras River (*flavusque Tyres*)<sup>32</sup> or the cruelty of the populations living near the mouth of the Dniester (*saevos alumnos*)<sup>33</sup>. The information concerning the seventh mouth of Danube is presented as a well-known information, by using the verb *accipio*, *-ere*, *-i*, *-um*<sup>34</sup>. We can thus see, from the heteroptic perception, the negative attitude of the poet towards this area.

The Latin sources concerning this space are particularly illustratory of the way in which the ideology influenced the perception of certain famous authors regarding the Danubian-Pontic area. Starting from certain excerpts that emphasize these authors' negative perception of the Getic population, the main thematic spheres reflecting the Roman ideology and the poetic imaginary have been identified. Concerning the fragments of Virgil referring to the Black Sea area (analysed from an ethno-geographic perspective), we can definitely discern a negative perspective<sup>35</sup>. We find to be extremely expressive the idea of the Danubian conspiracy against Rome<sup>36</sup>. Through this stylistic device (hypallage), we can observe an illustration of Virgil's subjectivism; he uses—by extrapolation—for the Danube a term specific to the internal conflicts of Rome (*coniuratio*). An apparent reflection of the typical Roman ideology can also be found at Horace (*rigidi Getae*<sup>37</sup>, *profugus Scythes*<sup>38</sup>). The propagandistic mark generated the invention of a genuine imaginary

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<sup>29</sup> MURGATROYD 2009, 342.

<sup>30</sup> Val. Flac., IV, 718.

<sup>31</sup> Val. Flac., VIII, 218.

<sup>32</sup> Val. Flac., IV, 719.

<sup>33</sup> Val. Flac., VIII, 219.

<sup>34</sup> GLARE 1968, 21–22: “to receive, admit, accept”.

<sup>35</sup> Verg., *Georg.*, III, 34–35; 352–357; 360; 362; 364–370; 373–374; 376–377; 379–383; 462; IV, 461; 463; *Aen.*, VII, 603–605.

<sup>36</sup> Verg., *Georg.*, II, 497.

<sup>37</sup> Hor., *Carm.*, III, 24, 9–24.

<sup>38</sup> Hor., *Carm.*, I, 35, 9; IV, 14, 42.

universe. This is why we have to stress an essential issue: the information from the literary poetic texts should not be analysed by employing the same criteria used for historians, as their goal is primordially aesthetic<sup>39</sup>. Ovid's case is the most contradictory and interesting. The numerous subjective contexts sometimes include objective details, among which those referring to the Danube, or to the various ethnic groups from the Carpathian-Dniestrian space<sup>40</sup>. Ovid's perception of the space he had been exiled to is simultaneously autoptic, heteroptic, and autopathic. As regards the autoptic perception, we note the author's preference for verbs, such as: *tangam/tactam* ("to touch")<sup>41</sup>, *visere/vidimus/vidisse/video* ("to see")<sup>42</sup>, *adspiciat/adspiceres* ("to look")<sup>43</sup>, *adest* ("to be present")<sup>44</sup>. From among the lexemes illustrating *autopatheia*, we mention the following:

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<sup>39</sup> ALEXIANU 2006, 39–50.

<sup>40</sup> CURCĂ 2010, 292.

<sup>41</sup> Ov., *Trist.* I, 2, 83: "*Obligor, ut tangam laevi fera litora Ponti* — I am constrained to reach the wild shores of illomened Pontus"; IV, 10, 109–110: "*Tacta mihi tandem longis erroribus acto/iuncta pharetratis Sarmatis ora Getis* — Driven through long wanderings at length I reached the shore that unites the Sarmatians with the quiver-bearing Getae".

<sup>42</sup> Ov., *Trist.* III, 2, 1: "*Ergo erat in fati Scythiam quoque visere nostris* — So then was fated for me to visit even Scythia"; III, 10, 37: "*Vidimus ingentem glacie consistere pontum* — mingling with the vast deep through many mouths, freezes as the winds stiffen his dark flood"; III, 10, 39: "*Nec vidisse sat est* — And seeing is not enough"; III, 10, 49: "*Vidimus in glacie pisces haerere ligatos* — I have seen fish clinging fast bound in the ice, yet some even then still lived"; IV 6, 48: "*sic me, quae video non videoque, movent* — Thus what I behold and what I do not behold affect me".

<sup>43</sup> Ov., *Trist.* I, 2, 94: "*Adspiciat vultus Pontica terra meos* — Let the land of Pontus behold my face"; III, 10, 75: "*Adspiceres nudos sine fronde, sine arbore campos* — One may see naked fields, leafless, treeless — a place, alas!". The second-person singular form, *adspiceres* 'all you can see with your eyes', can be considered a type of autoptic impersonal perception.

<sup>44</sup> Ov., *Trist.*, IV, 6, 47: "*Vulgus adest Scythicum bracataqua turba Getarum* — Before me is a crowd of Scythians, a trousered throng of Getae".

*perpetior* ("to undergo or experience hardships, sufferings to the full")<sup>45</sup>, *premor* ("to exert a steady or continuous force against, apply pressure to press")<sup>46</sup>, *pati/patior* ("to be subjected to an operation or process, undergo")<sup>47</sup>, *aeger eram*<sup>48</sup> ("ill, unwell, sick"), *iaceo* ("to lie")<sup>49</sup>, *vivere* ("to be alive, live")<sup>50</sup>, and *cingunt* ("to surround, encircle")<sup>51</sup>. The heteroptic perception is visible through verbs such as *constat* ("to consist")<sup>52</sup> and *dicitur* ("to talk, to speak")<sup>53</sup>. We are confronted by a case of autoptic and, at the same time, acustic perception in the metaphor used to express the invasions of the Getae, Bastarnae, and Sarmatians in the Black Sea area<sup>54</sup>.

<sup>45</sup> Ov., *Trist.* II, 187: "Ultima *perpetior* medios eiectus in hostes — I am now enduring the extreme, thrust forth into the midst of enemies".

<sup>46</sup> Ov., *Trist.* II, 190: "Parrhasiae gelido virginis axe *premor* — I am crushed beneath the Parrhasian virgins pole".

<sup>47</sup> Ov., *Trist.* II, 206: "quemquam [...] Caesaribus salvis barbara vincla *pati* — Right forbids that anyone of Latin blood should suffer barbarian bondage while Caesars live"; III, 3, 7: "Nec caelum *patior* — The climate I cannot endure".

<sup>48</sup> Ov., *Trist.* III, 3, 3–4: "*Aeger* in extremis ignoti partibus orbis, incertusque meae paene salutis *eram* — I am ill-ill in the utmost part of an unknown world, almost in doubt of my recovery".

<sup>49</sup> Ov., *Trist.* III, 3, 13: "Lassus in extremis *iaceo* populisque locisque — I lie among these far-away peoples in this far-away place".

<sup>50</sup> Ov., *Trist.* III, 10, 4: "me sciat in media *vivere* barbaria — I am living in the midst of the barbarian world".

<sup>51</sup> Ov., *Trist.* III, 10, 5: "Sauromatae *cingunt*, fera gens, Bessique Getaeque — About me are the Sauromatae, a cruel race Bessi, and the Getae".

<sup>52</sup> Ov., *Trist.* III, 9, 6: "*Constat* ab Absyrti caese fuisse loco — More ancient than the founding of the city, was given to this place, 'tis certain, from the murder of Absyrtus".

<sup>53</sup> Ov., *Trist.* III, 9, 10: "*Dicitur* his remos adplicuisse vadis — brought to a haven her oars, they say, in these waters".

<sup>54</sup> Ov., *Trist.* III, 14, 38: "pro libris arcus et arma sonant — Not here have I an abundance of books to stimulate and nourish me: In their stead is the rattle of bows and arms".

### Conclusion

It is very interesting that the authors express, occasionally, their own opinion concerning the information provided by other sources<sup>55</sup>. Before using the data relevant for the reconstruction of protohistory, it is imperative to know the correlation between the author and his text through the professional and autoptic perspectives. A philological approach can contribute to completing and detailing, in a critical vision, the outcomes of the research concerning this area. The analysis of historical events presented by historians, geographers, and poets through *autopsía*, *akoé* and *autopátheia* is relevant to the credibility of the information provided by literary sources. The source type of information can also have a significant impact on the subjective cultural perceptions of the authors concerning ancient ethnic and geographical alterity.

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<sup>55</sup> See, for example the use of superlative ἐπιμελεστάτως at Pseudo-Scymnos, who denotes a complete trust in the accuracy of Demetrius's information.

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## **PERSONALITES DE L'HISTOIRE ANCIENNE**



**ROMAN RELIGION — RELIGIONS OF ROME**

*– interview with professor Jörg Rüpke –*

SZABÓ CSABA<sup>1</sup>

Jörg Rüpke (1962) is one of the leading scholars of Roman religious studies. Chair of Comparative Religion at the University of Erfurt since 1999 and fellow of the Max Weber Center for Advanced Cultural and Social Studies, since 2000 he chaired numerous international projects and grants, many of them dealing with various aspects of the Roman religion. With more than 20 individual monographs and 38 edited volumes, his work has become unavoidable in the field of religious studies. Taking an overview or an account of his work and activity, we can have a broader view on the actual state of the Roman religious studies — a discipline in continuous formation and transformation.

*You have learned Latin and Religious Studies (Religionswissenschaft) in various universities in Germany and abroad, but formed as a scholar in Tübingen, one of the most important centers for religious studies with a rigorous tradition in theological studies, too. Why did you choose the study of Roman religion and who influenced you in the beginning of your career?*

In the very beginning of my studies I was interested in religions of Asia, in classical antiquity and in theology, too. I learned also Hebrew, but after a short time I realized that I was above all interested in religious studies. At Bonn I had as a mentor, prof. Karl Hoheisel (1937–2011) editor and one of the authors of the *Reallexikon für Antike und Christentum*, the only person at the faculty who had special interests in Roman religion. Than in

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Tübingen I met Hubert Cancik and Burkhard Gladigow, who had an important role in my formation as a scholar.

*Your Ph.D. thesis dealt with the religious aspects of the wars in Roman times<sup>2</sup>. In the 1990's your interests will focus especially on the historiography of the Roman religion and the Roman calendar<sup>3</sup> followed after 2005 by your studies on religious rituals of the individual and the community<sup>4</sup>. How do you choose a topic for a research program?*

I don't really choose a topic or research program as a predefined plan. Usually they are born from my earlier works. For instance, my PhD topic was chosen by professor Gladigow. I planned a detailed chapter on Roman festivals in military context, which wasn't published finally in the *Domi militiae*. I spent all my summer of 1992 writing a chapter on the calendar as a basis for these festivals, of which I was very fascinated at that time. Actually, in 2–3 months, I wrote the basics of my habilitation work on Roman calendars. In the 1990's working on so called "imperial religion", my interest turned increasingly on regionalism and local aspects of the Roman religion, which influenced my project on regionalism, provincial and imperial religion and later on individualization, too.

*During these 25 years while you became a leading scholar in the study of Roman religion, the methodology of Religious Studies generally—but especially in the *Römische Religionsgeschichte*—changed radically. Some of the scholars—like C. Robert Phillips or Carl Orson—talked even about a crisis in the methodology<sup>5</sup>. Is it true?*

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<sup>2</sup> RÜPKE 1990.

<sup>3</sup> RÜPKE 1993, RÜPKE 1995.

<sup>4</sup> RÜPKE 2001.

<sup>5</sup> PHILLIPS 2007, RIVES 2010.

I would not affirm that we are facing now a real “crisis of the discipline”, because there is in fact, no united discipline of Roman religious studies. We are facing the flourishing of Isiac studies or Mithraic studies but are witnessing many neglected aspects too. Historicizing Roman religion is still lacking: a unified view on Roman religion or even, about ancient religion generally. Judaism and Christianity are still not integrated in the study of the ancient religions. Theology deals separately with them, as “church history” and in some places Religious Studies still treat separated “world religions”. Similarly to this, Judaism is often missing from such projects that deal with ancient Magic and religion. Important syntheses are missing in current research. We tried to reduce this gap in the research with the *Companion to the Roman Religion*<sup>6</sup> and now we are working on the *Companion to the archaeology of religion in the ancient world*, which hopefully will also contribute to widening the field of our discipline<sup>7</sup>.

*One of your major works deals with the priests of the city of Rome, collecting all the sacerdotal personae from Republican time to Late Antiquity<sup>8</sup>. We see there hundreds of names—many of them remarkable persons of the Roman history—with different roles from the typology of Joachim Wach: founders of religions, diviners, magicians, priests ... What was the impact of these people in Rome and in a smaller area, like a provincial city?*

They were not so important as it seems to be. It was not like in the case of ancient Egypt or the Mesopotamian city-states, where priests had much more power and influence. They are part of everyday life, but the official religion is mainly performed by the magistrates. Priesthood had a secondary importance in this social structure. This has important consequences. Religion is set free for

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<sup>6</sup> RÜPKE 2007.

<sup>7</sup> RÜPKE 2014.

<sup>8</sup> RÜPKE 2005.

individual engagement and self-representation in an imperial structure, which had large free spaces—in ideological and religious terms—for these functions and the dynamics between different social and religious levels and manifestations. We must analyze the priesthood of the Roman Empire against the background of empire.

*Another book of yours—translated even in Korean—deals with the Roman calendar<sup>9</sup>. The number of the sources and the variety of the different urban Fasti are stunning, but can we reconstruct by these analogies the religious calendar of a Roman individual, too? Or the religious Fasti of a provincial city?*

Some of the intellectuals and the literates surely had personalized calendars. We know from ancient sources, like Ovid or Petronius, that some of the Romans had scrolled calendars or marked the black and white days with nails on a wall. It was a symbol for personal beliefs. In the case of cities, we must highlight the difference about East and West. In the Near East, the Julian calendar was introduced late, because most of the urban centers had their own specific calendar systems. However, even in the West, the local calendars and religious holydays—known mainly from the Hispanic municipal laws and some fragmentary preserved urban fasti<sup>10</sup>—were very diversified, with few common festivals, like the Saturnalia or the imperial holidays. It is important to mention, that the monumental marble calendars disappeared even from Rome after the time of Tiberius, which suggest that the new Julian calendar—and the fasti themselves—became an integrated part of the Roman society.

*Dealing with the faith of the ancient man (and woman) is a risky job. We know some puzzles from different periods, times and places about*

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<sup>9</sup> RÜPKE 2011.

<sup>10</sup> About the urban calendars see: RÜPKE 1995, 95–165, REEVES 2004.

*the faith and individual acts, feelings, cloths, places and instruments of religious manifestation. It is like reconstructing the life of a star by astronomers: you need analogies. What do we know about Roman religion in fact?*

About the feelings and direct, religious experiences of the Roman people we have very few information. But we can ask also, what do we know about the religious experience of our generation? We had almost the same lack of information about the religiosity of the people from the beginning of the 20<sup>th</sup> century. With the exception of some personal journals, short remarks, poems and interviews we don't know how they interacted and lived their religion. It is the same with the Romans: we have mainly the official façade of the religiosity, the self-expression and representation of the people, with some laconic sources of personal religiosity, mainly from literary and epigraphic texts.

*You are a member and coordinator of many international projects. Some of them, like the "Religiöse Individualisierung in historischer Perspektive" (second phase: 2013–2017) have already a great echo in the international literature<sup>11</sup>. What are the perspectives and main ideas of this project?*

In this project we are working together with theologians, historians, archaeologists and historians of religions mainly from Europe and the Americas, but having also collaborators from India, China and New Zealand. Our main aim is to identify discernable patterns of religious individualization, mainly focusing not only on one society or period, but investigating the transfer of different forms and agents of religion in and outside of a group. We also want to analyze some historiographical aspects, redefining also the term "religion" in the frame of this new perspective of the individual. As a perspective for this project, we will organize small workshops and conferences on the topic.

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<sup>11</sup> RÜPKE 2013.

*Another project is entitled “Lived Ancient Religion (2012–2017)”<sup>12</sup>. In this work we can find many young scholars dealing with some particular aspects of ancient religion like the small sanctuaries, the religious life of Ostia or Karanis. Why was this project developed and what are the main tasks of it?*

The project is aiming to present “lived religion” not as a supplement to “cults” and “polis religion”, but as a pervading perspective on (not only) ancient religion. Using the inspiration of Meredith McGuire’s work on embodied practices of contemporary religion only as a starting point, the project’s aim is not to recreate a methodology of this kind for ancient societies and individuals, but more to use this as a starting point for new perspectives. Having already organized some workshops and conferences, the research group will meet next time at Copenhagen in May, 2014<sup>13</sup>.

*Beside publishing books and articles on Roman religion, religious studies and historiography, you are also a very dynamic culture diplomat, elected in 2012 as a member in the German Council of Science and Humanities. How do you see the future of classical studies in Germany and generally, in Europe? What are the main problems or tendencies and how could we change it?*

Classical studies as a privilege of the intellectual bourgeois is in disappearance even in Italy, Germany or Switzerland. However, it is still easier to find financial support for such research in Western countries. Many of the studies are focusing on “globalization” in Roman world or on the relation of Rome and China – as a postmodern, actual topic. But this is above all a scholarly concern. Above all it is very important to present the

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<sup>12</sup> RÜPKE 2012.

<sup>13</sup> Workshops of the project: Presence of death in lived religion. 11<sup>th</sup> EASR Annual Conference 2012 “Ends and beginnings”, Södertörn University, Stockholm, 23–26 August, 2012; Archaeology of Lived Religion in Antiquity, Rome, 5–7<sup>th</sup> November, 2012; “Sharpening the knife”: making religion effective in everyday life. Erfurt, 11–14 June, 2013; The role of objects-creating meaning in situations. Eisenach, 9–11 October 2013; Stories told and memories uttered – Ettersburg/Weimar, 29–31 January, 2014.

Roman Empire and its heritage in Europe, the Near East and North Africa as an opportunity to stress a shared cultural heritage.

*You are a restless researcher of the Divine. As a private person, how do you communicate with God? With other words: what the Divine represents for you?*

This is a question beyond my professional role and beyond my scholarly tools.

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COMPTES-RENDUS

George Nuțu, Simina Stanc, Diana Andreea Stan, *Carved Bone and Antler from Northern Dobruja in Archaeological and Archaeozoological Context*, Editura Universității "Alexandru Ioan Cuza", Iași, 2014, 188 p.

Ce livre constitue une contribution remarquable et utile pour l'étude des matériaux en os et en corne trouvés dans la collection du Musée de Tulcea, qui contient des pièces provenant du nord de la Dobroudja. L'importance de ce travail consiste non seulement en la mise en circulation de certains objets inédits, mais aussi par l'accomplissement d'une monographie traitant pour la première fois ce thème en Roumanie. Les auteurs sont des jeunes chercheurs, mais qui (sauf Diana Andreea Stan, qui vient de terminer son DEA) ont déjà beaucoup publié dans les domaines qu'ils représentent. George Nuțu est chercheur à l'Institut des Recherches Éco-Muséales de Tulcea et il a une riche activité d'archéologue; Simina Stanc est enseignant-chercheur à la Faculté de Biologie de l'Université "Alexandru Ioan Cuza" de Iași et sa collaboration avec les archéologues (en réalisant l'archéozoologie des sites) a été concrétisée non seulement par la publication de sa thèse de doctorat, mais aussi par de nombreux articles sur les restes des animaux dans les complexes archéologiques. La valeur de l'ouvrage est augmentée par son caractère interdisciplinaire: le contexte archéozoologique des pièces est valorisé à un très haut niveau scientifique.

Le volume est composé par une introduction, suivie par un chapitre contenant des données générales sur la production d'os et du corne dans le monde romain. George Nuțu présente aussi une typologie et une morphologie des pièces en corne, afin d'observer comment peut-on intégrer les objets analysés dans un contexte plus large.

Le chapitre suivant, réalisé par Simina Stanc, représente l'analyse détaillée des animaux qui ont fourni les os comme matière première de ces objets.

Le quatrième chapitre traite l'ensemble du matériel étudié, tandis que le cinquième présente quelques conclusions. Quelles sont les principales considérations historiques qui se dégagent de ce volume? On constate que la plupart du matériel est formée par les objets d'hygiène personnelle (épingles à cheveux, peignes). Les objets relèvent plutôt une nécessité esthétique qu'une économique. Une partie plus réduite de l'échantillon analysé représente des pièces utilisées dans le reste des domaines de la vie quotidienne (caractéristique pour la vie militaire ou intellectuelle).

Le catalogue est correctement réalisé et la riche bibliographie fait preuve d'une documentation sérieuse des auteurs et d'une mise à jour des travaux concernant ce thème. Les planches d'une bonne qualité complètent ce bel ouvrage.

*Lucrețiu Mihailescu-Bîrliba*

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Rada Varga, *Peregrini in Roman Dacia*, Mega Publishing House, Cluj-Napoca 2014, 168 p.

Le livre présenté constitue le résultat de la thèse de doctorat de Rada Varga, soutenue à Cluj-Napoca en 2012. Un ouvrage de synthèse concernant les pérégrins en général n'a pas été encore écrit, constate dès les premières phrases l'auteur. Certaines explications se retrouvent dans le contenu-même de l'ouvrage: il s'agit, d'un côté, du statut civil ou militaire possédé par les pérégrins évoqués dans les inscriptions (dans les conditions où les pérégrins militaires ont bénéficié d'une attention accrue de la part de l'historiographie), de l'autre côté, de leur onomastique qui, même si souvent apparaît comme indiquant l'origine du personnage ou au moins celle de ses ancêtres, n'éclaircit que partiellement les raisons de leur mention dans les sources épigraphiques. En plus, la Dacie romaine constitue un cas spécial, étant donné que les *peregrini* d'origine dace sont très rarement évoqués, en comparaison aux pérégrins indigènes attestés dans les autres provinces de l'Empire. De ce point de vue, la démarche de

Rada Varga est téméraire, puisqu'elle essaye (et réussit, peut-on le dire) de fournir une image des raisons de la présence des *peregrini* dans cette province, au-delà de l'étude strictement social de cette catégorie.

Dans le premier chapitre, consacré au bilan de la recherche et aux méthodes utilisées, l'auteur explique que le problème des pérégrins de Dacie romaine a été traité d'une manière secondaire ou dans le contexte plus large des monographies qui avaient d'autres sujets. En même temps, le plus compact groupe de pérégrins attestés en Dacie, les Illyriens, ont bénéficié, pratiquement, d'une seule étude de synthèse<sup>1</sup>. En ce qui concerne la méthode et l'organisation de travail, je suis d'accord avec les objectifs envisagés par l'auteur. Peut-être, expliciter le catalogue épigraphique juste avant sa présentation serait plus utile pour le lecteur.

Les deux chapitres qui suivent sont consacrés aux questions plus générales: le statut du pérégrin dans l'Empire Romain et la représentativité épigraphique dans le contexte de l'étude de la population dans le monde ancien.

Le deuxième chapitre, par conséquent, traite le problème de la citoyenneté, les sources littéraires (surtout les sources juridiques) concernant les *peregrini*, le statut du pérégrin dans la société romaine, la *Constitutio Antoniniana*, ainsi que les différences entre les normes de droit et les réalités locales. Les questions sont correctement exposés et présentées d'une manière claire. J'ajoute un seul commentaire. En ce qui concerne le terme de *libertinus*, en effet, il ne se réfère pas seulement aux affranchis en général ou en particulier. J. Cels-Saint-Hilaire, qui a développé l'hypothèse de l'usage du terme de *libertini* en tant que *peregrini* nouveaux citoyens, est aussi l'auteur d'une étude intéressante qui, en partant du cas particulier de la fondation de la colonie Carteia, indentifie les *libertini* aux nouveaux citoyens<sup>2</sup>. Je pense que ces différences sont identifiables cas par cas: le consultement des sources juridiques et épigraphiques nous approchent des hypothèses avancées par A.

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<sup>1</sup> PISO 2004.

<sup>2</sup> CELS-SAINT HILAIRE 1985, 331–379; 2001.

Steinwenter<sup>3</sup> et M. Shimada<sup>4</sup>: le terme de *libertinus* est utilisé pour désigner l'affranchi dans un contexte où il est mentionné tout seul, tandis que *libertus* est utilisé dans le contexte de sa relation avec le patron. En ce qui concerne la citoyenneté, P. Weaver<sup>5</sup>, suivi par P. López Barja de Quiroga<sup>6</sup>, considère (à juste raison, à mon avis) que les affranchis nouveaux citoyens reçoivent le statut de *Latini*. Ce fait est, d'ailleurs, saisi par l'auteur dans le sous-chapitre consacré à la citoyenneté de droit Latin, mais la démonstration de Weaver est convaincante et sa conclusion pourrait être soutenue par Rada Varga d'une manière plus nette. En ce qui concerne la place des *peregrini* dans la pyramide sociale de G. Alföldy, elle est plus simple à identifier: les pérégrins se retrouvent dans la classe des *humiliores*. Du point de vue de leur situation matérielle, et leur position dans la société, ils appartiennent toujours aux *humiliores*. La présentation du préteur chargé de résoudre les disputes entre les citoyens et les pérégrins est bien exposée, ainsi que celle de la problématique concernant la citoyenneté du droit latin. Sur le dernier sujet, l'auteur saisit que les sources (juridiques, littéraires et épigraphiques) nous posent devant des situations bien différentes, non parce qu'elles sont en contradiction, mais puisque les juristes ont trouvé des solutions pour chaque situation (le cas de la *lex Irnitana* est un argument dans ce sens). L'investigation onomastique a, elle-aussi, ses résultats, qui peuvent pourtant être particularisés cas par cas (voir les communautés de droit latin des Gaules, du Norique et même de la Dacie).

Le sous-chapitre suivant, qui traite les sources littéraires romaines, présente surtout celles juridiques. Rada Varga analyse brièvement les passages de Gaius, Ulpian, des sources romaines du Bas-Empire et des sources byzantines. Chez les premiers juristes, les informations ne sont pas en contradiction; malheureusement, comme dans le cas des autres catégories sociales inférieures, elles ne peuvent que

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<sup>3</sup> STEINWENTER 1927, 104.

<sup>4</sup> SHIMADA 1989, 420–424.

<sup>5</sup> WEAVER 1990, 275–305.

<sup>6</sup> LÓPEZ BARJA DE QUIROGA 1998, 133–163.

rarement être confrontées avec celles fournies par les inscriptions. Les mêmes choses, doublées par des reprises qui ne se confirment pas, se passent dans le cas des compilations appartenant à l'époque justinienne.

L'auteur parle sur les communautés où sont souvent attestés les pérégrins (*pagi, vici, canabae, municipia* et *coloniae*) et sur les types de communautés pérégrines (*ciuitates peregrinae*, les collèges). Le manque d'attestations de telles communautés en Dacie est dû, selon Rada Varga, au manque de l'élite locale dans cette province. En ce qui concerne les pérégrins du milieu militaire, leur statut est bien présenté. Même si l'auteur nuance dans une note en bas de page, il est difficile de dire si la plupart des militaires restent dans les provinces où ils avaient servi ou ils rentrent chez eux. Dans les nombreux diplômes militaires publiés ces dernières années, le lieu de découverte est incertain dans la plupart des cas. En plus, il existe des situations où les vétérans rentrent chez eux ou, comme dans le cas des diplômes du temps de Vespasien, ils reçoivent des terrains dans d'autres provinces. Mon avis est que, n'importe où ils restaient en tant que nouveaux citoyens, avec une fortune point négligeable accumulée durant le long service, les vétérans avaient des chances sinon de pénétrer dans l'élite de la société, au moins de jouir du respect de la communauté. L'analyse de Rada Varga sur la *Constitutio Antoniniana* et surtout sur le problème des *deditici* est présenté d'une manière claire et nuancée à la fois; la documentation est adéquate et montre que certaines situations particulières pouvaient transcender les normes générales du droit romain, sans leur être opposées, mais dans un sens complémentaire, comment il ressort de ce sous-chapitre.

Le chapitre suivant pose en question la représentativité épigraphique dans le contexte de l'étude de la population. Le problème n'est pas nouveau et le manque de représentativité du point de vue social dans les inscriptions a mené à reconsidérer du point de vue qualitatif les interprétations strictement positivistes. Dans le cas des analyses statistiques, l'auteur doit être conscient des obstacles d'ordre méthodologique et des erreurs générées par l'interprétation positiviste des résultats. La brève présentation de la démographie de l'Antiquité romaine est bien réalisée. L'auteur comprend les problèmes compliqués de ce

domaine et que non seulement la pure statistique, mais aussi la prosopographie, fondée sur un très bon contrôle des sources, nous aident à les résoudre partiellement. Malheureusement, l'estimation de la population est un des paramètres démographiques difficilement à identifier et à interpréter, car le census par province est pratiquement inconnu et, même s'il était, il faut toujours estimer le nombre de non-citoyens. L'estimation de la densité est, peut-être, le plus sûr critère d'estimation, puisqu'on dispose d'une surface qui reste la même. Pourtant, la manière dont une province est habitée (où étaient les agglomérations les plus importantes, où étaient des forêts qui n'existent plus aujourd'hui) constitue un argument pour l'incertitude de telles données. On admet qu'en général, la densité de la population était réduite. Je pense que les méthodes de calcul pour des provinces comme la Dacie n'offrent pas une certitude. Si on estimait la population de l'intérieur du rempart d'Ulpia Traiana Sarmizegetusa à 12000 habitants, on obtient une densité d'environ 40000 habitants/km<sup>2</sup>, ce qui me semble exagérée. J'apprécie la discussion lancée par Rada Varga sur l'espérance de vie, sur le problème des âges arrondis (ici elle pourrait évoquer les études plus anciennes de R. Duncan-Jones<sup>7</sup>), sur la démographie de certaines catégories sociales et sur leur comportement du point de vue de l'*epigraphic habit*. En ce qui concerne la discussion sur la „troisième élite” et sur „l'épigraphie marginale”, mon opinion (fondée sur une expérience que j'ai eue dans le contexte de l'épigraphie des esclaves et des affranchis) est que les pérégrins ne peuvent être encadrés dans aucun de ces modèles. D'abord, ils n'appartiennent à aucune élite. Il peut exister, à l'intérieur de cette catégorie juridique, une élite des pérégrins, mais c'est tout. Deuxièmement, ils ne peuvent pas être encadrés du point de vue historique dans une „épigraphie marginale”, d'un côté, parce que dans certains cas leur statut matériel dépassent celui des citoyens, de l'autre côté, puisque les informations fournies par les inscriptions peuvent avoir une signification historique plus importante que celles fournies par une catégorie juridique supérieure (le cas Alburnus Maior, invoqué ici, est

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<sup>7</sup> DUNCAN-JONES 1977, 333–353; 1979, 169–178; 1980, 1–6.

relevant). L'épithète „marginale” est de nature sociologique, mais il me semble difficile à accepter dans ce cas-là.

L'analyse de l'auteur sur l'image d'ensemble des pèlerins en Dacie est réalisée en toute responsabilité qui ressort de la conscience des difficultés d'ordre méthodologiques provenant des statistiques. Il s'agit de la discussion des représentations épigraphiques des pèlerins, de la mortalité, des âges avancés, de la mention des âges dans les inscriptions. Je suis d'accord avec l'affirmation selon laquelle la mention avec précision des âges au décès constitue une rareté; le problème est de la part des commémorateurs et du statut-même de pèlerin, qui n'implique pas l'enregistrement de la naissance. Suit ce qu'on peut appeler la présentation synthétique du catalogue épigraphique. Les inscriptions externes concernant les pèlerins daces sont soigneusement et correctement présentées. La discussion sur l'onomastique est également bienvenue: l'auteur souligne l'importance quantitative apportée par le village d'Alburnus Maior. Cette analyse est correctement structurée; je n'ai aucune objection en ce qui concerne l'image globale de cette partie. Je reviens avec quelques précisions ponctuelles. L'usage du terme *coniux* dans le cas de Serena Licconis filia (no 9 du *Supplementum epigraphicum*), semble plutôt une expression de l'*epigraphic habit* que celle d'une situation *de iure*. Je crois que la personne a un statut pèlerin, comme d'ailleurs l'auteur-même le pense, moins convaincue pourtant. Moins certain semble ce statut dans le cas de l'inscription no 16 du catalogue, à cause de son état fragmentaire. Dans le cas de l'inscription no 101 du *Supplementum epigraphicum*, il y a beaucoup de cas de pèlerins portant deux noms, ainsi que l'appartenance des personnages au milieu pèlerin me semble au-delà des doutes. Dans le cas de l'inscription no 32 du même *Supplementum*, si Peregrinus est vraiment un pèlerin, les deux *vikarii* sont des esclaves, non seulement à cause des noms typiques pour les *servi* (Eufemus et Erastus), mais aussi à cause de leur statut de *vikarii*. Dans le cas des *agnomina* ethniques, leur transcription est une pratique souvent rencontrée dans l'épigraphie des diplômes militaires, afin de spécifier l'appartenance ethnique des soldats; elles ne représentent pas un cas distinct pour la Dacie, tout comme la non-concordance entre l'ethnonyme

du militaire et l'unité où il est attaché. Dans le cas de noms mixtes, une discussion plus élargie sur les noms romains avec un patronyme grec aurait mérité plus de pages: cela aurait indiqué une origine non-latinophone du personnage. D'ailleurs, en Mésie Inférieure, les exemples de personnages portant un nom romain et un patronyme thrace sont fréquents et sont datable après la moitié du II<sup>e</sup> siècle.

En ce qui concerne le statut des militaires des pérégrins évoqués dans les inscriptions, leur présentation est également correcte. Le problème qui se pose, dont la réponse est difficile à trouver, est dans quelle mesure ces documents épigraphiques parlent des colonistes latinophones. Dans le cas des tablettes d'Alburnus Maior, l'exposé me semble bien réalisé. Le prix de 205 deniers pour un esclave, estimé trop réduit par Rada Varga, doit être reconsidéré, à mon avis, en fonction des capacités financières de toute province, de tout individu: les arguments sont constitués par les prix des autres esclaves mentionnés toujours dans les tablettes d'Alburnus Maior. Je ne suis pas d'accord avec l'opinion selon laquelle Silvanus constitue, en Dacie romaine, l'objet des inscriptions votives des classes inférieures. Je suis d'accord, en revanche, avec les conclusions du chapitre, conformément auxquelles la société provinciale de la Dacie a adopté l'*epigraphic habit* de la société romaine.

L'ouvrage se termine par des conclusions synthétisant les idées principales des chapitres, par un catalogue (un tableau bien réalisé contenant les données sur les personnes étudiées, un *Supplementum epigraphicum*, par les abréviations et par la bibliographie.

Malgré les petites imperfections signalées, le livre de Rada Varga représente une contribution sans doute réussie et importante pour accomplir une image générale sur la vie sociale de la Dacie romaine.

Lucrețiu Mihailescu-Bîrliba

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Shuicheng Li and Lothar von Falkenhausen (eds.), *Salt Archaeology in China, Volume 1. Ancient Salt Production and Landscape Archaeology in the Upper Yangzi Basin: Preliminary Studies*, six color plates with 25 photos, 2006; *Volume 2. Global Comparative Perspectives*, 12 color plates with 25 photos and 1 color map, 16 white/black plates, 2010, Science Press, Beijing.

The appearance of the industrial age, the refrigeration age and globalisation are some of the reasons that worked to gradually depreciate the value that salt had for humanity. Today, particularly in advanced societies, salt is a common product, profusely present in a large range of varieties. But, as we go back in time from the Middle Ages onwards, we come to an understanding of the importance of salt in daily life, coming to grips with a time during which the only mineral habitually consumed by

humans was labelled as “white gold”. Salt was vitally important not only for the day-to-day alimentation, but particularly for preserving food during the non-productive seasons in the temperate continental areas. But salt was used by people for many other purposes, and left a strong imprint on various aspects of human life. It is precisely because of this that the efforts of the specialists focused on investigating salt from during the archaeological time, naturally starting with prehistory, are noteworthy. It is more so the case with those human communities that played a major role in the evolution of mankind. In this context, it is obvious that the very title of the book discussed in these lines suffices to elicit the greatest interest on part of the advised readers.

The starting point of the researches was the discovery of an important manufacturing site at Zhongba in Zhong Xian (Chongqing). Because this multiperiod site presented a considerable epistemic potential, it brought about the idea of an international project (Landscape Archaeology and Ancient Salt Production in the Sichuan Basin and Adjacent Areas) conducted through an institutional collaboration between two notable universities, Peking University and UCLA, represented by Li Shuicheng (Chinese co-Pi) and Lothar von Falkenhausen (American co-PI), two representative personalities of the archaeology of salt. The project, which commenced in 1998, further attracted other foreign researchers. The first concrete activity consisted of a one-month field trip undertaken in March 1999 in order to gather a preliminary set of information of the research area, and to estimate the parameters of the feasibility of research. As it is widely known, the success of any project is dependent on the clear definition of its background and purpose. Professor Falkenhausen remarked in the first volume, in the first chapter entitled as such, what vast scientific benefits and international visibility could the Chinese discoveries have, though contingent on the extent to which the finds, made in a country that emerged from international isolation only after 1990, are capitalised through the most advanced research methods and paradigms available worldwide. Starting with its world areas of primary civilization, and by developing the recent global directions, Chinese archaeology can take the opportunity to integrate itself, as it certainly

deserves, into the area of the world's greatest scientific interests. This is all the more so since, before the start of this project, the archaeology of salt in China was much too under represented on the world stage. On account of the fact that it left its mark in various ways on the evolution of the entire mankind, this research field involves a complex approach that should be as holistic as possible, which surpasses the regular limits of archaeology. Aware of this fact, the project articulated by the American co-PI was designed from the perspective of anthropological archaeology (human impact on, and adaptation to, the natural environment, environmental history, production system). As it is rightly stressed in this first chapter, the production of salt is, in Durkheim's terms, "a total social fact — an aspect of human behaviour that encapsulates the totality of the social system" (p. 15). This approach should ideally cover all the chronological segments of any area investigated, up to the present time, which explains the propitious combination, in our opinion, between the archaeological approach centered on prehistory, and the historiographical one. From this point of view, the Sichuan area, "one of China's principal salt-producing area" (p. 17), harbours evidences from all the past ages, as exemplified by the Late Neolithic and the Bronze Age archaeological chronologies of the Sichuan Basin (p. 21).

Another particularly commendable idea of this project is to position the new discoveries from the Sichuan area in the context of the most significant archaeological, historical and ethnographical research from around the world. This necessary comparative vision was behind the decision to invite some of the most prestigious foreign experts from this field of research, who, by means of their vested input, would help interpret the discoveries from the Sichuan area.

The second chapter is comprised of four reports. The first, dealing with the 1999 preliminary field season and elaborated by Falkenhausen with the contribution of the researchers from the Department of Archaeology (Peking University), the Institute of Archaeology (UCLA), the Chengdu Municipal Institute of Archaeology, and the Department of Anthropology (University of Alabama), is structured on sections concerning the large areas investigated and the individual localities found

there (pp. 31–113). The list of areas and the number of settlements and sites serves to make sense of the amplitude of these investigation: A. Locations in Pujiang County, Chengdu Municipality (Sichuan) (6); B. Locations in Qionglai County, Chengdu Municipality (Sichuan) (1); C. Sites in Zigong City, the „Salt Capital” of Sichuan (3); D. Sites in Zhong Xian (Chongqing Municipality) (4); E. Sites in Yunyang and Fengjie Counties (Chongqing Municipality)(1); F. Sites in Wuxi and Wushan (Chongqing Municipality) (2); that is to say, an total of 18 micro-areas. The appendix at the end of the chapter is in fact a day-by-day account of the journey.

The ancient salt wells from the Yushan Township (Pengsui County, Chongqing) are treated in the second report. Authored by Li Xiaobo, the report is structured in three sections addressing the geological conditions, the presentation of the actual survey conducted in Yushan, and the significance of the research on the ancient salt industry from the area in question. The third study is a preliminary report on the archaeological investigations conducted by the Chengdu Municipal Institute of Archaeology in Pujian County, at an ancient salt production site and in four other locations. In the fourth and last report of the second chapter, Long Teng analyses the cliffside carvings located near the salt wells from Pujian County.

The next chapter, entitled *Monographs*, seeks to deliver synthesis works on the geology and archaeology of the Sichuan area. The first section, by Li Xiaobo, considers the geological background behind the development of salt production in ancient Sichuan. In the third section, Rowan Flad and Pochan Chen advance a monographic outline of the archaeology of the Sichuan Basin and the surrounding areas during the Neolithic. The monographic approach pins down a narrower category in Ian W. Brown’s section on the pointed-base cup, a ceramic species probable employed during salt production. The same approach is employed by Sun Hua and Zen Xianlong, the authors of the section on the same cups and the cauldrons with scalloped rims and the relations with the fishing and salt industry from the Yanzi Gorge Area during the pre-Qin period.

The rich bibliography section ending the first volume (p. 340–366) is relevant foremost for the concerns on the archaeology and the history of salt in China.

The main purpose of the second volume is to highlight the importance of the archaeological research on salt from China, in a referential context that is as encompassing as possible in terms of international references. The studies, which naturally were unable to exhaust not even the most important sites from around the globe, were structured into three distinct parts: *East and Southeast Asia*, *Near East and Europe* and *The New World*. They constitute the editorial capitalization, albeit a partial one since several of the authors were unable to finish their studies, of two international scholarly gatherings that took place in 2004 at UCLA and 2006 at Tübingen; these two scientific events fall along the trend line configured in 1974 at Gloucester, to conceive the archaeology of salt at a global scale. This is also made manifest from the increase in the number of researchers gathered at the two events. Thus, if at the conference from UCLA, organised by L. von Falkenhausen, was attended by participants from China, the United States and Canada, the conference in Germany, organised by H. U. Vogel gathered specialists from the host country, China, Japan, the United States, France, Spain, Austria. Certainly, research conducted on a global scale is the mandatory preliminary condition for comparative approaches. As revealed in the introductory pages signed by the editors of the book, only a single study — the paper authored by Jan Brown — is of an “explicitly comparative nature” (p. 11). But it is laudatory that the volume gathers synthesis studies, which are most useful for this global vision.

The part on the *East and Southeast Asia* contains studies addressing issues from the countries of this area: H.U. Vogel reconsiders the work on the production techniques for maritime salt during Imperial China; Chen Xingcan, Liu Li and Zhao Chunyan tackles the issue of salt from Southern Shanxi and the role in played during the development of the early Chinese polities; in the same vein, Kishimoto Masatoshi focuses on the circulation of salt in the ancient Japanese state; a multifaceted approach is applied by Andreas Reinecke to investigating the evidence for salt making

in ancient Vietnam; an ethnoarchaeological study on salt and pottery manufacturing in Bahal (Central Philippines) is signed by Andrea Yankowski constitutes the last paper of this part.

The part on archaeology of salt from the Near East features the study by B. Erdogan and M. Ozbacaran on the salt in prehistoric Central Anatolia. Much better represented is Europe, with a series of studies by German (Thomas Saile on the patterns of production and trade of salt in Neolithic Central Europe; Martin Hees on the prehistoric production of salt in Southwest Germany; Janine Fries-Knobloch, on the impact of salt production on the Central European Iron Age; Harald Witthoft on the economy and settling around the saline of Luneburg in Germany during the High Middle Ages) and French (Laurent Olivier on the Iron Age salt production centre from *Briquetage de la Seille* in Moselle, France) researchers. Included in this section is Ian W. Brown's study in which he compares the briquetage from Zongba (Sichuan, China) the finds from the red hills of Essex. This latter section should have rather be put into a separate chapter, precisely in order to draw attention to this promising comparative vision that must be furthered into the future.

With respect to the Americas, this part of the globe is represented by Heather McKillop's study on the spatial analysis of the briquetage and wooden buildings found at the Paynes Creek saltworks in Belize, and by Ian W. Brown, who provides with a synthesis work on the archaeological investigations on the salt springs from the Eastern Woodlands of the United States.

The careful reading of these two volumes has been particularly engaging, though I shall refrain from voicing my reflections, save for a number of them.

The bilingual edition (in Chinese and English), to which an essential contribution was made by Rowan Flad, faced numerous challenges with respect to the terminological equivalences between the English and Chinese (and viceversa) specialised lexicons. Judging by the impact of the first volume, deemed a "mini-boom of salt archaeology stuyd in various parts of China" (vol. II, pag. 3), these difficulties seem to have been succesfully overcome.

Special mention should also be made of the impressive bibliography gathered by L. von Falkenhausen (vol. II, pag. 411–470), which exposes to the international circuit a considerable portion of the results obtained by the various national archaeological schools or research directions.

On account of its general conception, the exploratory character of many of the endeavours, and the impressive quantity of information concerning the archaeology (and history) of salt, these two volumes definitely represent a major publishing event, set to become a reference work for this field of research. The publication of the already-announced future volumes is to be warmly welcomed.

Finally, a suggestion: the launch of a website dedicated to this project could, on the one hand, contribute to a substantial increase in its international visibility, and on the other, establish itself as a forum for future collaborations between the increasingly numerous researchers from around the world concerned with holistic approaches to the archaeology of salt.

*Marius Alexianu*

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## ABRÉVIATIONS

Toutes les abréviations de sources littéraires, juridiques et patristiques, ainsi que celles des *corpora* contenant ce type de sources, sont selon les systèmes utilisés par le *Thesaurus Linguae Latinae* et par H. G. Liddel, R. Scott, *A Greek English Lexicon*<sup>9</sup>, Oxford, 1940.

AAntHung	Acta antiqua Academiae Scientiarum Hungaricae, Budapest
AC	L'Antiquité Classique, Bruxelles
ActaAArtHist	Acta ad archaeologiam et artium historiam pertinentia, Oslo
ActaAHung	Acta Archaeologica Academiae Scientiarum Hungaricae, Budapest
AMN	Acta Musei Napocensis, Muzeul Național de Istorie a Transilvaniei, Cluj-Napoca
AE	L'Année Epigraphique, Paris
AJP	American Journal of Philology, Baltimore
Annales AIHV	Annales de l'Association Internationale pour Histoire du Verre
Annales Valahia	Annales d'Université „Valahia” Târgoviște, Section d'Archéologie et d'Histoire, Târgoviște
Annuario	Annuario dell'Istituto Romeno di Cultura e Ricerca Umanistica di Venezia, Venezia
AnSt	Anatolian Studies. Papers of the British Institute at Ankara, Ankara
AnUnIaş	Analele Universității „Alexandru Ioan Cuza” din Iași. Istorie, Iași
Apulum	Apulum. Acta Musei Apulensis, Alba Iulia
Arheologija	Arheologija. Organ na Arheologičeskija Instituti Muzej, Sofia
Arheologičeski otkriti jai razkopki	Arheologičeski otkritija I razkopki, Nationalen arheologičeski instituti Muzej – BAN, Sofija
ArhMold	Arheologia Moldovei, Iași

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Așezări	Așezări din Moldova. De la paleolitic până în secolul al XVIII-lea
Athenaeum	Athenaeum. Studi di letteratura e storia dell'Antichità, Pavia
Balcanica Posnaniensia	Balcanica Posnaniensia. Acta Et Studia, Poznan
BAR	British Archaeological Reports, Oxford
BCH	Bulletin de correspondance hellénique, Athènes
BCMI	Buletinul Comisiei Monumentelor Istorice, Bucurest
BHAUT	Bibliotheca Historica et Archaeologica Universitatis Timisiensis, Timișoara
BMJG (S.N.)	Buletinul Muzeului Județean (Serie Nouă) Giurgiu
Bulletin AIESEE	Annuaire de l'Institut des Études Sud-Est Européennes, Bucurest
BullCom	Bullettino della Commissione archeologica Comunale di Roma, Roma
Buridava	Buridava. Studii și Materiale, Muzeul Județean Vâlcea, Rm.Vâlcea
CAMNI	Cercetări Arheologice. Muzeul Național de Istorie a României, București
CCAR	Cronica Cercetărilor Arheologice din Romania, Bucurest.
CIL	Corpus Inscriptionum Latinarum, Berlin
Chiron	Chiron. Mitteilungen der Kommission für alte Geschichte und Epigraphik des Deutschen Archäologischen Instituts, München
Chronos	Chronos. Revistă de istorie, revista de istorie a Despărțământului ASTRA „Mihail Kogălniceanu”, Iași
Classica & Christiana	Classica & Christiana. Anuar al Centrului de Studii Clasice și Creștine, Iași
ClassRev	The Classical Review, Cambridge
Dacia	Dacia. Fouilles et recherches archéologiques en Roumanie, Bucurest

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Dacia, N.S.	Dacia. Revue d'archéologie et d'histoire ancienne, Nouvelle Série, Bucarest
DA	Dictionnaire des antiquités grecques et romaines (ed. Ch. Daremberg, Ed. Saglio), Paris
DAI	Deutsches Archäologisches Institut
DHA	Dialogues d'histoire ancienne, Besançon
Drobeta	Drobeta, Muzeul Județean Mehedinți, Drobeta Turnu Severin
ErdMúz	Erdélyi Múzeum-Egyesület, Cluj-Napoca
Ephemeris	Ephemeris Dacoromana, Școala Română din Roma, Roma
Dacoromana	Roma
Eurasia Antiqua	Eurasia Antiqua. Zeitschrift für archäologie eurasiens, Berlin
Hesperia	Hesperia. The Journal of the American School of Classical Studies at Athens
HTRTÉ	Hunyadvármegyei Történelmi és Régészeti Társulat Évkönyve, Deva
IDR	Inscripțiile Daciei romane, București
IDRE	Inscriptions externes concernant l'histoire de la Dacie, Bucarest
Il Mar Nero	<i>Il Mar Nero, Annali di archeologia e storia</i> , Rome–Paris
IGLN	Inscriptions grecques et latines de Novae, Bordeaux
ILB	Inscriptiones latinae in Bulgaria repertae, Sofia
ILD	Inscripțiile latine din Dacia, București
ILLPRON	Inscriptiones lapidariarum Latinarum provinciae Norici usque ad annum MCMLXXXIV repertarum, Berlin
ILS	Inscriptiones latinae selectae, Berlin
ISM	Inscripțiile din Scythia Minor, București
Izvestija (Sofija)	Izvestijana Naționalanija Istoričeski Muzej, Sofija
JESHO	Journal of the Economic and Social History of the Orient, Brill
JGS	Journal of Glass Studies, Corning Museum, NY
KJb	Kölner Jahrbuch für Vor- und Frühgeschichte,

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	Römisch-Germanisches Museum Köln
LIMC	Lexicon Iconographicum Mythologiae Classicae, München-Zürich
MolBiolEvol	Molecular Biology and Evolution, Oxford University Press
MSȘIA	Memoriile Secției de Științe Istoric și Arheologice, București
Peuce	Peuce. Institut des Recherches Éco-Muséales, Tulcea
Pontica	Pontica. Musée d'Histoire Nationale et d'Archéologie, Constanța
RAJI I, II	Repertoriul arheologic al județului Iași, vol. I, II
RE	RealEnzyklopädie der classischen Altertumswissenschaft, Stuttgart, 1893-1980.
ReDIVA	Revista Doctoranzilor în Istorie Veche și Arheologie, Cluj-Napoca
RevIst	Revista de Istorie, București
RIS	E. Weber, Die römerzeitlichen Inschriften aus Steiermark, Graz
RMD	Roman Military Diplomas, London
RMI	Revista Monumentelor Istorice, București
Sargetia	Sargetia, Muzeul Civilizației Dacice și Romane, Deva
SAA	Studia Antiqua et Archaeologica, Iași
SCIV(A)	Studii și Cercetări de Istorie Veche (și Arheologie), Bucurest
SP	Studii de Preistorie, București
Starinar	Starinar, Arheološki institut, Belgrad
SympThrac	Symposia Thracologica, București
Thraco-Dacica S.N.	Institutul de Arheologie București
ZPE	Zeitschrift für Papyrologie und Epigraphik, Bonn