JEWELLERY TECHNIQUES IN THE TERRITORY OF PERM CIS-URAL REGION IN THE MIDDLE AGES[*]

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1. Introduction

Items of jewellery discovered in the excavation of archaeological monuments are among the most informative historical sources. Based on the analysis of pieces of jewellery, we can reconstruct the possessor's world outlook, ethnic background, social status, age and gender stratification, as well as determine ethnocultural contacts, migration processes, etc.

Fig. 1. The Perm Cis-Ural region

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However, one of the main aspects of jewellery investigation is the obtaining of information about the development level of craftsmanship and jewellery-making in any territory in a specific period of time. This article deals particularly with the territory of the Perm Cis-Ural region in the Middle Ages. The Perm Cis-Ural region is a geographical area located within the limits of modern Perm territory, within which the Lomovatov and Rodanov archaeological cultures are located; they differ significantly from each other by latitude location, as well as in geological and climatic conditions (**fig. 1**, Upper Kama and Middle Kama River regions).

2. Procedure

To reconstruct the metalworking processes used, an in-depth analysis of jewellery pieces was carried out. The main constituent of this method was the visual study of the surfaces of these items. Inspection under magnification provided information about the individual production of each specific piece.

The main principles of the surface study of metal handicrafts are presented in B. A. Rybakov's investigation devoted to the crafts of the Old Rus.[1] These have since been amended and specified in the works of N. V. Ryndina, N. V. Eniosova, T. G. Saracheva, I. E. Zaytseva, R. S. Minasyan and others.[2]

By comparing the results obtained from investigating the surface of jewellery with jewellery tools discovered in archaeological excavations from the same region and time period (Perm Cis-Ural region in the Middle Ages), it is possible to distinguish the main jewellery-making techniques used by local masters.

3. Results and discussions
3.1. Casting technique

Among the various techniques used in production of jewellery by local masters, casting was the most widespread. Casting is a thermal process of creating pieces from various alloys which involves setting the configuration of a mold cavity, pouring molten metal into it and preserving the piece after hardening.[3]

Casting is the oldest technique for metal jewellery-making encountered in the region and period under consideration, and was familiar to the population of the Perm Cis-Ural region from the Bronze Age.[4] The production of jewellery by means of casting is evidenced by certain typical peculiarities observed during visual surface analysis: traces of cast seams and pouring heads, the presence of pits, casting pores, shrinkage holes, metal flows, etc.

The surface analysis of jewellery pieces testifies to the use of various casting methods by Cis-Kama master-jewellers: lost-wax casting, hollow casting, casting into one-sided and into one-sided and double-sided forms.

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[1] Rybakov 1948.
[2] Ryndina 1962; Ryndina 1963; Eniosova et al. 2001; Eniosova, Kochkurkina 2010, p. 24-33; Zaytseva, Saracheva 2011; Minasyan 1995.
[3] Ishlinsky 1989, p. 272.
[4] Belavin 2012, p. 163-171.

3.1.1. Casting into one-sided forms

When casting into a one-sided form, liquid metal was poured into a horizontal form which could be covered by hard flat object. The metal hardened in the form, resulting in a blank part which was demolded and finished by means of mechanical devices: grinding, polishing, odd metal cutting, etc. Both cult objects and everyday items such as clothes fasteners, appendages to necklaces or bracelets, various types of temporal adornments and the bases of noise-making adornments were cast in this way (**fig. 2/13, 27, 30, 32**). Among the brightest examples of casting into one-sided forms are the plaques of Perm zoomorphic ornaments, horsemen pendants, etc. (**fig. 3**).

3.1.2. Casting into composite forms

To cast thin or three-dimensional pieces, the master used composite casting forms. Casting into double-winged forms was typical in the Perm Cis-Ural region. In order to immobilise the wings during the course of the operation, they were bound or fastened by means of pins inserted through holes drilled in the angles of the form wings.

To cast the metal, a molding channel was fed into the working cavity - one channel to feed the liquid metal in, and sometimes an air hole for the air to escape during casting. In some instances, one molding channel was enough to cast a small piece. More bulky pieces had several molding channels. The molding channels fed through to the most massive details of the item being cast. It is believed that in such cases the excessive pressure of the liquid metal would allow it to pour into the smallest details of the working cavity. Composite forms were used to produce ready-made finished pieces or their constituent parts, the further processing of which would be of a cosmetic character. A precise negative image of the form was the main condition for a successful casting (**fig. 2/16, 18, 20, 26**). The bases for noise-making pendants, tubular penetrated pendants, some types of hollow two-part appendages/bells etc. were frequently cast in this way (**fig. 2/15, 17, 19**).

Composite forms with an inserted pin were found at medieval archaeological sites in the Perm Cis-Ural region. The pin was used not to fix the wings of forms, but to produce pieces with a channel - predominantly, rings, beads, appendages in the form of a small paw with an eyelet, and parts of hollow spherical bells (**fig. 2/23, 26, 29**).

Metal was poured through the molding channels into a closely composed and fixed form. When the metal hardened, the piece was demolded and, frequently, finished mechanically (grinding, degating, etc.).

3.1.3. Lost-wax casting

Lost-wax casting, invented in high antiquity, was widely used throughout the Middle Ages in the Perm Cis-Ural region. In lost-wax casting, the piece designed by the master was initially made from wax. The molding channel (or channels) which would feed metal into the piece was formed by means of a pin made from wax. Cooling the model, the master poured clay paste over it. Once the paste had
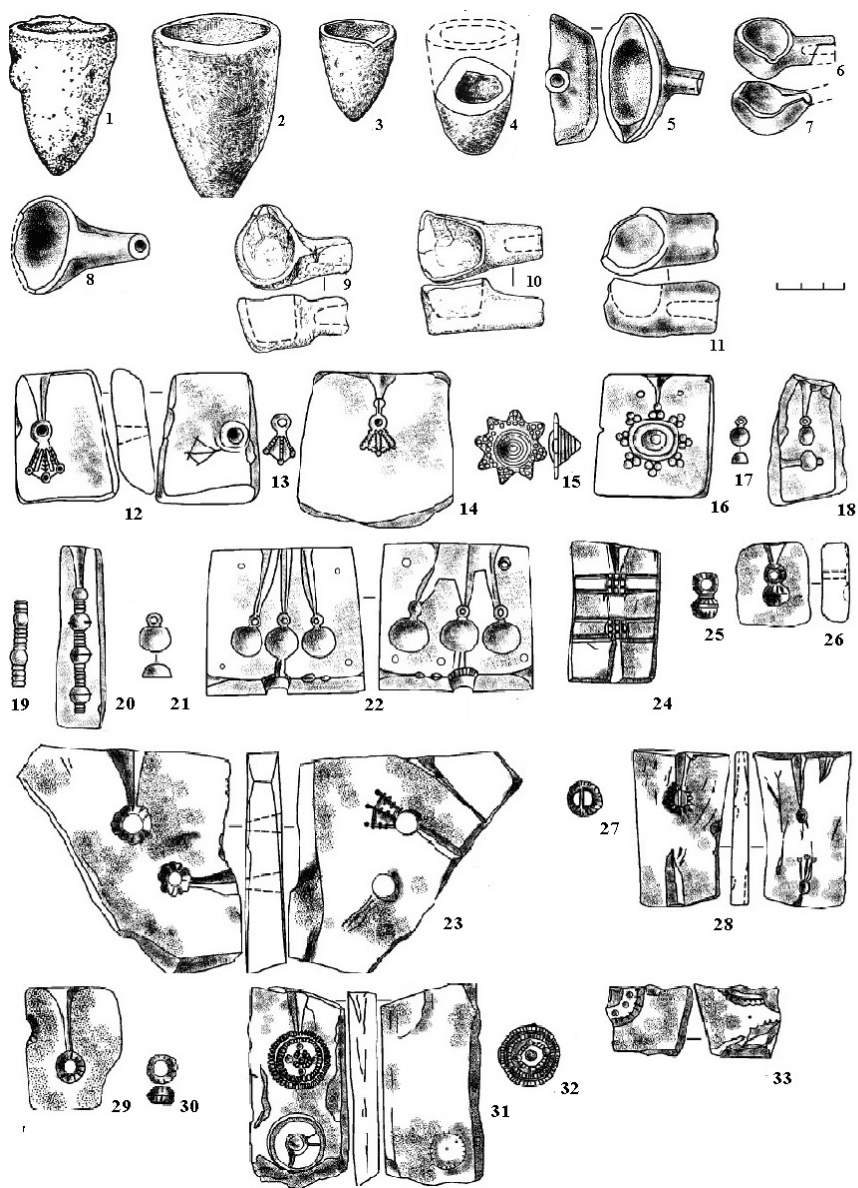
Fig. 2. Melting pots, small dippers, forms and examples of jewellery found in medieval archaeological sites the Perm Cis-Ural region; 1, 2, 29 - Shudkar; 3, 6, 14, 18, 20 - the ancient settlement of Rodanovo; 4 - the ancient settlement of Volodin Kamen; 5, 32-33 - the ancient settlement and burial ground of Telyachiy Brod; 7, 16 - the ancient settlement of Lavryatsky; 8 - the ancient settlement of Salomatovsk; 9, 10, 13, 15, 17, 19, 21, 22, 24-28, 31 - the ancient settlement and burial ground of Rozhdestvenskoe; 11 - the ancient settlement of Zaposelye; 12 - Anyushkar; 23 - the ancient settlement of Chashkin II; 30 - Plotnikov burial ground

Fig. 3. Examples of pieces produced by casting into one-sided forms. 1-2 - the ancient settlement of Volodin Kamen; 3 - the ancient settlement of Zaposelye; 4 - Boyanovsk burial ground

hardened, the resultant form was baked causing the wax to melt and pour out of the molding channel (formed by the abovementioned wax pin). The form was now ready for the wax to be replaced by metal.[5] When the metal had hardened, the form was broken, resulting in an almost ready-made piece, requiring only a minor mechanical finishing (grinding, degating, etc.). Three-dimensional examples of Perm zoomorphic ornaments present the brightest example of lost-wax casting (**fig. 4**).

3.1.4. Hollow casting

This method was used for light, thin-walled and hollow items. Melted metal was poured into the complete mould (the majority of forms were two-sided), having one wide and several additional narrow molding channels (one low for metal sprouting). After pouring in the metal, the form was immediately emptied. Any metal which came into contact with the stone walls of the form would harden into a thin layer, while the rest metal sprouted - drained out - leaving a hollow inside

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[5] Rybakov 1948, p. 153-154.

the form. The casting process had to be very fast, otherwise too much metal would harden inside the form, forming a thick wall or even filling the entire cavity.[6]
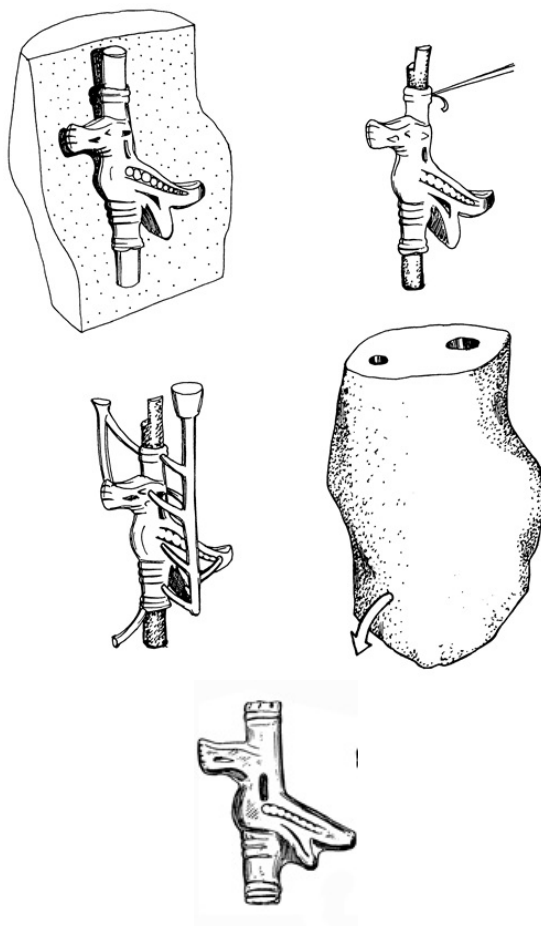

Fig. 4. A scheme to produce a pendant of the dog-bird using a wax model (illustrated by L. I. Lipina). Location - Puksib

Success was thus determined by the timely removal of unhardened metal from the form. The main difficulty was in judging this moment. The higher the melting point of a metal, the faster it hardens, and therefore the shorter the time it can be kept in the form before it solidifies. The length of time a particular alloy should allowed to remain a particular form was determined by the master-jeweller based on experience.[7] Examples of pieces produced by "hollow casting" include elements of belt buckles, the halves of hollow bells and the halves of bell pendants.

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[6] Ryndina 1963, p. 260.
[7] Ryndina 1962, p. 91.

3.1.5. Tools used for casting

Tools found during the excavation of medieval archaeological sites in the Perm Cis-Ural region testify to the widespread and extensive use of casting techniques.

Melting pots (the vessels in which the metal was melted) and small dippers (special spoons used to draw the melted metal from the melting pot and pour it in the form) are the most frequently-encountered tools found in excavations of regional settlements dating from the 7th-9th centuries (**fig. 2/1-11**).

Casting forms for jewellery are less common. The majority of those found are of one-sided or two-sided forms, made from stone or baked clay (**fig. 2/12, 14, 16, 18, 20, 22-24, 26, 28-29, 31, 33**). The casting forms found in archaeological sites of the region date back to the 9th-12th centuries. The rarity of such discoveries and the rather late dating of these forms can be explained by the fact that non-baked (plastic) forms were used in the course of casting,[8] and also by the fact that a great number of jewellery pieces dating back to the 6th-9th centuries were produced using lost-wax casting, during the process of which the form is destroyed.

3.2. Hammering technique

Hammering was the most widespread technique after casting. Hammering was used both to produce (form) jewellery and to finish blank parts of items created in the other ways. Jewellery researchers distinguish between molding hammering - a method for the production of jewellery - and cosmetic hammering, the finishing of pieces made using other techniques.[9] The use of both cosmetic and molding hammering is evidenced by both jewellery and tools found in archaeological sites from the Middle Ages in the Perm Cis-Ural region.

One example of molding hammering is the production of U-shaped temporal adornments popular among the population of Perm Cis-Ural region in the 9th-12th centuries. The main constituent of such pieces was made by hammering out a wire base which was further decorated in various ways (**fig. 5**).[10] Hammering was also used to produce plate-like bracelets and signet rings made by cutting from a template. The tools used for hammering include jewellery hammers and pinchers (such as those found in one of the Redikar burial grounds) as well as iron jewellery anvils (such as those found in the burial grounds of the ancient settlements of Anyushkar and Plesinsk) (**fig. 8/6-7**). Hammering was probably used to produce the base for thin metal sheets and foil before cogging. These sheets of silver, gold and bronze were used as decorative elements of adornments, for covering everyday objects (for instance, sheaths), and in the production of burial masks, etc.

3.3. The use of wire (drawing technique)

The majority of jewellery pieces were composite. Wire was frequently used in details of composite jewellery (for instance, the ring of earrings and temporal

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[8] Minasyan 1995, p. 119.
[9] Zaytseva, Saracheva 2011, p. 129; Ryndina 1998, p. 78.
[10] Podosenova 2009, p. 124.

adornments, the bases of signet rings, chain links, source material to produce filigree wire, etc.).
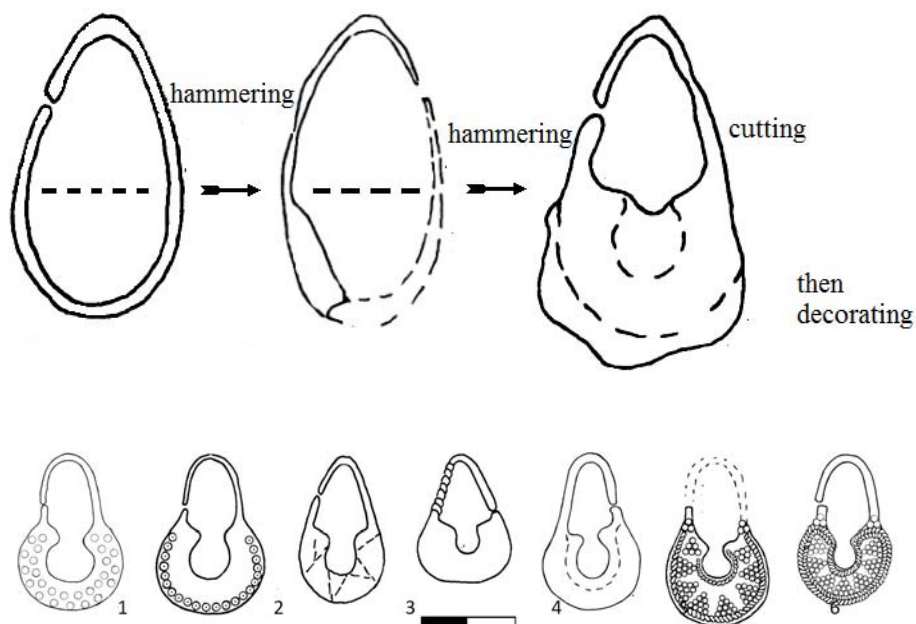

Fig. 5. A scheme to produce U-shaped temporal adornments using molding hammering. Examples of pieces from archaeological sites in the Perm Cis-Ural region (1-4 - the ancient settlement and burial ground of Rozhdestvenskoe, 4 - the burial ground of Stepanovo Plotbishche, 5 - the settlement of Rozhdestvenskoe, 6 - the collection of A. F. Teploukhov

In the Perm Cis-Ural region, wire was typically produced in three ways: hammering, casting and drawing. Hammering and casting had been used as the main ways to produce wire in the region since before the Middle Ages. Drawing techniques first appeared in the Perm Cis-Ural region at the end of the 7th century. Drawing is a way to produce wire by pulling cast or hammered rods through tapered holes to reduce their cross-section and increase their length.[11] A drawing block (drawing nozzle in modern jewellery) - a plate with tapered holes of various diameter - was used for this process. A rod with a narrow end was drawn through the holes, producing wire of the required diameter.[12] The use of this technique is evidenced by the wire itself in the jewellery, where the obvious signs of drawing can be traced (the same diameter and similar slots along the whole length), as well as by the discovery of drawing blocks in medieval archaeological sites of the Perm Cis-Ural region (**fig. 8/1-2**).

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[11] Marchenkov 1984, p. 55-56.
[12] Ibid.

3.4. Stamping technique

Medieval masters were very familiar with the stamping (or blanking) technique. Stamping is a kind of ornamental technique involving stamping embossed images onto the surface of sheet metal using special tools known as stamp-matrices.[13]

This technique appears in the territory of the Perm Cis-Ural region as far back as the 6th century, as evidenced by findings of U-shaped earrings with stamped bodies. The most widespread type of stamped pieces were the halves of hollow balls, used as constituents for beads, appendages for temporal adornments, "caps" for signet rings, headwear, etc. The finds from archaeological sites in the Perm Cis-Ural region also include more complex pieces made using the stamping technique - ornamental coverings for sheaths, parts of belt sets (belt plates and belt tips) and coin-shaped pendants depicting the subjects of Perm zoomorphic ornaments (**fig. 6/1-7, 10-11**).

Matrices, used as stamps for blanking, are also found among the materials excavated in this region. Although currently only a small number have emerged, it is necessary to point out that matrices could be represented by ready-made jewellery produced by casting, as the majority of stamped pieces accurately duplicate cast pieces (**fig. 8/13-14**).

3.5. Embossing technique

Embossing was frequently used in the Perm Cis-Ural region in the Middle Ages. Embossing is the process of creating relief pictures on thin metal sheets by means of numerous strokes from various caulking hammers. In particular, embossing was used to decorate silver burial masks found in Perm Cis-Ural burial grounds dating from the 9th-11th centuries, as well as in temporal adornments, bracelets, signet rings, etc. (**fig. 6/8-9, 12-13**). The main tools used for this technique, which have been found in the excavation of settlements, are caulking hammers. These take the form of iron rods with variously-shaped hammer faces: a spherical shape to create semicircular projections or pitted textures, a well-rounded shape to make an ornament in the form of a circle, a concave face to create circular decorations, etc. (**fig. 8/3-5**).

3.6. Engraving technique

From the 10th century onwards, engraving techniques were used in jewellery-making in the Perm Cis-Ural region. Engraving is a technique in which a sculper (a tool in the form of rod with a cutting end) is used to cut the contours of the desired image. The first engraved pieces were made from thin silver sheet. Frequently, techniques of blackening and gold-plating (see below) were used together with engraving. Typical examples of Cis-Kama engraved jewellery include coin-shaped pendants, signet rings and badges depicting austringers (falconers - the personification of one of the deities, bearing a falcon on his hand) (**fig. 6/14-17**; **7/23-24**).

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[13] Novikov, Pavlov 1993, p. 86.

It is necessary to mention that compared to other techniques, engraving and embossing were not widely used in the territory under consideration. Where it was used, the engraved images and ornaments were uncomplicatedd compared to those from neighboring territories (for instance, Old Russian pieces, or those from the Volga Bulgaria region).[14]

3.7. Granulation technique

Filigree pieces represent one of the numerous expressive types of Cis-Kama jewellery. Pieces of jewellery can be described as filigree if they are made of thin wire combined with granulation.

Granulation is a technique for decorating or producing parts of jewellery using small balls soldered to a metal base or soldered together (**fig. 7/1-21**).

Researchers distinguish two ways to make granulation. The first one involves splitting a jet of liquid metal into small balls; the second consists of melting smooth metal pieces in ash, the size of which has been calculated in such a way that as a result of liquid surface tension the metal fuses together into balls during heating.[15] The second method was used in the Perm Cis-Ural region, as evidenced by the well-formed sphericity of the grains, by not melted up to the end traces of trimming wire (workpieces) etc.[16]

Grains were usually grouped into triangles, or more rarely rhomboids. Pyramids, made from grains were used in three-dimensional adornments, for instance, on the balls of pear-shaped temporal pendants or as an independent element in racemation-shaped earrings (**fig. 7/15-17**). Frequently, to obtain the intended decorative effect, grains of different diameter were used in one adornment (for instance, large silver grains and small golden grains were used to decorate the handle of a knife from Redikar burial ground, **fig. 7/3**).

3.8. Filigree technique

Filigree technique was developed in parallel to granulation in the territory of the Perm Cis-Ural region (**fig. 7/1-21**). Filigree jewellery parts are those decorated or made entirely from thin wires. Frequently the term filigree is used to describe any decorative wire, but real filigree involves two or more wires wound together. Real (wound) filigree appears in pieces from the Perm Cis-Ural region as far back as the 10th century. Before this time, filigree-like effects were achieved using by twists (cut wire twisted around its axis), woven (one end of wire muffled by another end) and stamped wire (achieved by stamping smooth wire with a pigtailed or straight cutting).

When true filigree appeared, wire twisting and stamping did not disappear but began to be used for cheaper adornments (mainly made from bronze) as an imitation of real filigree or in parallel with it. Filigree, twisted, woven and stamped wire were used not only as decorative elements in jewellery, but also to mask the joints of separate elements in composite adornments.

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[14] Rudenko 2006, p. 91-107.

[15] Minzhulin 1990a, p. 239; Duczko 1985, p. 22-24; Minzhulin 1990b, p. 741; Zhilina 2010, p. 27-35.

[16] Podosenova 2014, p. 36-43.

All filigree in the jewellery of the Perm Cis-Ural region is on a background, i.e. its elements are soldered to the base/background of the piece. The lining technique in jewellery-making is the use of a thin metal plate to which decorating elements (grains, filigree, etc.) are soldered. This is used to produce a part of the piece in question, which is then soldered to the main base of the piece. Decoration with filigree using the lining technique has been discovered in only in two cases. In the first, grains of gold were soldered to a gold base and then to the base of the piece (the sheath from the Redikar burial ground) (**fig. 7/3**). In the second case, gold filigree was soldered to a gold base with a stone insertion, and then to the base of the piece (a pendant from the Redikar treasure) (**fig. 9**). However, these pieces are the only examples; there are no other analogues to these objects. They possibly indicate a new method of jewellery decoration acquired by the master who made them, or may point to a non-standard approach to decoration - filigree on a base could have been cut from another (foreign) piece and soldered onto a local base.

The placing of grains and filigree onto pieces of jewellery was carried out using special jewellery pincers. Pincers are a frequent find in medieval sites of the Perm Cis-Ural region. There are two types: pincers with flat tips used to pick up and place miniature elements and pincer/clamps with the ends curved in at an angle, which were used to fasten and hold objects in the course of their processing (**fig. 8/8-12**). It is possible that to produce stamped wire, a simple rasp with a longitudinal slot in the bottom was used.[17]

3.9. Blackening technique

Blackening techniques appear in the Perm Cis-Ural region from the 10th century. Blackening is a kind of decorative finish involving laying a low-melting-point alloy, black in colour, over part of the piece's surface. Jewellery pieces which use blackening are encountered only rarely among the medieval finds from the Perm Cis-Ural region. However, the presence of blackening on objects typical of this territory indicates that local masters knew this technique. Objects which use blackening include burial masks, badges with Austringer, noise-making arch pendants, signet rings, etc. (**fig. 7/22-24; 10**).

3.10. Gold-plating technique

For some jewellery pieces from the Perm Cis-Ural region, medieval master-jewellers used gold-plating, a technique which involves covering precious or base metals with a thin layer of gold.

Frequently, gold-plating was laid on a smooth background under filigree and granulated elements in granulated-filigree adornments, or on the main figures of medallions and embossed pieces. Gold-plating (amalgamation) involves covering the piece with gold powder by means of adhesive and heating it until the powder has melted onto the surface.

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[17] Theophilus 1979, p. 90.

As well as gold-plating, composite granulated-filigree adornments also used backgrounds overlaid with thin gold leaf (for instance, in U-shaped granulated-filigree temporal adornments, bottle-shaped granulated-filigree pendants, granulated-filigree bracelets, etc.). Overlaying the background with gold leaf (sheathing) involves cutting the desired shape from thin foil and fastening it to the piece base (applique technique).

3.11. Soldering technique

The use of soldering in the Perm Cis-Ural region is also evidenced. This is a process of creating permanent joints by means of low-melting-point metal alloys (solder). Soldering was used to join elements of composite adornments and to fix miniature elements of the decoration in place.

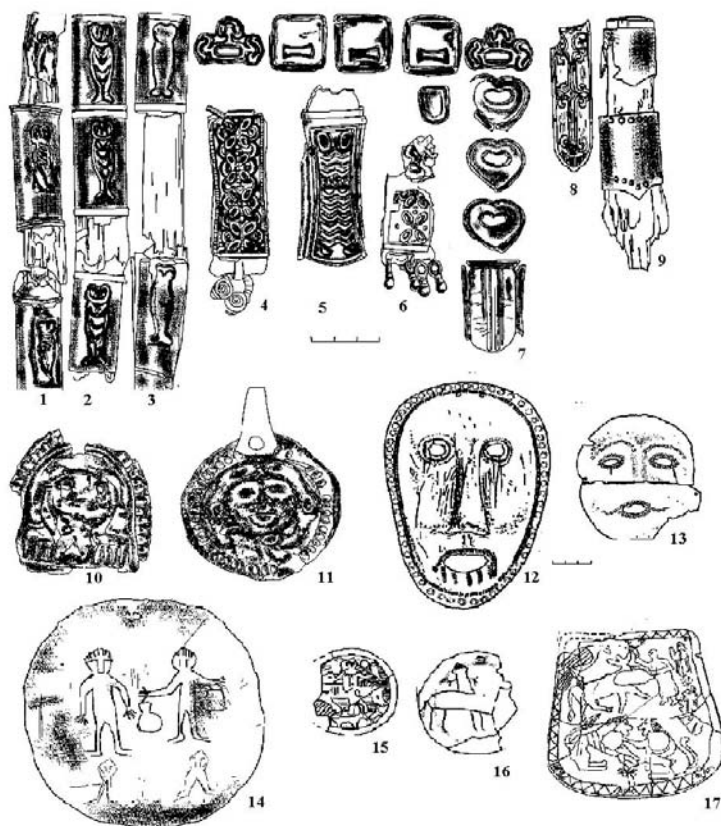**Fig. 6.** Examples of pieces which use the techniques of stamping, embossing and engraving from among the finds of Upper Cis-Kama region medieval archaeological sites: 1-10 - Bayanovsk burial ground (excavation by A. V. Danich); 11 - Zaposelye settlement; 12-14, 17 - Perm territory; 15 - Antybarsk burial ground; 16 - the ancient settlement of Kuporos. Stamping: 1-7, 10-11. Embossing: 8-9, 12-13. Engraving: 14-16
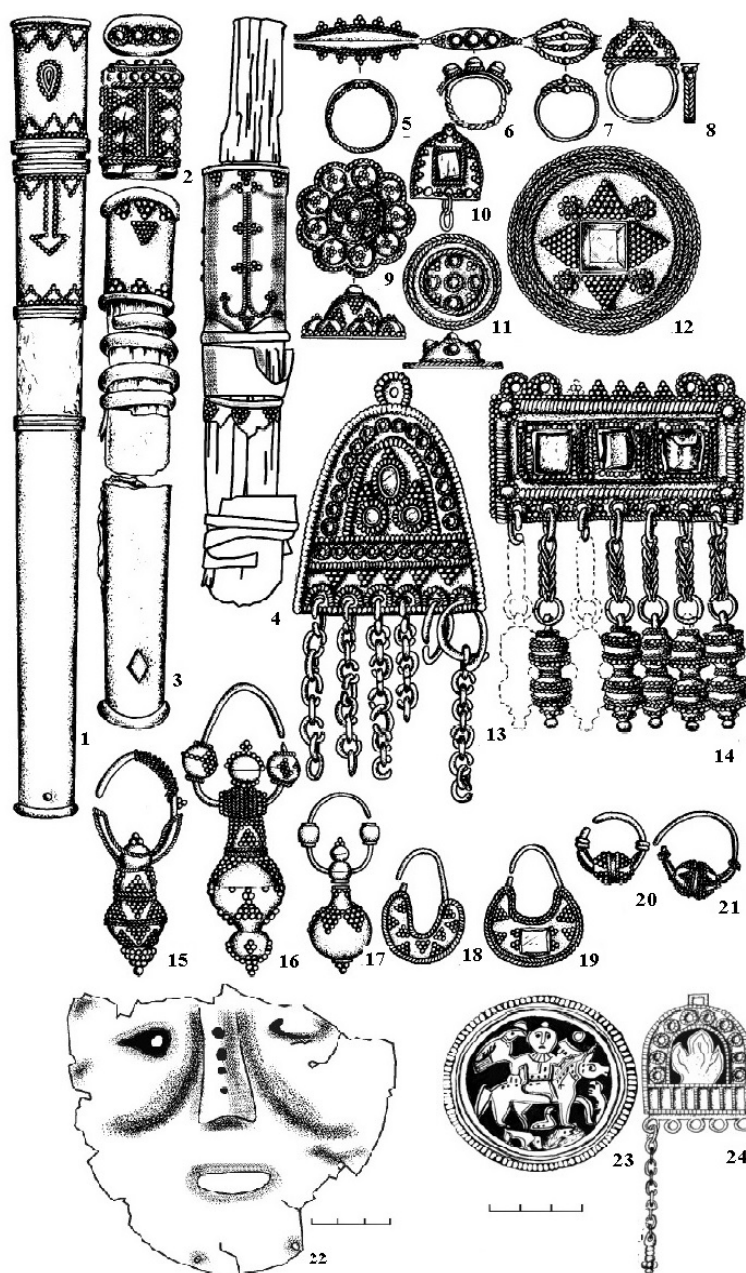
Fig. 7. Examples of pieces using the techniques of granulation, filigree and, blackening: 1 - Kanev burial ground; 2, 8 - Ogurdin burial ground; 3, 6, 10, 16-17, 24 - Redikar burial ground and treasure; 4 - Bayanov burial ground; 5 - Gort-Kushet; 7, 13 - Pyskor; 9, 11 - Cherdyn region; 12 - Maykar; 14 - Perm province; 15 - Vashkur; 18-19, 22 - the ancient settlement and burial ground of Rozhdestvenskoe; 20 - Antybar burial ground; 21 - the ancient settlement of Vakinskoe; 23 - Large Field village
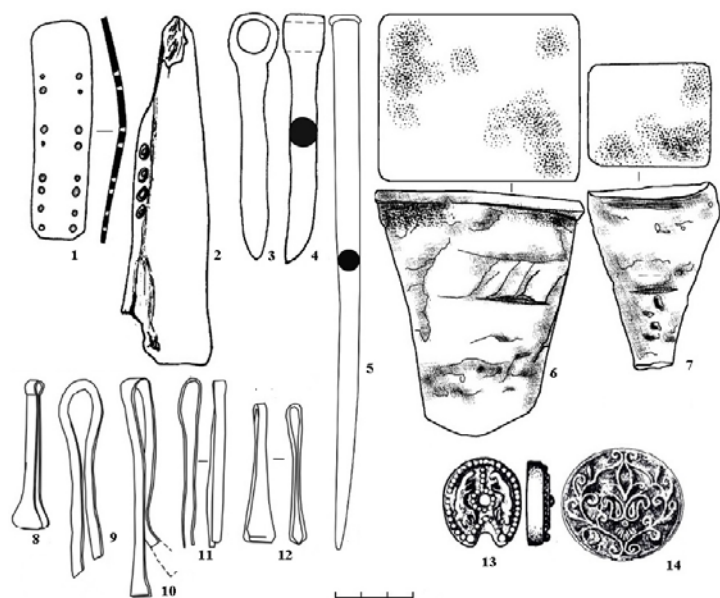
Fig. 8. Examples of jewellery tools found in medieval archaeological sites of the Upper Cis-Kama region: 1, 3-4, 11 - the ancient settlement of Rozhdestvenskoe; 2, 5-6 - the ancient settlement of Anyushkar; 7 - Pleso; 8 - the ancient settlement of Oputyatskoe; 9-10 - the ancient settlement of Volodin Kamen; 12 - the ancient settlement of Zaposelye; 13 - Ruchib; 14 - the ancient settlement of Vakinskoe. Drawing tools for wire: 1-2. Stamping tools: 3-5. Jewellery anvils: 6-7. Jewellery pincers: 8-12. Matrices: 13-14

Fig. 9. Examples of composite jewellery pieces with copper details and laying techniques. 1- Boyanov burial ground, 2 - Redikar burial ground

Fig. 10. Signet rings with blackening and gold-plating (illustrated by N. G. Brukhova). Plotnikov burial ground[18]

4. Conclusions

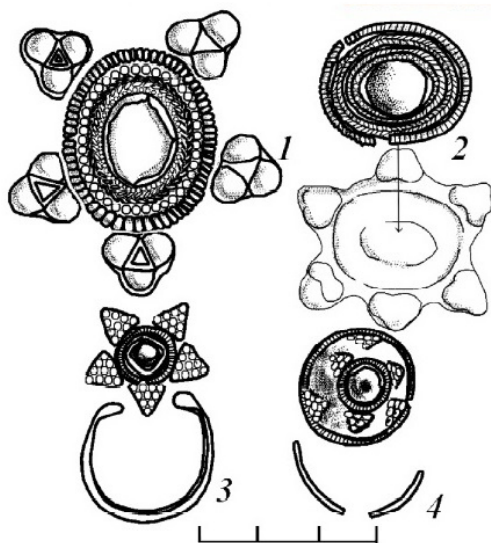The analysis of jewellery and jewellery tools found in medieval archaeological sites in the Perm Cis-Ural region provides evidence about the various techniques applied in the production of jewellery by local masters of the Middle Ages. Casting was the most popular way to produce jewellery throughout the entire medieval epoch (6th-14th centuries). Between the 6th and 9th centuries, lost-wax casting and casting into one-sided (open) forms dominated. In the period from the 10th to 14th centuries, casting into one-winged and multi-winged forms dominated. From the 10th century, master-jewellers began to apply engraving, stamping, filigree, blackening and gold-plating techniques in jewellery production. The presence of various jewellery techniques, from simple (for instance, casting) to more labour-intensive ones (such as filigree and granulation) indicates the high level of development among master-jewellers in the Perm Cis-Ural region in the Middle Ages. The jewellery techniques considered in this article were typical not only of Perm Cis-Ural region, but also the cultures of some neighbouring territories.

Jewellery Techniques in the Territory of Perm Cis-Ural Region in the Middle Ages

(Abstract)

This article presents a study of jewellery obtained in the course of excavations of archaeological sites in the Perm Cis-Ural region. Jewellery finds represent one of the most informative archaeological sources. Based on the analysis of such pieces, it is possible to reconstruct the culture, ethnicity, social status, age and gender stratification of the bearer, as well as trace ethno-cultural contacts, migration processes, etc. The main aim of this study was to obtain information about the craft level of jewellery-making techniques in the Lomatov and Rodanov archaeological cultures. By studying the surface of pieces of jewellery found in the excavation of archaeological sites in the Perm Cis-Ural region and comparing the results with the jewellery tools, it is possible to identify the basic jewellery-making techniques practiced by local masters and to reconstruct the technological processes involved in their creation. The main method used in this study was the visual examination of the item's surface by means of magnification, which provides information regarding the methods used to manufacture each specific item. Based on the analysis of both pieces of jewellery and the tools used to create them, covering the period from the 6th-14th centuries, this study offers a brief overview of the main techniques used by medieval master-jewellers in the Perm Cis-Ural region. The analysis of jewellery and jewellery-making tools provides evidence of the various jewellery techniques used: casting, hammering, stamping, drawing, embossing, engraving, filigree, granulation, blackening, gold-plating

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[18] Brukhova 2010; Brukhova 2011; Brukhova 2012; Brukhova 2013.

and soldering. The presence of various jewellery-making techniques - from simple ones such as casting to more labour-intensive ones such as filigree and granulation – suggests a high level of craftsmanship among jewellers in the Perm Ural region and other neighbouring cultures in the Middle Ages.

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Ryndina 1962   - N. V. Ryndina, *O drevnerusskom lite navyplesk*, in *SA*, 3, 1962, p. 91-98.

Ryndina 1963   - N. V. Ryndina, *Tekhnologiya proizvodstva novgorodskikh yuvelirov X-XV vv*, in *MIA*, 117, 1963, p. 200-263.

Ryndina 1998   - N. V. Ryndina, *Drevneyshee metalloobrabatyvayushchee proizvodstvo Yugo-Vostochnoy Evrope (istoki i razvitie v neolite-eneolite)*, Moscow, 1998.

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Zaytseva, Saracheva 2011   - E. Zaytseva, T. G. Saracheva, *Yuvelirnoe delo "Zemli vyatichey" vo vtoroy polovine XI-XIII vv*, Moscow, 2011.

Zhilina 2010   - N. V. Zhilina, *Zern' i skan' drevney Rusi*, Moscow, 2010.

Keywords: jewellery technique, granulation, engraving, embossing, stamping, the Middle Ages, Perm Cis-Ural region.

LISTA ABREVIERILOR

AAR-SI - Analele Academiei Române. Memoriile Secţiunii Istorice. Academia Română. Bucureşti.

AAust - Archaeologia Austriaca, Beiträge zur Paläanthropologie, Ur- und Frühgeschichte Österreichs. Wien.

AB - Altarul Banatului. Arhiepiscopia Timişoarei şi Caransebeşului şi Episcopia Aradului. Timişoara.

ActaArchCarp - Acta Archaeologica Carpathica. Cracovia.

ActaArchHung - Acta Archaeologica. Academiae Scientiarum Hungaricae. Budapest.

ActaMN - Acta Musei Napocensis. Cluj-Napoca.

ActaMP - Acta Musei Porolissensis. Muzeul Judeţean de Istorie şi Artă Zalău.

ActaPal - Acta Paleobotanica. Polish Academy of Sciences. Krakow.

AÉ - Archaeologiai Értesitö a Magyar régészeti, müvésyt-történeti és éremtani társulat tudományos folyóirata. Budapest.

AHA - Acta Historiae Artium. Akadémiai Kiadó. Budapest.

AIIC(N) - Anuarul Institutului de Istorie „George Bariţ". Cluj-Napoca.

AIIAC - Anuarul Institutului de Istorie şi Arheologie Cluj. Cluj-Napoca (din 1990 Anuarul Institutului de Istorie „George Bariţ").

AIIAI/AIIX - Anuarul Institutului de Istorie şi Arheologie „A. D. Xenopol" Iaşi. (din 1990 Anuarul Institutului de Istorie „A. D. Xenopol" Iaşi).

AISC - Anuarul Institutului de Studii Clasice. Cluj.

AJA - American Journal of Archaeology. New York.

AJPA - American Journal of Physical Anthropology. The Official Journal of the American Association of Physical Anthropologist. Baltimore.

Almanahul graficei române - Almanahul graficei române. Craiova.

Aluta - Aluta. (Studii şi comunicări - Tanulmányok és Közlemények). Sfântu Gheorghe.

AnB - Analele Banatului (serie nouă). Timişoara.

Angustia - Angustia. Muzeul Carpaţilor Răsăriteni. Sfântu Gheorghe.

Antaeus - Antaeus. Communicationes ex Instituto Archaeologico Academiae Scientiarum Hungaricae. Budapest.

AnthAnzeiger - Anthropologischen Anzeiger. Journal of Biological and Clinical Anthropology.

Antiquity - Antiquity. A Quartely Review of World Archaeology. York.

AnUB-LLS - Analele Universităţii din Bucureşti - Limba şi literatura străină. Universitatea din Bucureşti.

AO - Arhivele Olteniei. Craiova; serie nouă (Institutul de Cercetări Socio-Umane. Craiova).

AP	- Annales de Paléontologie. L'Association paléontologique française.
APR	- Acta Palaeontologica Romaniae. Romanian Society of Paleontologists. Bucharest.
Apulum	- Apulum. Acta Musei Apulensis. Muzeul Naţional al Unirii Alba Iulia.
Archaeologia Bulgarica	- Archaeologia Bulgarica. Sofia.
Archaeometry	- Archaeometry. Research Laboratory for Archaeology & the History of Art. Oxford.
ArchMűhely	- Archeometriai Műhely. Budapest.
Arheologia	- Archeologia. Organ na Archeologičeskija Institut i Muzei pri Bulgarskata Akademija na Naukite. Sofia.
ArkhSb	- Arkheologicheskiy sbornik. Muzey Ermitazh. Moskva.
AS	- American Studies. Mid-America American Studies Association. Cambridge (USA).
ASS	- Asian Social Science. Canadian Center of Science and Education. Toronto.
ASUAIC-L	- Analele Ştiinţifice ale Universităţii „Alexandru Ioan Cuza" din Iaşi (serie nouă). Secţiunea IIIe. Lingvistică. Universitatea „Alexandru Ioan Cuza" din Iaşi.
AT	- Ars Transsilvaniae. Institutul de Istorie şi Arheologie Cluj-Napoca. Cluj-Napoca
ATS	- Acta Terrae Septemcastrensis. Sibiu.
AUASH	- Annales Universitatis Apulensis. Series Historica. Universitatea „1 Decembrie 1918" din Alba Iulia.
AUASP	- Annales Universitatis Apulensis. Series Philologica. Universitatea „1 Decembrie 1918" din Alba Iulia.
AUCSI	- Analele Universităţii din Craiova. Seria Istorie. Universitatea din Craiova.
Australiada	- Australiada: A Russian Chronicle. New South Wales. Woy Woy (Australia).
AUVT	- Annales d'Université „Valahia" Târgovişte. Section d'Archaéologie et d'Histoire. Universitatea Valahia din Târgovişte.
AVSL	- Archiv des Vereins für Siebenbürgische Landeskunde. Sibiu.
BA	- Biblioteca de arheologie. Bucureşti.
Banatica	- Banatica. Muzeul de Istorie al judeţului Caraş-Severin. Reşiţa.
Balcanica	- Balcanica. Annuaire de l'Institut des Études Balkaniques. Belgrad.
BAMNH	- Bulletin of the American Museum of Natural History. American Museum of Natural History. New York.
BAR	- British Archaeological Reports (International Series). Oxford.
BB	- Bibliotheca Brukenthal. Muzeul Naţional Brukenthal. Sibiu.
BCMI	- Buletinul Comisiunii Monumentelor Istorice / Buletinul Comisiei Monumentelor istorice. Bucureşti.

Lista abrevierilor

BerRGK	- Bericht der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts. Frankfurt am Main.
BF	- Bosporskij fenomen. Gosudarstvennyj Ermitazh Sankt-Peterburg.
BGSG	- Bulletin of the Geological Society of Greece. Geological Society of Greece. Patras.
BHAB	- Bibliotheca Historica et Archaeologica Banatica. Muzeul Banatului Timișoara.
BI	- Bosporskie issledovanija. Krymskoe Otdelenie Instituta Vostokovedenija, Nacional'na akademija nauk Ukraïni. Simferopol, Kerch.
BMA	- Bibliotheca Musei Apulensis. Muzeul Național al Unirii Alba Iulia.
BMAntiq	- Bibliotheca Memoriae Antiquitatis. Piatra Neamț.
BMN	- Bibliotheca Musei Napocensis. Muzeul de Istorie a Transilvaniei. Cluj-Napoca.
BMS	- Bibliotheca Musei Sabesiensis. Muzeul Municipal „Ioan Raica". Sebeș.
BOR	- Biserica Ortodoxă Română. Patriarhia Română. București.
BospCht	- Bosporskie chtenija. Bospor Kimmerijskij i varvarskij mir v period antichnosti i srednevekov'ja. Militaria. Krymskoe Otdelenie Instituta Vostokovedenija. Nacional'na akademija nauk Ukraïni. Simferopol, Kerch.
Das Börsenblatt	- Börsenblatt für den Deutschen Buchhandel-Frankfurter Ausgabe. Börsenverein des Deutschen Buchhandels. Frankfurt pe Main.
Br J Ind Med	- British Journal of Industrial Medicine. London.
Brukenthal	- Brukenthal. Acta Musei. Muzeul Național Brukenthal. Sibiu.
BTh	- Bibliotheca Thracologica. Institutul Român de Tracologie. București.
București	- București. Materiale de istorie și muzeografie. București.
Bucureștii vechi	- Bucureștii vechi. Buletinul Societății Istorico-Arheologice. București.
BUS	- Birka Untersuchungen und Studien. Stockholm.
CA	- Current Anthropology. University of Chicago.
Caietele ASER	- Caietele ASER. Asociația de Științe Etnologice din România. București.
Carpica	- Carpica. Complexul Muzeal „Iulian Antonescu" Bacău.
CCA	- Cronica cercetărilor arheologice. București.
CCJ	- Chemistry Central Journal. London.
Cele Trei Crișuri	- Cele Trei Crișuri. Oradea.
Cetatea Bihariei	- Cetatea Bihariei. Institutul de Istorie și Teorie Militară din București, Secția Teritorială Oradea.
CIRIR	- Cercetări istorice. Revistă de istorie românească. Iași.
CL	- Cercetări literare. Universitatea București.
Codrul Cosminului	- Codrul Cosminului, seria nouă. Analele Științifice de Istorie, Universitatea „Ștefan cel Mare" Suceava.
ComȘtMediaș	- Comunicări Științifice. Mediaș.
ConspNum	- Conspecte numismatice. Chișinău.

Convieţuirea-Együttélés	- Convieţuirea-Együttélés. Catedra de limbă şi literatura română a Institutului Pedagogic „Juhász Gyula", Szeged.
Corviniana	- Corviniana. Acta Musei Corvinensis. Hunedoara.
CPF	- Cahiers des Portes de Fer. Beograd.
CretaceousRes	- Cretaceous Research. Elsevier.
Crisia	- Crisia. Culegere de materiale şi studii. Muzeul Ţării Crişurilor. Oradea.
CRP	- Comptes Rendus Palevol. Comptes Rendus de l'Académie des Sciences France.
Cultura creştină	- Cultura creştină. Publicaţie apărută sub egida Mitropoliei Române Unite cu Roma Greco-Catolică şi a Facultăţii de Teologie Greco-Catolice din Universitatea „Babeş-Bolyai" Cluj-Napoca, Departamentul Blaj.
Dacia	- Dacia. Recherches et découvertes archéologiques en Roumanie. Bucureşti, I, (1924) - XII (1948). Nouvelle série: Revue d'archéologie et d'historie ancienne. Bucureşti.
Dări de seamă	- Dări de seamă ale şedinţelor. Paleontologie. Institutul Geologic al României. Bucureşti.
DB	- Drevnosti Bospora. Rossiyskaya Akademiya Nauk. Moskva.
De Antiquitate	- De Antiquitate. Asociaţia Virtus Antiqua. Cluj-Napoca.
DFS	- Deutsche Forschung im Südosten. Sibiu.
DP	- Documenta Praehistorica. Poročilo o raziskovanju paleolitika, neolitika in eneolitika v sloveniji. Ljubljana.
Drevnosti Altaja	- Drevnosti Altaja. Gorno-Altajskij gosudarstvennyj universitet. Gorno-Altajsk (Respublika Altaj).
EHQ	- European History Quarterly. Sage Publications. New York.
EphNap	- Ephemeris Napocensis. Institutul de Arheologie şi Istoria Artei, Cluj-Napoca.
EVNE	- Etnokul'turnoe vzaimodeystvie narodov Evrazii. Institut Arheologii i Etnografii Sibirskogo otdeleniya Rossiyskoy Akademii Nauk. Novosibirsk.
FK	- Földtani közlöny. Magyarhoni foldtani tarsulat folyóirata. Budapest.
FU	- Finno-Ugrika. Institut Istorii imeni Sh. Mardzhani. Akademiya Nauk Tatarstana. Kasan'.
FVL	- Forschungen zur Volks- und Landeskunde. Sibiu.
Geo-Eco-Marina	- Geo-Eco-Marina. Institutul Naţional de Cercetare-Dezvoltare pentru Geologie şi Geoecologie Marină. Bucureşti.
Glasnik	- Glasnik Srpskog arheološkog društva. Journal of the Serbian Archaeological Society. Beograd.
Glasul Bisericii	- Glasul Bisericii. Mitropolia Munteniei şi Dobrogei. Bucureşti.
Godišnjak	- Godišnjak. Jahrbuch Knjiga. Sarajevo-Heidelberg.
GR	- Gondwana Research. International Association for Gondwana Research, Journal Center, China University of Geosciences. Beijing.
HistArchaeol	- Historical Archaeology. Society for Historical Archaeology.
HistMet	- Historical Metallurgy, The Historical Metallurgy Society.

Lista abrevierilor

HJ	- The Historical Journal. University of Cambridge (UK).
HSCE	- History & Society in Central Europe. István Hajnal Society of Historians. Medium Ævum Quotidianum Society. Budapest. Krems.
IJAM	- International Journal of Arts Management. École des Hautes Études Commerciales (HEC) in Montreal.
IJO	- International Journal of Osteoarchaeology. United States.
IPH	- Inventaria Praehistorica Hungarie. Budapest.
Istros	- Istros. Muzeul Brăilei. Brăila.
JACerS	- Journal of the American Ceramic Society. The American Ceramic Society, Ohio.
JAS	- Journal of Archaeological Science. Academic Press. United States.
JFA	- Journal of Field Archaeology. Boston University.
JLS	- Journal of Lithic Studies. Edinburgh.
JMH	- Journal of Modern History. University of Chicago.
JOB	- Jarbuch der Ősterreichschen Byzantinistik. Institut für Byzantinistik und Neogräzistik der Universität Wien.
JPSP	- Journal of Personality and Social Psychology. American Psychological Association. Washington DC.
JRGZM	- Jahrbuch des Römisch-Germanischen Zentralmuseums zu Mainz. Mainz.
JSP	- Journal of Systematic Palaeontology. British Natural History Museum. London.
JSSR	- Journal for the Scientific Study of Religion. The Society for the Scientific Study of Religion. South-Carolina.
JVP	- Journal of Vertebrate Paleontology. Society of Vertebrate Paleontology (SVP) in partnership with the Taylor & Francis Group. Abingdon, Oxfordshire (UK).
Közlemények	- Közlemények az Erdélyi Nemzeti Múzeum Érem - és Régiségtárából, Cluj.
Le Glob	- Le Globe. Revue genevoise de géographie. Paris.
LSJ	- Life Science Journal. Acta Zhengzhou University. Zhengzhou (China).
LŞ	- Lucrări ştiinţifice. Institutul de Învăţământ Superior Oradea.
MA	- Mitropolia Ardealului. Revista oficială a Arhiepiscopiei Sibiului, Arhiepiscopiei Vadului, Feleacului şi Clujului. Episcopiei Alba Iuliei şi Episcopiei Oradiei. Sibiu (1956-1991). A continuat *Revista Teologică*, (1907-1947) şi este continuată de aceeaşi revistă.
Marisia	- Marisia. Studii şi Materiale. Târgu Mureş.
Marmatia	- Marmatia. Muzeul Judeţean de Istorie şi Arheologie. Baia Mare.
Materiale	- Materiale şi cercetări arheologice. Bucureşti.
MBGAEU	- Mitteilungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. Berlin.
MCA	- Materiale şi cercetări arheologice. Bucureşti.

ME	- Memoria Ethnologica. Centrul Judeţean pentru Conservarea şi Promovarea Culturii Tradiţionale Maramureş. Baia Mare.
MEJSR	- Middle-East Journal of Scientific Research. International Digital Organization for Scientific Information. Deira, Dubai (United Arab Emirates).
MemAntiq	- Memoria Antiquitatis. Complexul Muzeal Judeţean Neamţ. Piatra Neamţ.
MIA	- Materialy i issledovaniya po arkheologii SSSR. Akademiya Nauk SSSR. Moskva.
MJSS	- Mediterranean Journal of Social Sciences. Mediterranean Center of Social and Eductional Research. Rome.
Monumente Istorice	- Monumente Istorice. Studii şi lucrări de restaurare. Direcţia Monumentelor Istorice. Bucureşti.
Monumente şi muzee	- Monumente şi muzee. Buletinul Comisiei Ştiinţifice a Muzeelor, Monumentelor Istorice şi Artistice. Bucureşti.
MPG	- Marine and Petroleum Geology. Elsevier.
MSIAR	- Memoriile Secţiunii Istorice a Academiei Române, seria a II-a. Academia Română. Bucureşti.
MTE	- Magyar Történelmi Eletrajzok. Budapest.
Naturwissenschaften	- Naturwissenschaften. Springer-Verlag. Berlin, Heidelberg.
OlteniaŞtNat	- Oltenia. Studii şi Comunicări. Ştiinţele Naturii. Muzeul Olteniei. Craiova.
ŐL	- Ősrégészeti Levelek. Prehistoric newsletter. Budapest.
PA	- Patrimonium Apulense. Direcţia Judeţeană pentru Cultură Alba. Alba Iulia.
PAPS	- Proceedings of the American Philosophical Society. American Philosophical Society. Philadelphia.
PAS	- Prähistorische Archäologie in Südosteuropa. Berlin.
PAT	- Patrimonium Archaeologicum Transylvanicum. Cluj-Napoca.
PBF	- Präehistorische Bronzefunde. München.
PLOS ONE	- PLOS ONE. International, peer-reviewed, open-access, online publication.
PM	- Publics et musées. Association Publics et Musées - PUL (Presses universitaires de Lyon). Lyon.
PNAUSA	- Proceedings of the National Academy of the United States of America. National Academy of the United States of America.
Pogrebal'nyj obrjad	- Pogrebal'nyj obrjad rannih kochevnikov Evrazii. Juzhnyj nauchnyj centr Rossijskoj Akademii nauk. Rostov-na-Donu.
Pontica	- Pontica. Muzeul de Istorie Naţională şi Arheologie Constanţa.
PPP	- Palaeogeography, Palaeoclimatology, Palaeoecology ("Palaeo3"). An International Journal for the Geo-Sciences. Elsevier.
ProblemyArh	- Problemy arheologii, jetnografii, antropologii Sibiri i sopredel'nyh territorij. Institut arheologii i jetnografii Rossijskoj Akademii nauk. Novosibirsk.

Programm Mühlbach	- Programm des evaghelischen Untergymnasium in Mühlbach und der damit verbundenen Lehranstalten. Mühlbach (Sebeş).
PZ	- Prähistorische Zeitschrift. Deutsche Gesellschaft fuer Anthropologie, Ethnologie und Urgeschichte, Institut für Prähistorische Archäologie. Berlin.
QG	- Quaternary Geochronology. The International Research and Review Journal on Advances in Quaternary Dating Techniques.
QSA	- Quaderni di Studi Arabi. Istituto per l'Oriente C. A. Nallino. Roma.
Quartär	- Quartär. International Yearbook for Ice Age and Stone Age Research.
RA	- Revista Arheologică. Institutul de Arheologie şi Istorie Veche. Chişinău.
RArhiv	- Revista Arhivelor. Arhivele Naţionale ale României. Bucureşti.
Radiocarbon	- Radiocarbon. University of Arizona. Department of Geosciences.
RB	- Revista Bistriţei. Complexul Muzeal Bistriţa-Năsăud. Bistriţa.
REF	- Revista de etnografie şi folclor. Institutul de Etnografie şi Folclor „Constantin Brăiloiu". Bucureşti.
RESEE	- Revue des études sud-est européennes. Academia Română. Bucureşti.
RHMC	- Revue d'histoire moderne et contemporaine. Société d'histoire moderne et contemporaine. Paris.
RHSEE/RESEE	- Revue historique du sud-est européen. Academia Română. Bucureşti, Paris (din 1963 Revue des études sud-est européennes.
RI	- Revista de Istorie (din 1990 Revista istorică). Academia Română. Bucureşti.
RIR	- Revista istorică română. Institutul de Istorie Naţională din Bucureşti.
RJP	- Romanian Journal of Paleontology. Geological Institute of Romania. Bucharest.
RJS	- Romanian Journal of Stratigraphy. Geological Institute of Romania. Bucharest.
RM	- Revista Muzeelor. Bucureşti.
RMMG	- Revista Muzeul Mineralogic-Geologic, al Universităţii din Cluj la Timişoara. Sibiu.
RMM-M	- Revista Muzeelor şi Monumentelor. Muzee. Bucureşti.
RP	- Revista de Pedagogie. Institutul de Ştiinţe ale Educaţiei. Bucureşti.
RRH	- Revue Roumaine d'Histoire. Academia Română. Bucureşti.
RT	- Revista Teologică. Sibiu.
SA	- Sovetskaya arkheologiya. Akademiya Nauk SSSR. Moskva.
SAI	- Studii şi articole de istorie. Societatea de Ştiinţe Istorice şi Filologice a RPR. Bucureşti.

SAO	- Studia et Acta Orientalia. Société des Sciences Historiques et Philologiques de la RPR., Section d'Etudes Orientales. Bucarest.
Sargetia	- Sargetia. Acta Musei Devensis. Muzeul Civilizaţiei Dacice şi Romane Deva.
Sargetia Naturae	- Sargetia. Acta Musei Devensis. Series Scientia Naturae. Muzeul Civilizaţiei Dacice şi Romane Deva.
SCE	- Studii şi comunicări de etnologie. Institutul de Cercetări Socio-Umane Sibiu.
SCCI	- Studii, conferinţe şi comunicări istorice. Sibiu.
SCIA	- Studii şi cercetări de istoria artei. Academia Română. Bucureşti.
SciAm	- Scientific American. New York.
SCGG	- Studii şi Cercetări. Geologie-Geografie. Complexul Muzeal Judeţean Bistriţa-Năsăud. Bistriţa.
SCIV(A)	- Studii şi cercetări de istoria veche. Bucureşti (din 1974, Studii şi cercetări de istorie veche şi arheologie).
SGJ	- Soobshhenija Gosudarstvennogo Jermitazha. Gosudarstvennyj Jermitazh. Leningrad.
SMIM	- Studii şi materiale de istorie modernă. Institutul de Istorie „Nicolae Iorga" Bucureşti.
SP	- Studii de Preistorie. Bucureşti.
SPACA	- Stratum Plus: Archaeology and Cultural Anthropology. Superior Council on Science and Technical Development of Moldavian Academy of Sciences. Saint Petersburg, Kishinev, Odessa, Bucharest.
SPPF	- Società Preistoria Protostoria Friuli-V.G. Trieste.
SSK	- Studien zur Siebenbürgischen Kunstgeschichte, Köln. Wien.
Starinar	- Starinar, Tređa Serija. Arheološki Institut. Beograd.
Stâna	- Stâna. Sibiu.
StComSibiu	- Studii şi comunicări. Arheologie-istorie. Muzeul Brukenthal. Sibiu.
StComSM	- Studii şi comunicări. Muzeul Judeţean Satu Mare.
StRI	- Studii. Revistă de istorie (din 1974 Revista de istorie şi din 1990 Revista istorică). Academia Română. Bucureşti.
StudiaUBBG	- Studia Universitatis Babeş-Bolyai. Geologia. Universitatea „Babeş-Bolyai" Cluj-Napoca.
StudiaUBBGG	- Studia Universitatis Babeş-Bolyai. Geologia-Geographia. Universitatea „Babeş-Bolyai" Cluj-Napoca.
StudiaUBBGM	- Studia Universitatis Babeş-Bolyai. Geologia-Mineralogia. Universitatea „Babeş-Bolyai" Cluj-Napoca.
StudiaUBBH	- Studia Universitatis Babeş-Bolyai. Series Historia. Universitatea „Babeş-Bolyai" Cluj-Napoca.
Suceava	- Anuarul Muzeului Judeţean Suceava.
SUCH	- Studia Universitatis Cibiniensis, Serie Historica. Universitatea „Lucian Blaga" Sibiu.
SUPMPh	- Studia Universitatis Petru Maior. Philologia. Târgu-Mureş.
SV	- Siebenbürgische Vierteljahrschrift. Hermannstadt (Sibiu).

Lista abrevierilor

SympThrac	- Symposia Thracologica. Institutul Român de Tracologie. Bucureşti.
TEA	- TEA. The European Archaeologist.
Terra Sebus	- Terra Sebus. Acta Musei Sabesiensis. Muzeul Municipal „Ioan Raica" Sebeş.
TESG	- Tijdschrift voor Economische en Sociale Geografie. Royal Dutch Geographical Society. Oxford (UK), Malden (USA).
Thraco-Dacica	- Thraco-Dacica. Institutul Român de Tracologie. Bucureşti.
Transilvania	- Transilvania. Foaia Asociaţiunii Transilvane pentru Literatura Română şi Cultura Poporului Român. Braşov.
Transsylvania Nostra	- Transsylvania Nostra. Fundaţia Transsylvania Nostra. Cluj-Napoca.
Trudy nauchnogo	- Trudy nauchnogo Karel'skogo tsentra Rossiyskoy akademii nauk. Karel'skiy tsentr Rossiyskoy akademii Nauk. Moskva.
TT	- Történeti Tár. Akadémia történelmi bizottságának. Budapest.
Tyragetia	- Tyragetia. Muzeul Naţional de Arheologie şi Istorie a Moldovei. Chişinău.
Ţara Bârsei	- Ţara Bârsei. Muzeul „Casa Mureşenilor" Braşov.
Ungarische Revue	- Ungarische Revue, Herausg. von P. Hunfalvy. Budapest.
UPA	- Universitätsforschungen zur Prähistorischen Archäologie. Berlin.
Vestnik arkheologii	- Vestnik arkheologii, antropologii i etnografii. Institute problem osvoyeniya Severa Sibirskogo otdeleniya Rossiyskoj akademii nauk. Tyumen.
Vestnik Novosibirskogo	- Vestnik Novosibirskogo gosudarstvennogo universiteta. Serija: Istorija, filologija. Novosibirskij gosudarstvennyj universitet. Novosibirsk.
VLC	- Victorian Literature and Culture. Cambridge University Press. Cambridge (UK).
VPUI	- Vestnik permskogo universiteta. Istoriya. Permskiy Gosudarstvennyi Universitet. Perm'.
VR	- Victorian Review. Victorian Studies Association of Western Canada. Toronto.
WASJ	- World Applied Sciences Journal. International Digital Organization for Scientific Information. Deira, Dubai (United Arab Emirates).
WorldArch	- World Archaeology. London.
Xenopoliana	- Xenopoliana. Buletin al Fundaţiei Academice „A. D. Xenopol" Iaşi.
Yearb. Phys. Anthropol.	- Yearbook of Physical Anthropology. New York.
Yezhegodnik gubernskogo	- Yezhegodnik gubernskogo muzeya Tobol'ska. Tobol'sk Khistori Muzeum. Tobol'sk.
ZfSL	- Zeitschrift für Siebenbürgische Landeskunde. Gundelsheim.
Ziridava	- Ziridava. Muzeul Judeţean Arad.
ZooKeys	- ZooKeys. Sofia.