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# Women's High-Heel Leather Shoes from 17th–18th Century Russian Villages Near Omsk\*

Variously preserved leather shoes from three 17th–18th century Russian villages in the Irtysh River basin, such as those from Siberian towns of Mangazeya in the Yamal-Nenets Autonomous Okrug and Tara in the Omsk Region, are used to reconstruct certain constructive and technological aspects of footwear-manufacture. Ten types of shoe are described. A high-heel shoe from Izyuk I combines Russian and Western European features. To assess its original form, a model was manufactured on a last, and a graphic reconstruction of the shoe was made in five views. As a result, constructive defects, possibly accounting for the discomfort mentioned in 17th century written sources, were revealed. The local variety of high-heel shoe likely originated in Western Siberia in the last quarter of the 17th to early 18th century. Shoes like those found in Izyuk appear to have been manufactured in Tara, and were probably acquired there by local villagers. They differ from those made in Mangazeya.

Keywords: Russians, archaeology, leather footwear, villages.

# Introduction

Siberian archaeological shoe-collections are significantly smaller than the collections of leather shoes that were found during archaeological excavations in the European part of Russia and were comparatively well published (Osipov, 2006: 8–12). Collections of leather footwear of the Russians living in Siberia in the 17th–18th centuries were studied unevenly: some of them have been described in monographs, other collections were addressed only in small scientific papers, while materials from certain sites have never been published

at all. Ample materials have neither been included into scientific circulation, nor systematized (Bogomolov, Tataurova, 2014: 8).

There are three great collections containing wellpreserved leather shoes from archaeological sites in Western Siberia. The largest, and the most representative, is the Mangazeya shoe collection (Vizgalov, Parkhimovich, Kurbatov, 2011). The second-largest is the Tara footwear collection; its study has just begun, only preliminary classification of available artifacts having been published yet (Bogomolov, Tataurov, 2010). The third-largest collection includes shoes found during excavations of the 17th–18th century village sites: Izyuk I, Ananyino I, and Bergamak I (Bolsherechensky, Tarsky, and Muromtsevsky districts of the Omsk Region).

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The named collections vary in number of artifacts and the state of their preservation. Moreover, the Mangazeya and Tara collections contain leather shoes worn by the urban population in the 17th century, while the finds from Izyuk I, Ananyino I, and Bergamak I represent rural shoes of the 17th–18th centuries.

The present paper addresses the typology of the shoes from the 17th–18th century village sites, and introduces a reconstruction of women's high-heeled shoes that were classified as type 10.

# Typology of leather shoes from village sites in Omsk region of the Irtysh basin

Leather shoes were found in the course of archaeological works at the village sites in the Irtysh River basin near Omsk in 1996–2014 by L.V. Tataurova in collaboration with V.B. Bogomolov. More than 800 leather, birchbark, wood, and metal objects representing shoe-components were discovered. The finds were systematized, described, and investigated in terms of technology, construction, and design. On the basis of the obtained analytical data, the original shapes of objects were reconstructed, and ten shoe-types identified. All finds were dated to the late 17th century and the 18th.

Detailed description and graphic reconstruction of all ten shoe-types will be provided in other publications. Currently, analytical data on every type have been published. A special publication devoted to the burialshoes of the 17th–18th century Russian population from the Omsk region has been released (Bogomolov, Tataurova, 2014). This sort of shoe has been classified as type 2, *chirki*\*.

Footwear was classified according to its function, and constructive and technological features. The established types have been described in the terms common in the areas of material science and leather-goods construction, and also in archaeology since the 1950s (Osipov, Likhter, 2004: 4–6, 8; Osipov, 2006: 23–38). All archaeological footwear can be subdivided into two main categories by its function: everyday wear (shoes that are worn by living people); and ritual, burial wear. Everyday footwear includes all established types, while burial wear is represented only by shoes of type 2, subtype 2.

Type 1 includes soft shoes without heels that were traditionally designated as *koty*\*\*. Researchers of

Mangazeya classified this type of footwear as rigid shoes (variant I) with a whole-cut vamp (Vizgalov, Parkhimovich, Kurbatov, 2011: 42). We have defined this type as an intermediate, because it combines the features of soft and rigid footwear: a soft upper part and a thick, rigid sole. The components of these shoes include sole, vamp, counter, and textile edging. The upper part is made of kip\* or heifer\*\*; with a thickness of 1.5-2.5 mm, connected by the sole of bull-calf or bull-hide from 3 to 5 mm thick with a blind-stitch. The shoes were set on symmetrical lasts. The toecap was of two types: pointed or rounded; the sole in the waist area\*\*\* was narrowed; the vamp was loose or tight, and covered the whole foot. In the Omsk region of the Irtysh basin, such shoes were worn not only in the 17th but also in the 18th century.

Type 2 is a soft shoe without a heel. This type is represented by two sub-types: subtype 1 is everyday footwear of the chirki style; subtype 2 is burial footwear similar in construction to chirki shoes. Footwear of subtype 2 was found in graves at the settlement sites of Izyuk I and Ananyino I. Its constructioncomponents included sole, vamp, separately cut counter, and textile edging, all connected with an inserted stitch. All components are cut of opoek calf skin\*4 0.5–1.0 mm thick. The vamp shows traces of an oblique net-impression. Such shoes were set on a symmetrical last. The shoes have a pointed toecap, a turned up sole, and a high vamp covering the whole foot. Subtype 1 shoes with a thick sole were recorded at settlements. Shoes of subtype 2, unlike those for everyday, show no use-wear traces, have a thin sole, and are manufactured using simple technology (Bogomolov, Tataurova, 2014: 10-11). The set of burial shoes from Izyuk I includes one specimen of everyday shoes belonging to type 2. Use of everyday shoes for burial is a common Russian tradition (Maslova, 1984: 91).

Type 3 is women's footwear that was designated as boots in Russia in the 17th century<sup>\*5</sup>. These are rigid footwear on a solid sole, with a low (not exceeding 29 mm) or medium (from 30 to 40 mm) heel. They consist of a single-layered sole, a heel made of several lifts<sup>\*6</sup>,

<sup>\*</sup>Chirki (charki, cherki) represent everyday Siberian shoes for both sexes, edged with cloth (Dal, 1998: Vol. IV, col. 1286).

<sup>\*\*</sup>Koty is women's footwear resembling ankle-boots and bootees; boots with scarlet cloth edging; men's boots (Dal, 1998: Vol. II, col. 460; Chagin, 1989: 172).

<sup>\*</sup> Kip is a hide of a calf under one year of age that had begun to consume vegetable food, and also leather made from such a hide (Osipov, 2006: 102).

<sup>\*\*</sup> Heifer is the hide of a 1-year-old calf (Krasnov, 1995: 7).

<sup>\*\*\*</sup> Waist area is the narrowing of the sole in the foot's arch area (Osipov, 2006: 102).

<sup>\*&</sup>lt;sup>4</sup> Opoek is a skin of calf fed with breast milk, with the primary non-faded hair (Ibid.: 103).

<sup>\*5</sup> Boots are ankle-high footwear (Ibid.: 102).

<sup>\*&</sup>lt;sup>6</sup> A lift is a semi-circular or semi-oval plate forming a stacked leather-heel (Ibid.: 54).

a vamp with a lining<sup>\*</sup>, and a double counter with a thick birchbark inset. The sole is 3-5 mm thick, made of bull-calf's or bull's skin, with a broad and symmetrically convergent toe, narrow waist area, and narrow back; and there is a heel 2-3 cm high. The stacked heel occupies the whole back of the boot, and reaches the waist area; it consists of several lifts nailed with wooden rivets. The shape of the heel-back replicates the sole's outline. The kip-leather vamp 2 mm thick, and the opoek calf-leather lining 1 mm thick at the toe, are attached to the sole with a blindstitch. At the instep and heel, the vamp edge is turned out and sewn to the sole with a blake-stitch. The convex counter is reinforced with the inset of four layers of birchbark fixed with wooden rivets. In European Russia, this type of footwear emerged as early as the 15th century (Osipov, 2006: 42–44). It is likely that from this shoe type, in the 17th century, were derived koty shoes on heels, which became the common Russian footwear in the 19th century (Parmon, 1994: 123-124).

Type 4 represents men's footwear: a rigid boot on a solid sole, with a medium or high heel. It consists of a sole, a heel of several lifts, a vamp with or without lining, and a counter with a single birchbark inset. The quality and thickness of leather are the same as those of type 3 shoes. The vamp is attached to the sole with a blind-stitch. The sole shows a rounded or slightly pointed toe and a narrowed waist area. A semicircular thick heel, 3–5 cm high, is attached to the sole with wooden rivets; the heel is composed of several lifts that are nailed with 20-30 iron rivets with round heads, which served as heeltaps. The characteristic features of these men's boots, including sole, heel, and vamp, are similar to the those of men's shoes broadly common in Russia in the 17th century (Osipov, 2006: 42-44).

Type 5 represents a man's rigid high boot with a low or medium heel. The construction-components include a sole, a heel of several lifts, a vamp with or without lining, a single or double counter with a birchbark inset, and a two-part boot-shaft with or without lining. The 3–4 mm thick sole with a rounded or slightly pointed toe is made of steerhide\*\*. The vamp and boot-shaft are made of *opoek* and kip-leather 1.0–2.5 mm thick. The vamp is attached to the sole with blind-stitch. Analogs of these high boots, which were known in the 17th century under the term "calf high-boots", have been reported from the Mangazeya footwear collections (Vizgalov, Parkhimovich, Kurbatov, 2011: 52–54).

Type 6 represents men's rigid shoes on solid soles with medium heels. Their components include a multilayered sole, a heel of several lifts, a welt\*, a vamp with a lining, and a double-layered counter with a multilayered birchbark inset. The sole consists of up to six layers of *opoek* 1 mm thick; the upper layer is an insole. The straight toecap is 6 mm wide. The 2–4 cm high stacked heel consists of several lifts fixed with wooden rivets and stitching. The upper part is attached to the sole with a welt. This type of shoe is attributed to the Western European footwear of the second half of the 17th to early 18th century (Fukai et al., 2007).

Type 7 represents a woman's rigid shoe without a counter or a heel. It consists of single-layered sole, inner cushion, and vamp. The 4 mm thick sole is made of bull-calf skin; it is very narrow at the waist and heel areas, broadens sharply at the metatarsophalangeal joint, and ends up with a pointed toe. The vamp is attached to the sole toe with a blind-stitch, and to the narrow sole part with a blake-stitch. The cushion is made of several layers of leather. Such shoes were called *babushi* (from French *babouche*). They came into fashion in Russia (and subsequently in Siberia) from France, where they were popular in the late 17th–18th century. This shoe style originated in Turkey (Newman, Shariff, 2009).

Type 8 represents a woman's rigid shoe without a counter, on a solid sole with a leather-heel. The style is reminiscent of classic mules. The construction-components are sole, vamp, and heel. The mules were made of *opoek* and kip-leather 1–2 mm thick of very good quality. The four-layered sole with a pointed toe is narrowed at the waist and heel areas; it also includes a toe-puff\*\*, a birchbark insole, and a welt. The vamp, with a pointed toecap and small subtriangular wings, has a lining. The sole, vamp, and stacked heel 5 cm high, consisting of several lifts, are fixed with wooden rivets and stitched together through a welt.

This style of shoe emerged in Western Europe in the 16th century (Newman, Shariff, 2009). Mules imported from France or manufactured locally according to French patterns became popular in European Russia in the first half of the 18th century (Osipov, 2006: 43). Later, mules were taken to Siberia.

Type 9 represents a woman's rigid shoe without a counter, on a solid sole with a wooden heel. This type

<sup>\*</sup>Vamp lining is an interior component having a shape and size corresponding to the exterior vamp layer, which reinforces the shoe-shape's stability and ensures its durability (Ibid.: 103).

<sup>\*\*</sup>Steerhide is leather made from the hide of a steer (Osipov, 2006: 102).

<sup>\*</sup>A welt is a narrow strip of leather connecting the upper part of the shoe with the sole (Ibid.: 56).

<sup>\*\*</sup>A toe-puff is a reinforcing material, stiffening the footwear's toe (Slovar..., 1994: 105].

also belongs to the style of mules, yet it demonstrates certain specific constructive and technological features. Such a shoe has a two-layered sole, a wooden heel of Vienna style\* coated with leather, and a vamp with lining. The upper part is attached to the sole with blind and inserted stitches.

Type 10 is a woman's high-heeled shoe with an insert-core\*\*. Its construction and manufacturing technique combine Russian and Western European features.

Archaeological works at the site of Izyuk I did not yield such supplements to footwear as puttees, onuchi, and stockings, because the peculiarities of the culture-bearing layer did not benefit textilepreservation. However, such textile items were found in the archaeological materials from Tara and Mangazeya (Vizgalov, Parkhimovich, Kurbatov, 2011: 63–65).

No footwear woven of leather, bast, or birchbark (bast shoes) has yet been found. Excavation areas have yielded multiple birchbark strips, but there is no evidence connecting them with woven footwear.

# Reconstruction of women's high-heeled shoes of type 10

An archaeologically complete specimen of this type of footwear from the archaeological collection of the Omsk region of the Irtysh basin was selected for reconstruction.

*Reconstruction of shape and components.* The Omsk collection of women's footwear from the village sites includes one complete specimen, three leather fragments, and 16 iron taps with arch-supporters, making 2.5 % of the total number of finds. The proposed reconstruction was mostly based on the well-preserved and complete specimen from the settlement of Izyuk I. The study included all standard conservation procedures, as well as material, construction, technology, and design analyses.

General methods of study and scientific description of leather footwear have been established and elaborated long ago (Osipov, Likhter, 2004: 4–28). The present authors propose an additional procedure of reconstruction of the shoe-form on the basis of fitting on a wooden last. This procedure helps to make a reliable graphic reconstruction of the shoe-form. Only a right shoe, with a well-preserved lining and a counter with an insert-core, is available. The sole and upper part of the vamp show missing parts, the archsupporter with a tap is absent. The missing parts can be reconstructed through a special method of modeling original forms, which method helps in reconstruction of the shoe's form and manufacturing-technology. The method is especially important in our study, because the described archaeological shoe does not completely correspond to known types. There is no full analog of this specimen in the scientific records. The model was initially made of cardboard and paper, and subsequently of leather.

The archaeological shoe shows a rigid construction on a flap sole\* with a high heel. Heels exceeding 3 cm are considered high in archaeological literature, while modern literature on shoemaking-technology regard the heels over 5 cm as high heels (Liokumovich, 1986: 52–53). The shoe consists of a sole, an arch-supporter with tap, a vamp, a lining, a counter, and an insert-core. All leather components were cut on wooden templates over a wooden board using a sharp knife. The cutting was performed very carefully.

The flap sole belongs to the curved type (Fig. 1, *1*, *a*); it was made of a 4 mm thick coarse rigid leather. The leather is heavily worn, yet it can be identified as a processed cattle-hide. The major part of the sole, 17 cm long, survived; the toe and lower part of the heel are missing. The original form of the missing components has been reconstructed through modeling. It has been established that the total length of the sole was 23.8 cm. The heel part of the sole is rounded, and forms the tap-surface of the heel. The toecap is wide and semi-circular, its width in the metatarsophalangeal part is 9.7 cm. The sole is strongly narrowed at the waist area (to 5 cm); the heel's tap part\* is 3.8 cm wide, i.e. the size difference between the waist area and the back part is insignificant. Stitching the vamp to the sole on the model produced a toecap that was slightly flat, or with a small (not exceeding 5 mm) instep. In the Izyuk I shoes, however, the instep to the heel begins in the waist area, which is 12.7 cm from the toe; this does not fit the functional load of the construction and the anatomical foot-form. Then, the sole covers the frontal heel-surface and turns down the tap part. This corresponds to the tradition which emerged in Russia in the late 16th to early 17th century (Osipov, 2006: 54).

<sup>\*</sup>A Vienna heel has a "considerably large upper surface and heavily convex frontal and lateral surfaces" (Liokumovich, 1986: 52–53).

<sup>\*\*</sup>An insert-core is an inner part of a heel intended to reinforce it and to attach it to the sole (Ibid.).

<sup>\*</sup>A flap sole extended around the heel and covered it from above, and also formed the tap at the back of the heel (Osipov, 2006: 54).

<sup>\*\*</sup>The tap part is the bottom surface of the heel, to which the tap is attached (Liokumovich, 1986: 53).

The similar Western European heel-shoes of the 18th century often show the sole of the anatomical foot-form. The sole of the Izyuk I shoe is slightly asymmetrical, owing to the cutting technique used. The shoe has neither an insole nor padding; even if they were made of textile, which decayed, there would be an imprint; but there are no traces of one on the sole. The construction of the sole is characterized by the availability of an iron arch-supporter, of which traces are clearly seen.

The arch-supporter has a tap whose shape and size correspond to the heel's tap part. The sole shows a hole through which the arch-supporter was fixed. The arch-supporter represented a curved metal rod ending with a flat ring. Another end of the rod was connected to a flat tap with holes, through which the tap was nailed to the heel (Fig. 1, 3, c).

The vamp's lining is well preserved. The vamp's toe is missing. It can be easily reconstructed from the lining's shape, though the sizes and construction-lines of these two components are different. The lining is stitched to both the sole and the frontal surface of the heel (Fig. 1, 1, c). It is made of two leather pieces each 2 mm thick. The calf-leather is well processed, yet the inner surface is not very carefully smoothed out. Still, the leather is rigid, which helps to maintain the shape of the vamp and to improve the heel's hardness. The toecap, 9.6 cm long, is rounded and symmetrical. Two curved wings extend from the toecap: first, the curvature is 65°, and closer to the ends, 40°. The wings are 16 and 13 cm long and 5 cm wide; closer to the ends, 4.5 cm wide. The shorter wing is separately cut; its end is subtriangular, with a base 2.5 cm wide and 6 cm long. Another wing ends with a subrectangular protrusion 7 cm long and 3 cm wide. These protrusions were stitched together, forming the counter and part of the heel. Notably, in their upper parts, they have triangular cut-outs 1.5 cm long and 0.7 cm wide. Microscopic study has shown that these are ruptures which emerged in the areas of the leather's highest tension on both sides of the counter and the heel. Hence, the shoes were not new, but in good condition.

The vamp was made of a higher-quality leather than that of the lining; it is twice as thin, only 1 mm thick (Fig. 1, 1, d). This is a well-processed, soft and supple calf-leather, with a well-smoothed inner surface. The upper layer of the vamp is poorly preserved; the toecap is missing; but the wings are complete. The reconstructed upper part of the vamp corresponds in shape to the lining on the toecap and to the main part of the wings. However, the vamp is 5 mm wider than the lining over the upper line of the shoe. This difference





I – cutting layout: a – sole, b – counter, c – lining, d-vamp; 2-core base components: a-blank, b-curved core; 3 – complete core: a – with birchbark lifts, b – birchbark lifts, c – arch-supporter with a tap; 4 – graphic reconstruction of stitches: a – shoe side cross-section, b – plain stitch, c, d – double blind-stitch, e – blake-stitch. was used to bend down the layer of leather and to stitch it to the lining. The toecap was 10.2 cm long; the wings were 12.5 cm long and 5–6 cm wide. The left wing was separately cut. A rhomboid leather piece with sides 5.0 and 4.2 cm long was sewn to the left wing's end. Notably, the wings' ends were obliquely cut off, and the shoe's counter was stitched to them.

The counter belongs to both upper and lower parts of the shoe (Fig. 1, 1, b). It is made of a single piece of leather 1 mm thick; the leather's quality is basically similar to that of the upper layer of the toecap. The original pattern resembled an elongated hexahedron, but in the course of sewing it was deformed: the upper part was heavily stretched by pulling on the counter's structure, while in the lower part, the counter was pleated over the heel. These are inevitable expenses in case of a whole-cut counter. The counter is 11.0 cm high, the upper edge is 5.2 cm wide, the lower edge is 7.0 cm wide; the counter's widest part is 9.0 cm. Technological analysis has shown that the component cut out was moistened and drawn on an insert-core, before sewing, to ensure maximal fitting to the structure.

The structure of the shoe's back and heel, with an insert-core made of wood, birchbark, and textile, was an important component of the shoe's construction (Fig. 1, 2, 3). The structure is well preserved: only the lowermost part of 1 cm height is missing. A wooden plate, 4 mm thick, forms the main part of the structure that represents the inset of the heel part turning into the core (Fig. 1, 2, a). The sort of wood has not been identified: possibly it was birch. The plate is 7.2 cm high and 5.3 cm wide on top and 4.1 cm wide at the bottom. The surface is thoroughly smoothed out. The upper edge of the plate is rounded. The lateral edges were obliquely cut off for 5 mm. After that, the plate was transversely curved, and its lower corners were joined together. Such curving would inevitably have caused breakage of the wooden plate, even if it was wet. To avoid this, the wood was most likely previously steamed. The resulting cross-section of this piece had the shape of a flattened semicircle on top, and an ellipse at the bottom (Fig. 1, 2, b). Then, four birchbark pieces were put on the plate, one over another, to make the convex back (Fig. 1, 3, a, b), which increased in thickness up to 1 cm (the total thickness of three lower layers was 5 mm, and the thickness of the fourth layer was 5 mm). Birchbark was previously cleaned; the bark pieces were cut off from sides, put one over another, and fixed to the wooden plate with wooden rivets 1.4 cm long and 0.2 cm in diameter. Two lower layers were trapezium-shaped with rounded corners, two overlying layers were ovoid. The lengths of these pieces vary from 5 to 6 cm, the widths from 3 to 5 cm. The edges of the pieces of each layer were obliquely cut. The assembled birchbark component was polished with a file, or a fine-grained grinding-stone. The complete onlay had the shape of a slightly flattened hemisphere (Fig. 1, 3, a). A piece of textile was glued to the resulting construction. Textile-remnants are partially preserved on the interior surface of the counter, and are clearly imprinted on the birchbark. It was a piece of thin linen-weave cloth, with a density of seven weft threads by seven warp threads in 1 cm<sup>2</sup>. The threads are 0.7 mm thick. The cloth was heavily drawn on the inset part, and consequently could not be sewn into the joint of the counter and vamp. The only possible means of fixation was gluing with tension.

*Reconstruction of the shoe-making technology.* All the components described above were stitched together with waxed threads. The thread's remains were observed on the sole and vamp. They are of vegetable origin, and were manufactured via loose twisting; their diameter varies from 0.5 to 1.0 mm. Thread thickness is well reconstructed on the basis of imprints and holes on the leather.

Shoe-assembly began with stretching the counter over a convex form of birchbark lifts on a wooden core. Then, the counter was seamed to the vamp's wings with a plain stitch, with a margin of 0.6 mm from the edge; the diameter of piercing was 0.5 mm; space between the holes was 2 mm. The seam was made very carefully. The next operation was seaming the vamp to the lining with a plain stitch (Fig. 1, 4, b). The vamp was larger than the lining; hence it was turned in for 4 mm. In order to constrict the vamp, the leather was tightened without wrinkles. Threads were strongly pulled; margin from the edge was 1 mm; diameter of piercing was 1 mm; space between the holes was 5–9 mm. It cannot be ruled out that before bending, the seam was initially hammered with a wooden tool.

After that, the sole and the shoe's upper part were joined together with a double blind-stitch (Fig. 1, 4, c, d). The vamp, going from the toecap via the instep to the heel, was attached to the sole with a blind-stitch, with a margin of 10 mm from the sole's edge; diameter of piercing was 1 mm; space between the holes was 5 mm. After that, an additional blind-stitch was made inside the edge of the sole. This latter stitch left paired holes on the vamp; the distance between holes was 2 mm, the distance between the pairs was 7 mm. At the instep to the heel, the upper part was turned out and stitched with a blake-stitch that is well preserved (Fig. 1, 4, e). Diameter of piercing was 1 mm; margin from the edge was 9 mm; space between the holes was 2 mm. Then, the counter and heel were attached. The lining shows protrusions at the wings' ends. Being stitched together, these protrusions covered the frontal part of the heel at the sole's bend. A wooden insert-core was inserted into the counter between the upper leather-layer and lining, and the leather was strongly drawn on. Shoe-assembly was finished with blake-stitching of the sole and lining with the frontal and tap parts of the heel. The tap with the arch-supporter was attached with a rivet and nails. The final operation was setting a shoe's toe on a last.

Leather shoe-reconstruction is ended with reproduction of its original form and its graphic representation in five views (side, frontal, back, top, and bottom views (Fig. 2)).

Reliable reconstruction of the original form of an object is impossible without manufacturing models. Graphic reconstruction makes it possible to determine the sizes of a complete piece. Reconstruction of a type 10 shoe has shown the following dimensions: the total length is 21.3 cm, the height at the top of the vamp is 5.8 cm; the counter's height is 9.5 cm; the heel-height varies from 3.8 cm on the interior surface to 5 cm at the exterior heel part. The foot's length was only 20 cm (Fig. 2). Graphic reconstruction highlighted the constructive defects that were made in the course of manufacturing shoes of type 10. The heel was placed at the very end of the sole behind the heelbone; the main pressure fell on the arch-supporter, and the leather on the edge of the shoe-back was subjected to extra tension. The sole's bend did not correspond to the natural curvature of the arch of the foot. Hence, wearing such shoes was uncomfortable. Only the lowermost edge of the back part touched the woman's heel, while the upper edge was separated from it by 1 cm. Subsequently, the heel of the foot did not fit closely to the shoe's back. It was inconvenient to walk in such shoes. Foreign travelers also mentioned that the Russian high-heel women's shoes of the 17th century were uncomfortable (Vizgalov, Parkhimovich, Kurbatov, 2011: 54).

The shoes under discussion, though having considerable shortcomings accounting for discomfort, were very well-made. They represented a handicraft product, and were most likely manufactured in Tara. According to the written records of 1720, the Tara artisan community included 13 *chebotniks*\* and 5 tanners who produced shoes, for sale or made-to-order (Tara..., 2014: 103). The village of Izyuk was founded in the 1660–1670s by Cossacks and service men from Tara (Krikh, 2012: 137–140). They maintained permanent contacts with the Tara people. In the early 18th century,



Fig. 2. Graphic reconstruction of high-heeled women's shoes from the village of Izyuk I.
1 - side view; 2 - front view; 3 - back view; 4 - top view; 5 - bottom view.

there were no permanent fairs in Izyuk as yet. That's why shoes of type 10 were most likely purchased in the Tara market. Women's shoes of this type represented festive footwear of the prosperous group of population of the Omsk region in the Irtysh basin.

### Conclusions

Archaeological studies of the village sites of the Russian population in the Omsk region of the Irtysh basin have shown that certain shoe-styles, typical of the towns of Mangazeya and Tara in the 17th century, were not represented in the villages of this region. For instance, no fragments of *porshni*\*, elevator boots and shoes have been noted in the archaeological collections from villages of the 17th–18th centuries.

<sup>\*</sup>Chebotnik, chebotar means cobbler, boot-maker (Dal, 1998: Vol. IV, col. 1295, 1296).

<sup>\*</sup>Porshni is footwear that was made of a single leather piece (Osipov, 2006: 10).

At the same time, village materials contained some Western European forms of footwear of the first half of the 18th century. The analysis of leather footwear collection has shown that types 1 and 2 were common for men and women, and types 4-6 were only for men; while types 3 and 7-10 were worn only by women. Footwear with a soft sole is attributed to types 1 and 2; low-heeled footwear on a rigid sole belongs to types 3-7, high-heeled footwear on rigid sole to types 4, 8-10. Types 1-5 can be conventionally classified as the Russian footwear, types 6–9 as Western European. Shoes of type 10 represent a combination of Russian and Western European features. Footwear of types 1-3 predominates in the collection, while the proportion of types 4-10 varies from 1 % to 5 % of the total number of finds.

It is very difficult to propose any prototypes for the formation of type 10 footwear. On the one hand, such shoes demonstrate a number of features that were typical of the footwear in Russia in the 16th-17th centuries and in Siberia in the 17th century. The first feature is the method of attaching the upper shoe part to the sole with blind- and blake-stitches. Blind-stitch was broadly used in Russian shoe-making technology in the 16th-17th centuries. This feature corresponds to the manufacture of shoes of type 3 of the Omsk region, and elevator shoes that were found in Tara and Mangazeya. The second feature is convex counters with birchbark insets, which are available in the type 10 shoe and are close to the thick back parts of type 3 boots. The third feature is construction of the heel with an archsupporter, which is specific to type 10 shoes\* and was established in Siberia. According to D.O. Osipov, metal arch-supporters are absent in archaeological materials from European Russia of the 17th-18th centuries\*\*. In Siberia, such arch-supporters have been found in the excavation materials of Mangazeya, Berezovo, and Tara of the abovementioned period, suggesting that this construction of the heel with metal arch-supporter emerged in Siberia.

At the same time, the shape of the Izyuk I shoe testifies to the Western European influence on the formation of type 10 footwear. The Western European art of the late 17th to middle 18th century shows many images of high-heel shoes with convex counters. The Izyuk I find most resembles shoes with heels of semicircular cross-section from Western Europe of the 1690s (O'Keeffe, 1997: 78–79). It shows fewer

\*Arch-supporters were not required for stacked heels; they were necessary only for the high wooden heels that otherwise wouldn't withstand the load during the wearing of the shoes. common features with the shoes produced in Western Europe in the 1700–1780s. The last-named shoes had convex counters; but their heels were shifted forward, and were of French type\*, flared type\*\*, or English type\*\*\* (Cox, 2012; Vasiliev, 2006: 31–39; de la Motte Fouque, 1987). Type 10 shoes from the Irtysh basin had a rounded toecap. The Western European shoes of the 17th century showed straight toecaps, and those of the 18th century were pointed.

Thus, the reconstructed high-heel women's shoes, in terms of technology, are attributed to the Russian footwear of the 17th century, and by the form of the counter they are close to the footwear worn in Western Europe in the 1690s.

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\* A French heel is high, thin, and slightly narrowed (Liokumovich, 1986: 52).

<sup>\*\*</sup>The authors thank D.O. Osipov for this information.

<sup>\*\*</sup> A flared heel is high, with curved lateral and frontal sides, and with clear "waist" (Ibid.).

<sup>\*\*\*</sup> An English heel is medium-high and trapezium-shaped (Ibid.).

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