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ORGAN MUZEALNICTWA I KONSERWATORSTWA ARCHEOLOGICZNEGO

Tom (Vol.) LVI

SPIS TREŚCI

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CAROLINE EARWOOD

WOODEN ARTEFACTS FROM THE MEDIEVAL TOWN OF DAWIDGRÓDEK, BELARUS

DREWNIANE ZABYTKI ZE ŚREDNIOWIECZNEGO MIASTA W DAWIDGRÓDKU, W REPUBLICE BIAŁORUŚ

ЗНАХОДКІ З ДРЭВА З СЯРЭДНЯВЕЧНАГА ГАРАДЗІШЧА Ў ДАВЫД-ГАРАДКУ, У РЭСПУБЛІЦЫ БЕЛАРУСЬ

Introduction

The town of Dawidgródek (Davyd-garadok, Давыд-Гарадок) is situated on the banks of the river Horyń, a tributary of the river Pripyat'. It is now within the borders of Belarus but was formerly part of Poland (Fig. 1). In 1936, during the construction of a church, the remains of the medieval town were discovered. R. Jakimowicz and J. Marciniak carried out excavations in 1937 and 1938 on behalf of the Państwowe Muzeum Archeologiczne, Warsaw (R. Jakimowicz 1939; J. Marciniak 1969). Further excavations also took place in 1967 conducted by the Academy of Science of the Belorussian Socialist Soviet Republic (P. F. Lysenko 1969). This report on the wooden artefacts is only concerned with the finds from the 1937–38 excavations.

The medieval town, which may have been founded by Duke David Igorovich, was built on the banks of the river Horyń (L. Łoźny 1985). The settlement was located on a slight hill the height of which was artificially increased by successive layers of occupation debris which eventually reached a thickness of just over 3.0 metres at the centre of the mound. These lay upon a river deposit of white sand below which had formed what has been described as an iron pan (R. Jakimowicz 1939) which inhibited drainage. The streets and buildings were built entirely of wood and were renewed regularly as they rotted or sunk into the underlying layers. The town was enclosed by a rampart, preserved to about two metres in height, which was built of sand reinforced with horizontally laid pine tree trunks. These were laid parallel to the line of the rampart and may have been secured by cross-timbers. The size of the enclosure was 110 metres by 100 metres. Excavation in 1937–38 took place only within the immediate area of the foundations of the

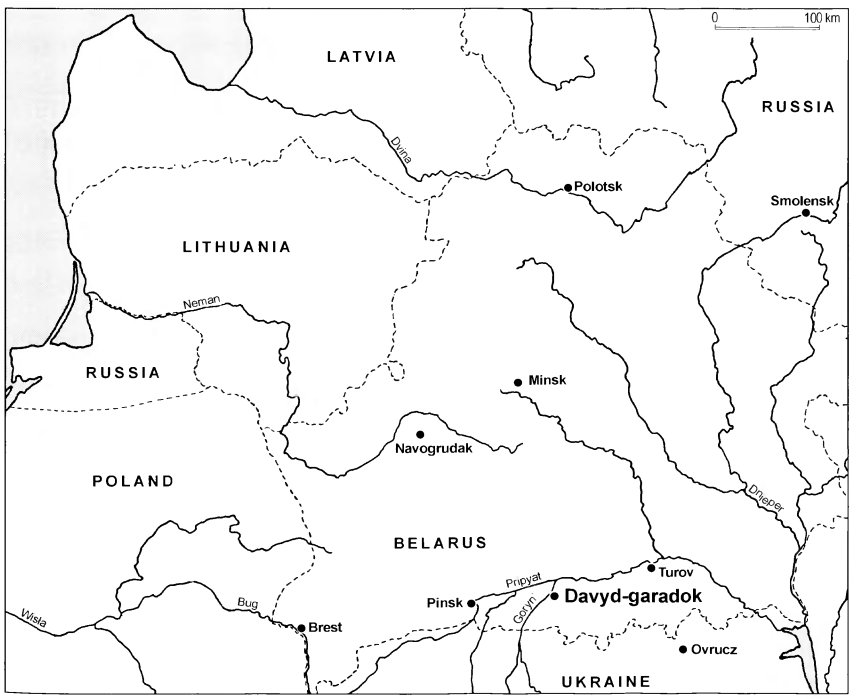


Fig. 1. Dawidgródek/Davyd-garadok, Belarus. Location map
Ryc. 1. Dawidgródek/Davyd-garadok, Białoruś. Lokalizacja stanowiska

twentieth century church and within a trench, which ran between the ramparts on a north/south alignment. This showed that the whole area of the town appeared to have been built upon. Subsequent excavations in 1967 were confined to the south-east sector of the town close to the ramparts.

The wooden structures identified in the 1937–38 excavations include a number of wooden buildings, several wooden streets, fences of various types and a wooden well. The earliest structures, which are dated to the twelfth century, were damaged by later activity but include at least five buildings: numbers XI, XII, XIII, XIV and XV. They were built of coniferous tree trunks, which were laid horizontally one upon another. At the corners of the buildings the upper part of each beam was notched a short distance from its end and this was used to secure the next beam in the other wall which formed the corners. This means that the tree trunks were laid alternately from each of the two walls. Also belonging to phase I were some wattle structures which may have been the remains of farm buildings. Following a fire fences, of split planks, which were driven into the ground, were built. Two subsequent phases of occupation (III and IV) have been identified but no structures have survived from this period. During later occupation (phase V) a wooden road ran across the site from north-east to south-west. It was built on piles made of squared tree trunks and on these rested whole tree trunks running parallel to the line of the road. The surface was formed from transversely laid split planks. Other, smaller roads were simpler consisting of cross beams which were notched to hold a walkway of split planks.

The buildings of the later phases (V to VII), which are dated to the thirteenth century, were better preserved than those of earlier periods and included six buildings: I, III, IV, VI, VII, X. These were constructed in the same way as the earlier rectangular buildings. A square well (structure V), the sides of which were lined with unsplit timbers which crossed at the corners, cut the earlier pavement. The buildings, which were usually square or nearly square, had walls from about 3.3 metres to 5 metres in length. In some there was evidence of internal divisions but no hearths were identified.

Outside the area cut by the foundations of the twentieth century church, a cemetery surrounded by a fence, which was made of horizontally arranged planks slotted into posts, was identified. A wooden building consisting of two rooms (VIII and IX) was probably a chapel. Some of the graves lay under this building and were clearly of earlier date but others slightly overlapped the walls and were therefore cut when the building had ceased to be used. The waterlogging of the ground had preserved the wooden coffins, which were made, of jointed timbers and which contained skeletons, remains of clothing, leather shoes and some ornaments.

The foundations of the twentieth century church had destroyed later levels. However the 1967 excavations, which lay outside this area, showed that there was occupation during the fourteenth and fifteenth centuries although no structures of later date than the thirteenth century were found. The latest dating evidence was a coin of 1548, which was found near the top of the ground surface (P. F. Lysenko 1969).

The range of finds from Dawidgródek is extensive including metal weapons and tools; jewellery; glassware; leather goods; whetstones; bone and horn buttons, knife handles and combs; pottery vessels; clay weights and spindle whorls; textiles; and wooden objects. The organic artefacts were preserved due to the waterlogged conditions, which existed in the town from its earliest period. Many of these finds can be directly compared with artefacts from other early medieval towns in Russia, Belarus, Poland and eastern Germany indicating cultural links. At this time the production of many wooden objects was becoming more standardised while turned and coopered containers had become available to a wider public. Trade is indicated by, for instance, glass bracelets which were popular during the twelfth century in Old Rus and which were probably manufactured in Kiev. Evidence for agriculture in the immediate vicinity of the town includes millet and rye seeds, sickles and the bones of domestic animals. Fishing and hunting also played a part in the economy both for food and for furs.

The wooden artefacts include a wide range of objects; many associated with daily domestic life. There is also evidence for the manufacture of wooden containers and tools. Household activities, including food storage and preparation, are represented by wooden tubs, turned bowls, spoons and possibly the remains of bentwood boxes as well as moulds which may have been used for butter or cheese. A range of wooden beaters and other flax working tools demonstrates the preparation of thread for spinning and weaving. Wooden spindles complement the stone spindle whorls. A shuttle and a weaving sword indicate that both the vertical and the horizontal looms were in use. Personal items include small wooden combs and children's toys, some of which also shed light on medieval boats from this area. Ceremonial or ritual activity can be glimpsed in the remains of decorated wooden maces and what may be ritual sticks representing domestic spirits. Fragments of possible horse harness have been identified and a variety of small pieces of equipment, which include net floats, pegs from boats, tool handles, and firelighters. Furniture is represented by the top of a stool as well as several components, which are less easy to identify. There are also the remains of various structural timbers, which are parts of buildings, fences, roads and of the rampart.

Domestic Utensils

Containers

A rather restricted range of containers was found in the excavations at Dawidgródek. This, in part at least, probably reflects the limited extent of the excavation:

the wooden objects being those produced and used in only eleven buildings covering seven phases dated to the twelfth and thirteenth centuries AD. However, although there is not a great variety of types, a considerable quantity of fragmentary containers were discovered in a small number of the buildings. These include finished items, partly made containers and waste products indicating the presence of craftsmen in these buildings which may have been workshops. No complete containers survived and the nature of many of the pieces indicates that they were discarded during manufacture sometimes due to faults in their production.

Cooperage products

Staves from at least twenty-six different containers have been identified (Fig. 2). With the exception of a few staves, which were damaged, all were fully shaped and have a groove cut near the bottom edge. There is little variation in the shape of the staves. Most are narrower at the top than at the bottom edge. In all cases the bottom edge has been cut at right angles to the sides while in many cases the top edge is slightly bevelled to give a smoother edge which would have been less susceptible to wear. Most staves taper slightly so that they are thicker at the bottom than at the top. The grooves, which are narrow and V-shaped, were cleanly cut using a croze *ie* a cutting blade mounted in a wooden frame. This tool appears to have been introduced over much of Europe during the early medieval period although its form in Western Europe differs from that in the east. While the western style croze is made in the form of a curved plane with a narrow blade, the eastern type has a serrated edge and a straight wooden handle. Although none of the staves were found as part of a whole container the fact that a groove had been cut in each one indicates that they must have come from finished vessels. To cut the groove using a croze the staves must be first assembled and hooped.

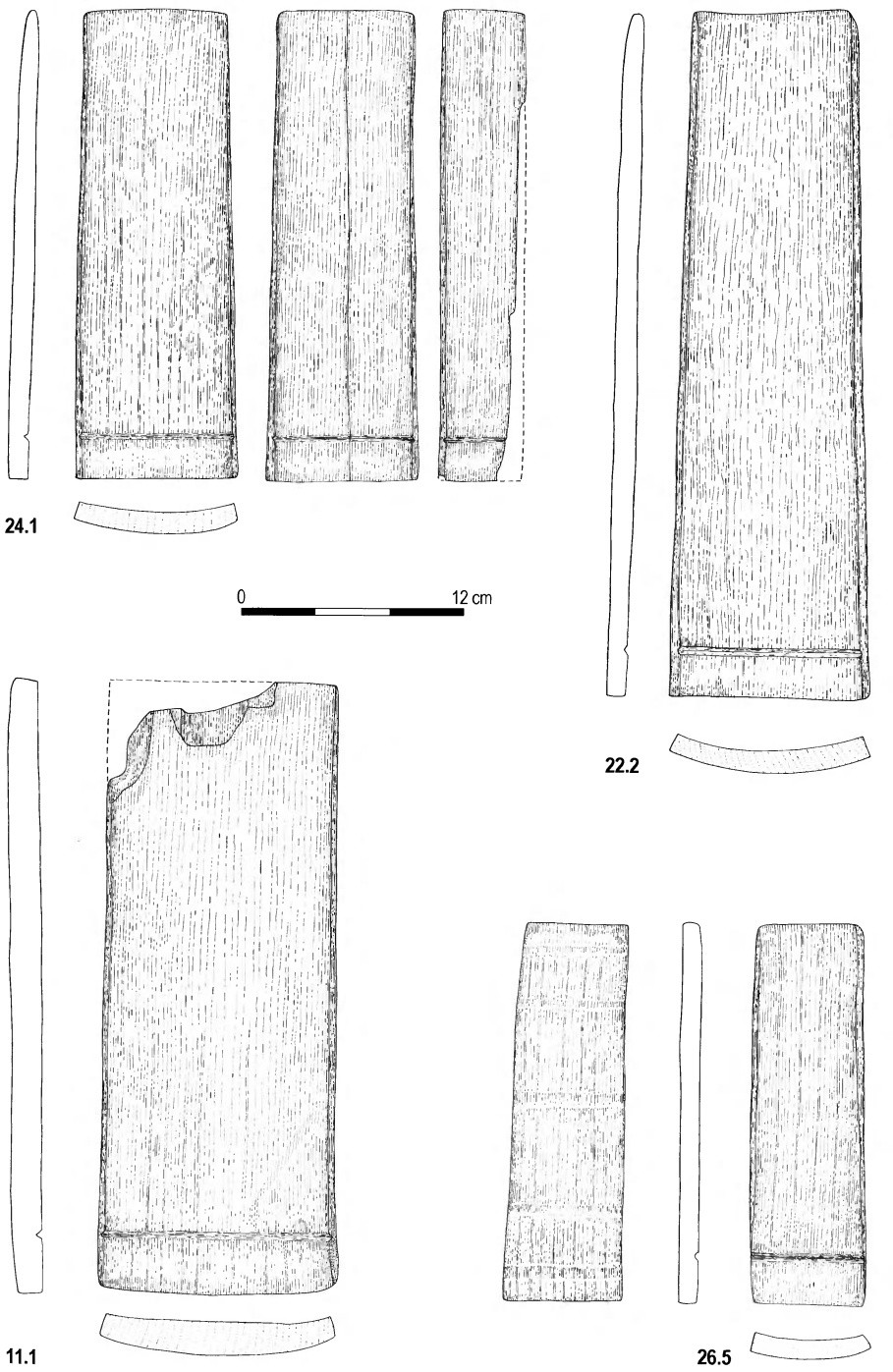


Fig. 2. Staves. All drawings C. Earwood
Ryc. 2. Klepki. Wszystkie rys. C. Earwood

A variety of wooden bases suitable for coopered containers and in various stages of manufacture have been identified (Fig. 3). In the majority of cases the bases were made in more than one piece and usually only one portion remains. Some of these represent about half of the original circumference of the base but most are between one third and a half. A few of the bases were discarded during manufacture sometimes because they had not been cut into a true circle. Those in the first stages of manufacture (ref. 11.4 and 22.6) are up to 42 mm in thickness and the edges have only been partly bevelled. Toolmarks on the surfaces of these bases show that they were shaped using a small axe. The bases, which are finished, are carefully smoothed on both sides with neatly bevelled edges forming a V-shaped edge. In most cases the shaping of the edge has been carried out equally from both edges and the base is slightly domed. The straight edge of

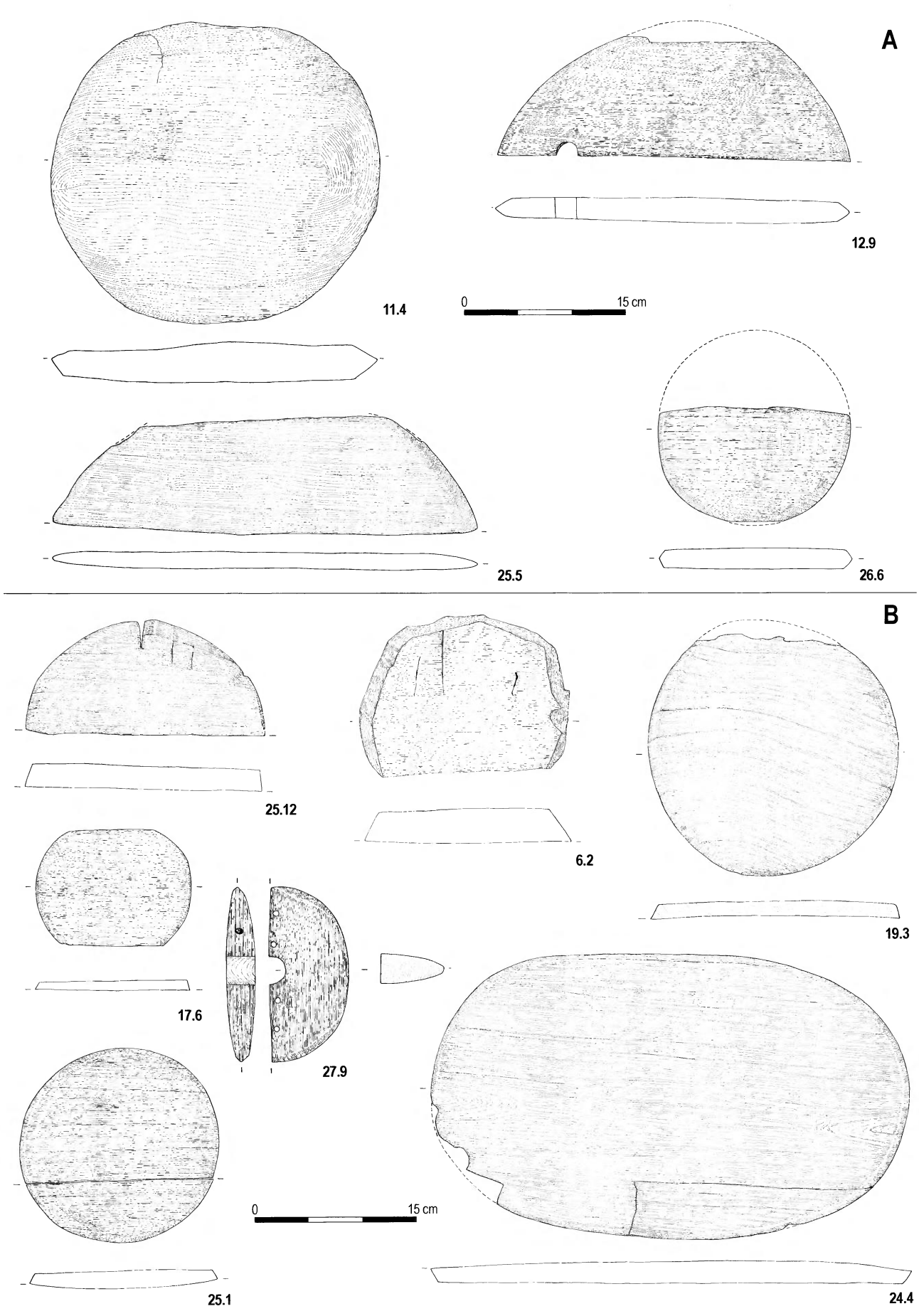


Fig. 3. Bases of stave-built containers (A) and bases/lids (B)
Ryc. 3. Dna naczyń klepkowych (A) i dna lub pokrywy (B)

the bases, which represent only part of a whole, is cut at right angles to the top and bottom faces and in no case are there any dowel holes or other signs of fastening. Although most of the bases appear to be in a finished state there is no sign of wear, in particular there is no impression parallel with the circumference which would be the result of the base having been fitted into the groove of a container.

In six instances more than one stave has survived from the same vessel but in no case were the full number of staves present and no fittings other than one possible wooden hoop fragment have been identified (Fig. 4). Reconstruction of the size and shape of the coopered containers (Fig. 5) is based therefore primarily on the size and curvature of the staves. The smallest base has a diameter of approximately 180 mm and several have diameter between 300 mm and 350 mm. Other bases are considerably larger with diameters up to 480 mm possibly representing large casks or tubs. The staves represent only open-topped containers and as there are no staves with side handles, such as those sometimes found on jugs or mugs, they must have been either tubs or buckets. The maximum height is 370 mm and the minimum is 202 mm. However approximately 75% of the staves belonged to containers which fell within a height range of 200 mm to 250 mm. It is more difficult to ascertain the original diameters of the containers from the staves as only about 30% of them are in a sufficiently good state of preservation for the curvature of the vessel to be estimated confidentially. The smallest container has a diameter (bottom edge) of only 125 mm and a height of 224 mm. Its shape suggests that it might have been a plunge churn. The majority of the other containers for which reconstruction can be attempted have a diameter (bottom edge) within a range of 250 mm to 300 mm. The most common size of vessel is therefore about 250 mm in height with a diameter of between 250 mm and 300 mm. In most cases the diameter at the top was slightly less than at the bottom. There are no clear indications that these vessels were buckets. None of the staves have holes or fittings for a swing handle of wood, rope or metal. Apart from the single fragment of a possible wooden hoop, the only other indications of how they were held together are the marks on the back of some staves (ref. 3.1 and 26.5) which are more characteristic of a wooden rather than metal hoop.

Comparison can be made between the stave-built containers from Dawidgródek and those from fourteenth century levels at Novgorod in Russia. At Novgorod the range of coopered vessels is much greater but a similar size of open topped container has been identified. These are buckets with heights ranging between 250 mm and

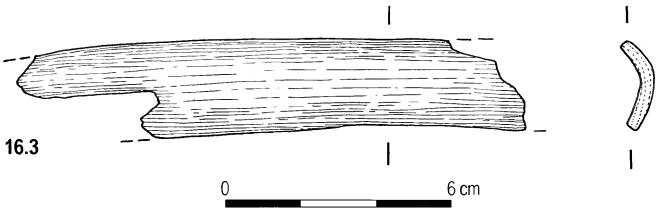


Fig. 4. Hoop (?) fragment
Ryc. 4. Fragment haka (?)

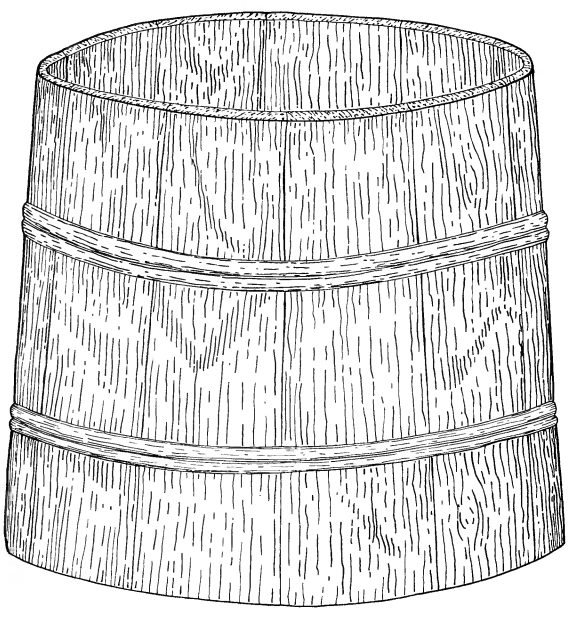
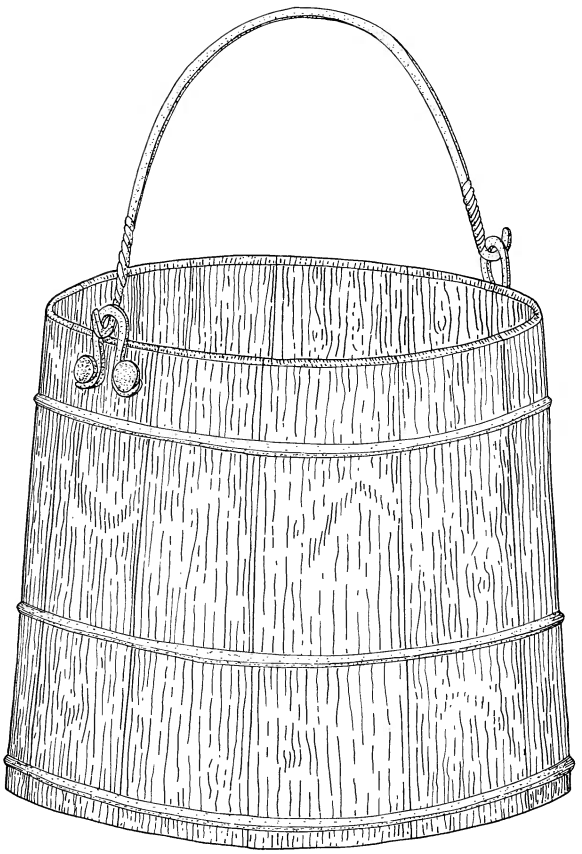


Fig. 5. Reconstructions of stave-built containers: tub and bucket
Ryc. 5. Rekonstrukcja naczyń klepkowych: cebrzyka i wiaderka



280 mm and diameters of approximately 250 mm, with the diameter at the top being slightly less than the bottom edge. The capacity was about 10 litres. These buckets were invariably banded with wooden hoops and carried using metal handles the ends of which were fastened in the holes of two longer staves on opposite sides of the bucket. In the earlier levels, dating from the tenth to twelfth centuries, tubs of similar size and shape have been recorded (B. A. Kolchin 1989, 38, 40 and 272). Similarly shaped buckets but with iron bands are recorded from other medieval sites. These buckets have handles of twisted iron the ends of which are looped through iron fittings fastened on either side of the bucket. In many cases only the iron parts survive but occasionally whole buckets have survived including a 210 mm high example with 15 staves from Behren-Lübchin, Germany which is dated to the eleventh century (J. Herrman 1985, pl. 19). Such buckets are often found in graves and are of slightly earlier date than the town of Dawidgródek. However similar examples are also recorded from later sites including the settlement of Opole, Poland (J. Bukowska-Gedigowa and B. Gediga 1986, figs. 16, 56 and 65).

The majority of the Dawidgródek coopered containers could be reconstructed either as small tubs or as buckets similar to those either from Novgorod, with wooden hoops and metal handle, or like those from Opole, with both metal hoops and handles. As no staves with holes for handles were found at Dawidgródek it may be more likely that the containers were small tubs rather than buckets. In one instance the container may have been double-ended, as part of a composite base with a bunghole has been identified (ref. 12.9). However the base was never used, as it had not been cut correctly. It was intended for a container with a diameter of between 330 mm and 350 mm. Other vessels include larger tubs possibly for washing or storing grain. These are however mainly represented by bases of a type, which are also known to have been used during the medieval period and more recently for carved two-piece containers. No containers of this type were found during the excavations at Dawidgródek but the possibility that they were in use in other parts of the town cannot be ruled out.

The lack of any fittings for the stave-built containers found at Dawidgródek suggests that the staves may have been discarded during the rebuilding of partly worn out vessels. The practice of rebuilding damaged containers is well known from the post-medieval period in Europe and in Ireland there is evidence for it as early as the eighth century AD (C. Earwood 1993). Although there is little direct evidence of the type of hoop used at Dawidgródek, wooden ones are perhaps most likely. Analysis of the coopered products from Slavic sites indicates that the use of wooden hoops became common from about the eleventh century AD onwards while metal hoops were rarer although they continued to be used particularly on larger containers (Z. Woźnicka 1961, 49). The increase in wooden hoops corresponds with the period when coopered products became more widely used in everyday life. This increase in the volume of production occurred during the eleventh and twelfth centuries and is probably directly related to the development of urbanism.

Lids or bases

In addition to those items that can be clearly identified as bases from either stave-built or carved two-piece containers, there are a considerable number of pieces, which are parts of lids or bases from some other types of containers (Fig. 3B). Over half of these were made in one piece and the majority of these are circular. Of the remainder at least eleven were made in two or more pieces but as the breaks occur along the grain of the wood it is sometimes difficult to distinguish between broken pieces and those made of more than one piece of wood. However, whether whole or composite, the pieces were all made in a similar way. One surface is flat while the other is slightly domed and the edges are cut at angle of about 45 degrees to the flat surface with the result that this face is always of slightly larger diameter than the domed face. A few of these pieces are unfinished being of greater thickness than normal and with edges which are only roughly cut to shape. Some of these show signs of axing.

Because of the angle of the edges, it is more likely that these pieces were lids than bases. The shape of the edges would preclude them fitting into a groove of either a stave-built or a carved container. However it is possible that they might have been bases for carved two-piece containers in which the diameter increased from the bottom to the top. Metal pins or wooden dowels would have been required to fix these securely to the sides of the containers. No fastening or holes are found in the sides of the surviving pieces although it should also be noted that there is no indication that these pieces were used. Another possibility is that they were the bases for bentwood containers the sides of which were made from either bark or finely split wood. Bases of this type are recorded from Slavic sites including Novgorod (B. A. Kolchin 1989, fig. 70.8) and Opole J. Bukowska-Gedigowa and B. Gediga 1986, fig. 13.6) but had a wider distribution also being known from the early medieval sites of Ballinderry and Lagore in Ireland which are dated to between eighth and tenth centuries AD (H. O'N. Hencken 1942, fig. 26; 1950, fig. 78). All these examples, which are elliptical in shape, were made in one piece and were fitted using small wooden dowels. Only three of the examples from Dawidgródek are elliptical and all three were made from one piece of planking despite their large size. The largest of these is 440 mm in length by 262 mm at the widest point. Identification of these as bases for bentwood boxes seems most likely.

An alternative function for the remainder is that they were circular lids for storage tubs, which were wider at the mouth than at the bottom edge. Another, perhaps more likely, possibility is that the lid rested upon a ledge in the neck of the vessel. Such a ledge would be easier to create

in the mouth of a carved-two piece tub than in a stave-built vessel. Of the twenty-six lids of this type the majority have a diameter of between 200 mm and 300 mm. The limited area of the excavation could explain the lack of carved two-piece containers from Dawidgródek. At Novgorod the majority of the containers of this type were only found re-used as drains and were preserved for this reason (B. A. Kolchin 1989, 75).

One portion of lid or base survives which is in many respects different to any of that described so far (ref. 27.9). It consists of a semi-circle, the surfaces of which have been carefully smoothed. The curved edge is neatly bevelled in the same manner as the bases used in stave-built containers. A semi-circular notch has been cut partway along the straight edge. A similar notch probably existed in the matching half of the base or lid thus making a circular hole 27 mm in diameter. The two parts appear to have been joined together with a small wooden dowel driven into the face of the straight edge. Close to the straight edge, four small circular holes have been cut through the thickness of the lid but it is unclear for what reason they were made. It is difficult to find parallels for this piece. The central circular hole is suggestive of the lid of a plunge churn through which the staff of the plunger passed. If this interpretation were correct, the flat circular lid would have been fitted within an upright detachable portion, which rested on the top of the churn. It is most likely that the churn and the sides of the lid would have been stave-built. This method of churning is not considered to have been widely practised in Russia in the medieval period when butter was also produced by heating. However churns of this type are known to have been used in White Russia and other more southerly Slavic countries in the post-medieval period (J. Myrdal 1988, 117) and tall, narrow-necked stave-built containers suitable for churning are recorded from Novgorod as are plungers or whisks made from branched fir stems (B. A. Kolchin 1989, 41, fig. 29.8 and 134, fig. 130). Similar whisks or plungers are also known from Opole (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 16.4). It is possible that this lid from Dawidgródek is among the earliest evidence for the plunge churn in Belarus.

Turned bowls

The turned vessels from Dawidgródek although few in number indicate a varied range of styles and sizes (Fig. 6A). The largest example is a shallow, flat-bottomed bowl, or plate, of ash wood, which has a diameter of 293 mm (ref. 17.1). It was well finished and decorated with five pairs of incised lines running around the outside. During its period of use, it was cracked into two halves, which were then joined together. On the surviving half there are two small circular holes drilled through the thickness of the bowl between 35 mm and 40 mm from the rim and close to the broken edge. In each hole there is a circular wooden dowel. It is not entirely clear how the two halves would have been fastened together but there may have been a wooden plate on each side, which was held in place on either side of the crack by a wooden dowel. Repairs to cracked wooden vessels are not uncommon. The most common method was to sew the two parts together using string made from wood or hide. This type of repair has been recorded at Novgorod (B. A. Kolchin 1989, fig. 50.1) and is known from earlier periods in Western Europe. Similar repairs have been observed on a carved keg from Scotland, which is dated to the second or third century AD (J. Ritchie 1941, pl. 1; C. Earwood 1991). Other methods involve fastening a flat piece of metal or wood across the break, which is then secured with metal or wooden pins. This method is recorded in Scotland on a bowl dated to the second or third century AD (C. Earwood 1989, 39) and was also used in Ireland during the early medieval period (A. T. Lucas 1958, 126–128).

Other quite different styles of turned wooden vessel are known from Dawidgródek including a bowl with a footring. Unfortunately the upper part of this bowl (ref. 17.2) is missing so full reconstruction is impossible. Around the outside of the footring, which has a diameter of 108 mm, the surface is decorated with two deeply cut grooves on either side of a raised cordon. Close to the centre of the base there is an approximately triangular cut with a smaller rectangular hole inside it. This may be where the bowl was attached to the lathe spindle during turning but, as it is not exactly central, it may be later damage. A contrasting style of vessel is a flat-based bowl or dish with almost vertical sides and an out-turned rim (ref. 74). The diameter is approximately 220 mm but the height cannot be reconstructed accurately as the bowl is damaged: it is approximately 45 mm in height. A variety of other fragments of turned vessels are recorded together with a few which may have been carved but whose condition makes it difficult to observe any toolmarks. Some of these fragments are the remains of bowls or dishes while others are pieces of very shallow flat platters (ref. 19.8).

The styles of turned wooden vessels found at Dawidgródek are not closely similar to those from other sites of this date. However the bowl with the almost vertical sides (ref. 74) does have similarities to a type which first appears in Novgorod during the mid to late thirteenth century while the base fragment with the footring has similarities to a number of bowls, the earliest of which date from the tenth century but which persist until the fifteenth century (B. A. Kolchin 1989, fig. 45). The flat plate-like style is not recorded from other sites in Eastern Europe. Bowls with high footrings are also known from Opole but they differ somewhat in style to the Dawidgródek example (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 72.6). It is not perhaps surprising that the styles of turned wooden vessels from Dawidgródek differ from those found in other medieval towns of Eastern Europe. Although a general similarity can be detected there were no doubt many local variations and traditions.

In addition to the finished bowls, several pieces of waste wood, which were produced during turning, have been identified (Fig. 6B). These are of two main types. The first are small circular pieces which taper slightly from one flat face to the other and vary in diameter from 35 mm to 47 mm. Two of these (ref. 71.2 and 71.3) have small rectangular holes cut from face to face while a third (ref. 72.7) has a smaller rectangular hole cut only partway into one face. This piece appears to have been further worked as there is a second circular hole cut through the opposite face and out through the side. All such pieces have clear cut marks around them, which were made, during turning. There are two possible explanations for these waste pieces. They may be the waste removed from inside the bowl after turning was complete in which case the lathe spindle, with the cord wrapped around it, must have been fixed in the rectangular hole cut in each. One problem with this interpretation is that in two instances the hole has been cut right through the waste *i.e.* into the inside of the bowl which might have caused damage to the interior surface. If this was the case the bowl must have been very shallow, as the waste pieces are not very high. As shallow bowls are recorded from Dawidgródek this explanation is acceptable. The other interpretation is that they are waste pieces from the bottom of turned bowls. In this case the lathe spindle would have been fixed in the waste at the base of the bowl and propulsion supplied from this end. The latter interpretation is less likely considering the shape and size of this first category of turning waste.

The second type of turning waste consists of a circular, flat-based piece, which tapers to a small flat top.

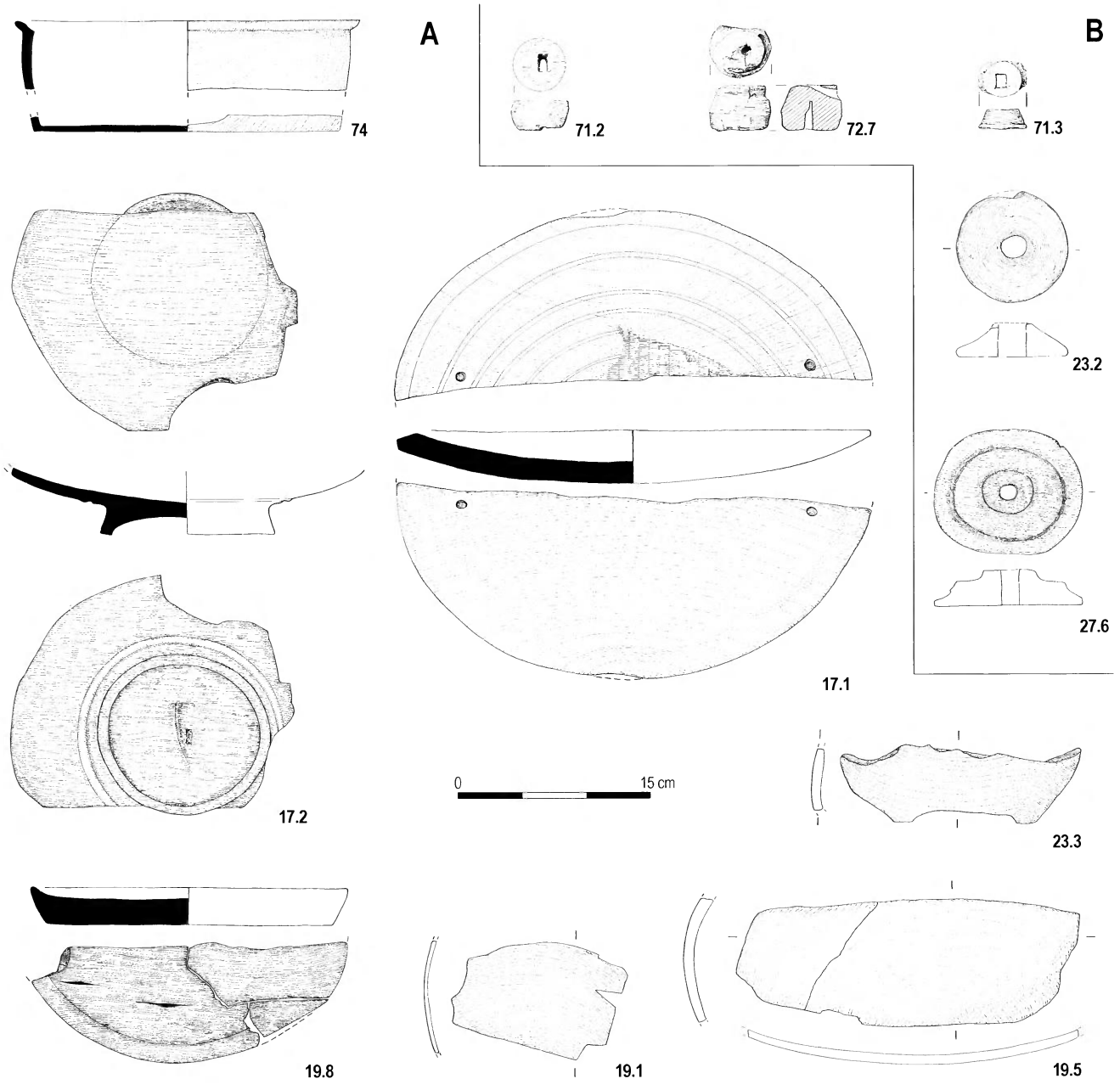


Fig. 6. Turned bowls (A) and turning waste (B)
Ryc. 6. Miski toczone na tokarce (A) i odpady produkcyjne (B)

In one instance (ref. 27.6) the sides are distinctly stepped and cut marks are apparent running around it. This type of waste has a central circular hole cut from top to bottom with a diameter varying from 15 mm to 20 mm. Such pieces are the remains of the cylindrical boss at the base of the roughly shaped bowl. A short spindle, which was fixed to one of the lathe uprights, might have revolved in the circular hole while the propulsion was supplied by a cord wrapped around the spindle, which was fixed tightly in the top of the vessel. Alternatively a short spindle may have been jammed into the circular hole of the base waste and itself have revolved upon a fixed point attached to the lathe upright.

Comparisons with turning waste from other sites in Europe indicate that there are two main variations in the way in which bowls were fastened to the lathe during turning. In one case a spindle was fastened to the top of the roughly shaped bowl. The end of this spindle was either circular or rectangular in section but more commonly it had a number of circular or rectangular pins at its end which were pushed into the wood in the face of the unturned bowl thus securing the two firmly together. A cord wrapped around the spindle the other end of which revolved in one of the lathe uprights supplied the propulsion. On the face of the opposite upright there was a short metal or wooden pin which was stuck into a small circular hole in the base of the bowl thus holding the bowl steady but allowing it to revolve (Fig. 7:1). This method could produce one or two pieces of waste: one from the inside of the bowl and sometimes a second if a boss was cut away from the base. This was sometimes done so that there would be no hole or mark in the base of the vessel. The second method of fastening is essentially the reverse situation where the base of the bowl was fixed to a spindle and the top of the bowl revolved on a fixed point attached to the lathe upright. In this case there are always two pieces of waste, one from the base of the bowl and another from inside the bowl. A variation on this second method is that both the top and base of the bowl are fixed to spindles which themselves revolve on fixed points on the lathe uprights. The propulsion is usually still from the base of the bow (Fig. 7:2.3). The waste pieces will of course have different types of holes according to whether they were fixed to a spindle or revolved on a fixed point.

The first method of fixing is the most widespread in western Europe with waste from this method being recorded from many early medieval sites dating from the sixth to tenth centuries (C. Earwood 1990, 589–591). This appears to be the only method used during the tenth and eleventh centuries in England (C. Morris 1982). However the second method, where propulsion is from the base of the bowl, was the more common method in north and Eastern Europe where it is recorded in Old Rus (B. A. Kolchin 1985, 285). Analysis of turning waste from Gdańsk however indicates that both methods were used (R. Barnycz-Gupieniec 1959, fig. 20). The variation on the second method *i.e.* where both top and bottom are fixed to spindles was used at the Viking town of Haithabu, Germany and it may be that this is the method which was used at Dawidgródek as it is difficult to see how the base could revolve smoothly on a fixed point given the size of hole in the larger waste pieces and the amount of friction that would occur. It may be that this is the oldest method known in Europe and was used to turn a bowl from Uffing which is dated to the Hallstatt period (H. Drescher 1986, 169).

The function of the wooden containers was very varied. Stave-built tubs and buckets were probably used, as they were in recent times, for storing and serving food and drink. Others may have been churns for making butter. The existence of the large elliptical bases suggests that bentwood boxes were used. It is somewhat surprising that no large carved containers, either troughs

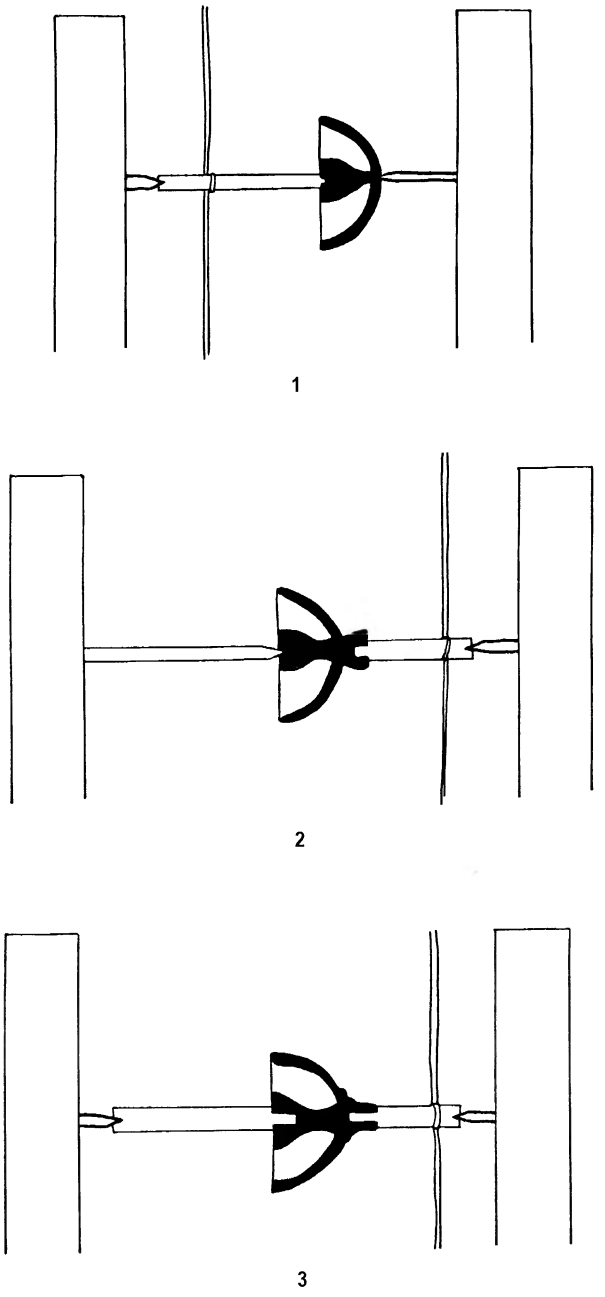


Fig. 7. Methods of attachment of a bowl to a lathe
Ryc. 7. Sposoby mocowania misek na tokarce

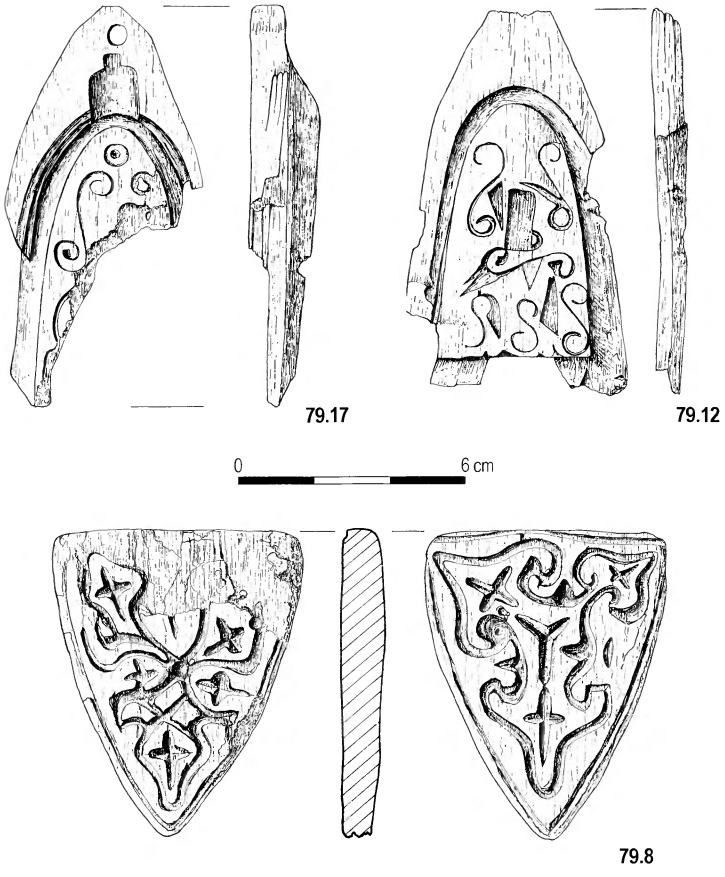


Fig. 8. Moulds
Ryc. 8. Formy

or tubs, were found at Dawidgródek. These types of container are commonly found on other medieval settlements in eastern Europe and would have been used for preparing and storing food. The large number of types of wooden container and the small range of pottery types from the site indicate that the latter was mainly used for cooking while the wooden containers fulfilled the other domestic needs of the household. The fineness of the turned wooden bowls indicates that these were used for serving food. There is no similarity in shape between the pottery and any of the wooden containers.

Decorated wooden plaques: cheese, butter or cake moulds

Three small wooden plaques with decorated surfaces have been recorded, all of which are unfortunately fragmentary making it difficult to determine their precise shape (Fig. 8). Two of the plaques have a slight recess on one side in which there is an engraved S-shaped decoration. Both of these pieces are three sided with one side being considerably shorter than the other two sides. Neither are truly triangular in shape as the two long sides are curved. The recess follows the shape of the plaque but is more rounded towards the top corner. In the top of one piece (ref. 79.17, cat. 158) there is a small circular hole cut through the thickness of the wood. On the back of the plaque there are seven small circular depressions: these may however be damage incurred after the piece was discarded. Unfortunately the top corner of the similar plaque (ref. 79.12, cat. 470) is broken so that it is not possible to say if it also had a hole at this point. The two pieces are very similar in size both being originally between 105 mm and 110 mm in length. Both plaques were found in house IV but not together. The third plaque (ref. 79.8, cat. 23) also has three slightly curving sides but there is less difference in their lengths. This piece differs from the other two examples however in that it has no recess and is decorated on both faces with a combination of crosses and lines forming leaf shapes. There are two tiny holes in the plaque but it is not clear if these are original. It is slightly smaller than the recessed plaques being 80 mm in length.

Although the plaques have a superficial resemblance to decorated wooden writing tablets such as those from Novgorod (B. A. Kolchin 1989, 401) this cannot have been their function as the decorative engraving lies within the recess which in the case of writing tablets would hold the wax. Additionally they are not a suitable shape for this purpose. An alternative and more likely explanation is that they are parts of moulds for pressing cheese or butter. The recessed piece would have held the cheese or butter while the flat- faced plaque would have been the top of the mould. This part would be of the same size and shape as the recess of its matching half. The hole in the top of the mould may have been to hang it up whilst it was not in use. The difference in the size and shape of the pieces from Dawidgródek indicates that they are the remains of three separate moulds. No direct parallels are known from the twelfth and thirteenth centuries in eastern Europe but there is a striking similarity between the decorated plaques from Dawidgródek and cheese moulds used in recent times in Poland. These vary considerably in shape but many are of comparable size to the Dawidgródek examples. A heart-shaped example from Ząb in the Tatra Mountains is markedly similar being 180 mm in length, 95 mm wide and 37 mm deep (E. Frys, A. Iracka and M. Pokropek 1988, pls. 116 and 287). The Dawidgródek moulds are however shallower than those used in recent times suggesting that they could have been used as cake or biscuits moulds where the pattern was pressed into the surface of the uncooked mixture. Such cake moulds are recorded from twelfth and thirteenth century levels at Novgorod although these are different in shape (B. A. Kolchin 1989, 159–160, fig. 150).

Spoons and ladles

There are two examples of simple spoons (Fig. 9). The best preserved of these (ref. 65, cat. 32) is complete except for a couple of small chips on the edge of the blade. It has a shallow bowl 46 mm in width and a handle, which is approximately circular in section. The total length is 200 mm. The spoon is carefully carved with a smooth finish to all its surfaces. A second spoon (ref. 79.3, cat. 467) although damaged is of similar shape and size but is less finely

finished. Similar simple spoons are known from other twelfth and thirteenth century towns including Gdańsk (R. Barnycz-Gupieniec 1959, table 6) and Grodno (N. N. Voronin 1954, fig. 27.11) and this type largely superseded the more elaborate spoons that had been common during the eleventh century although decoration continued to be used (B. A. Kolchin 1989, 65). A fragmentary piece of wood which is now broken at both ends and which is decorated on both sides with an incised X may be the remains of a spatula (Fig. 9; ref. 66.1, cat. 73).

A type of large ladle or dipper, one of which was found at Dawidgródek (Fig. 10), are also found in medieval towns of eastern Europe. The Dawidgródek ladle (ref. 76) is 310 mm in length with a deep bowl and short curved handle. The bowl is 176 mm in depth with a width of 186 mm. It has been carefully carved, possibly from ash, and all the surfaces are finely finished. Ladles of similar type have been found on a number of other sites of this period including examples from Gdańsk (R. Barnycz-Gupieniec 1959, table 5) and Opole (J. Bukowska-

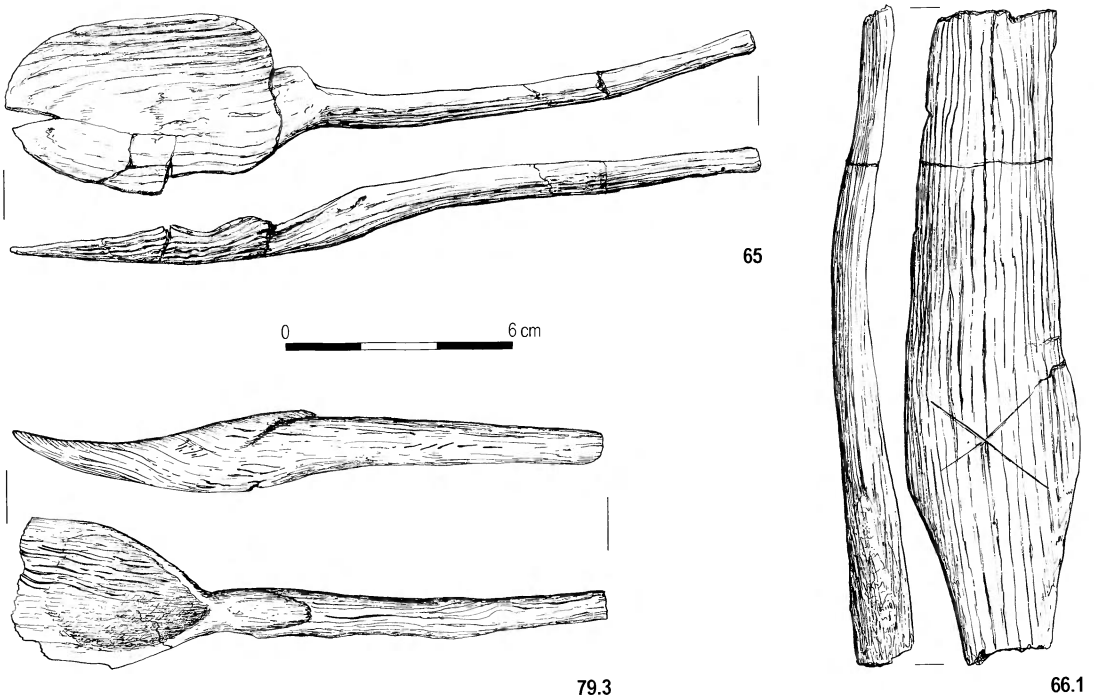


Fig. 9. Spoons and spatula
Ryc. 9. Łyżki i szpatułka kuchenna

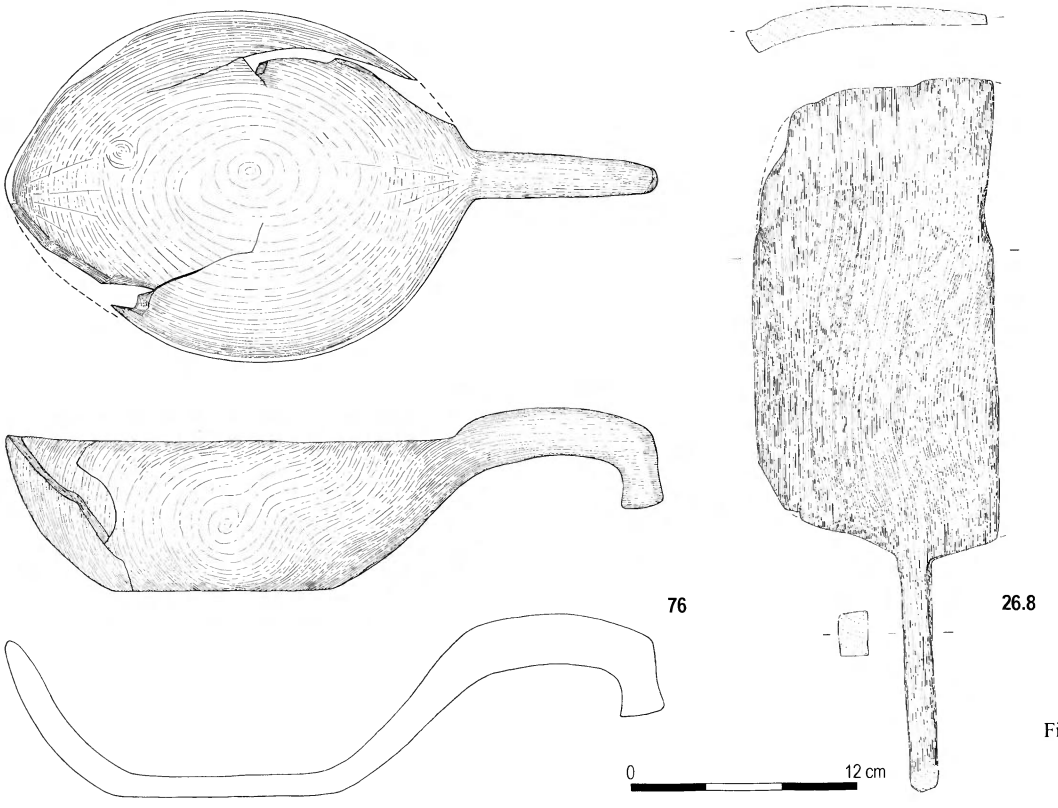


Fig. 10. Ladle and oven (?) shovel
Ryc. 10. Warząchew i łopata do pieca chlebowego (?)

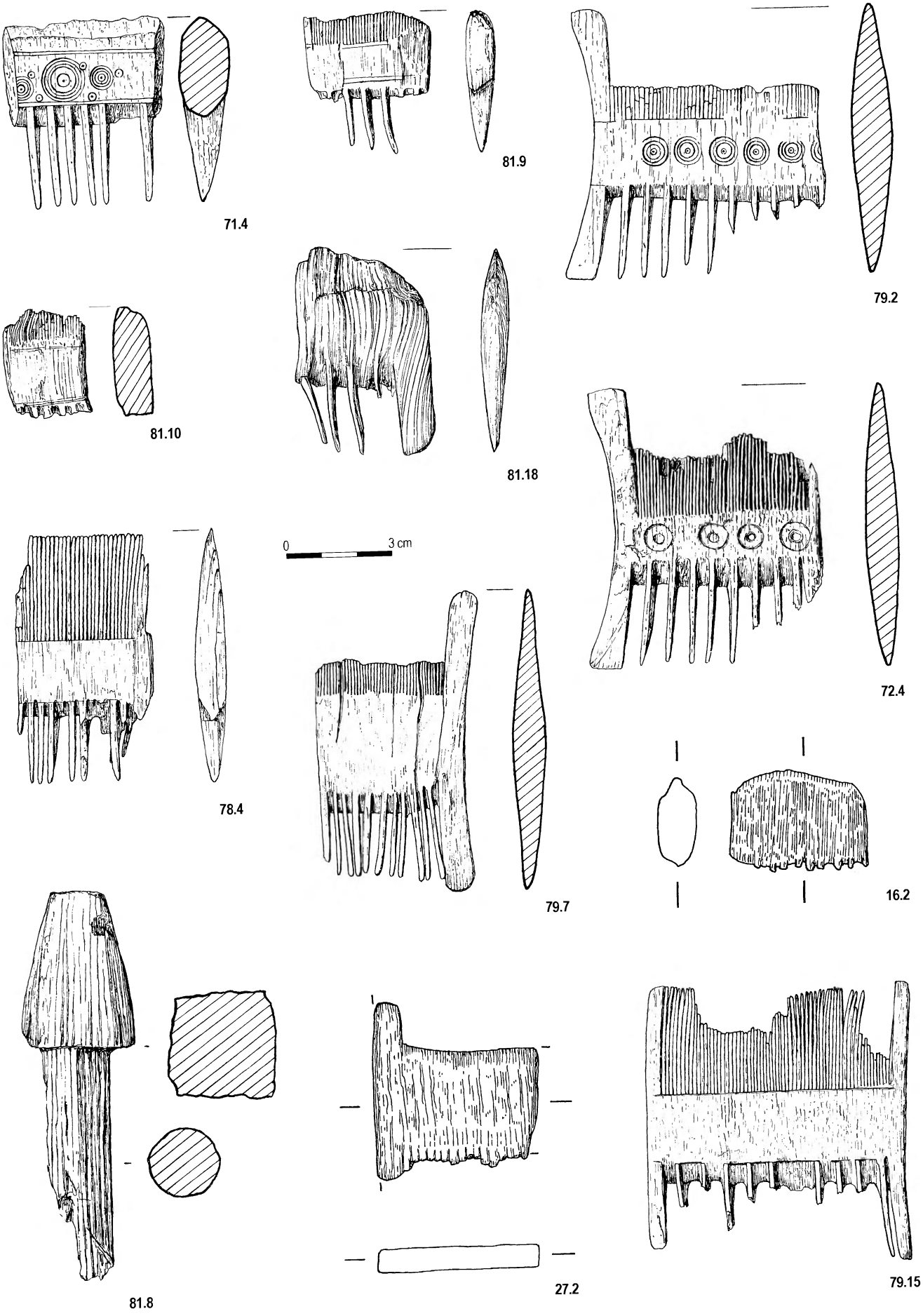


Fig. 11. Combs
Ryc. 11. Grzebienie

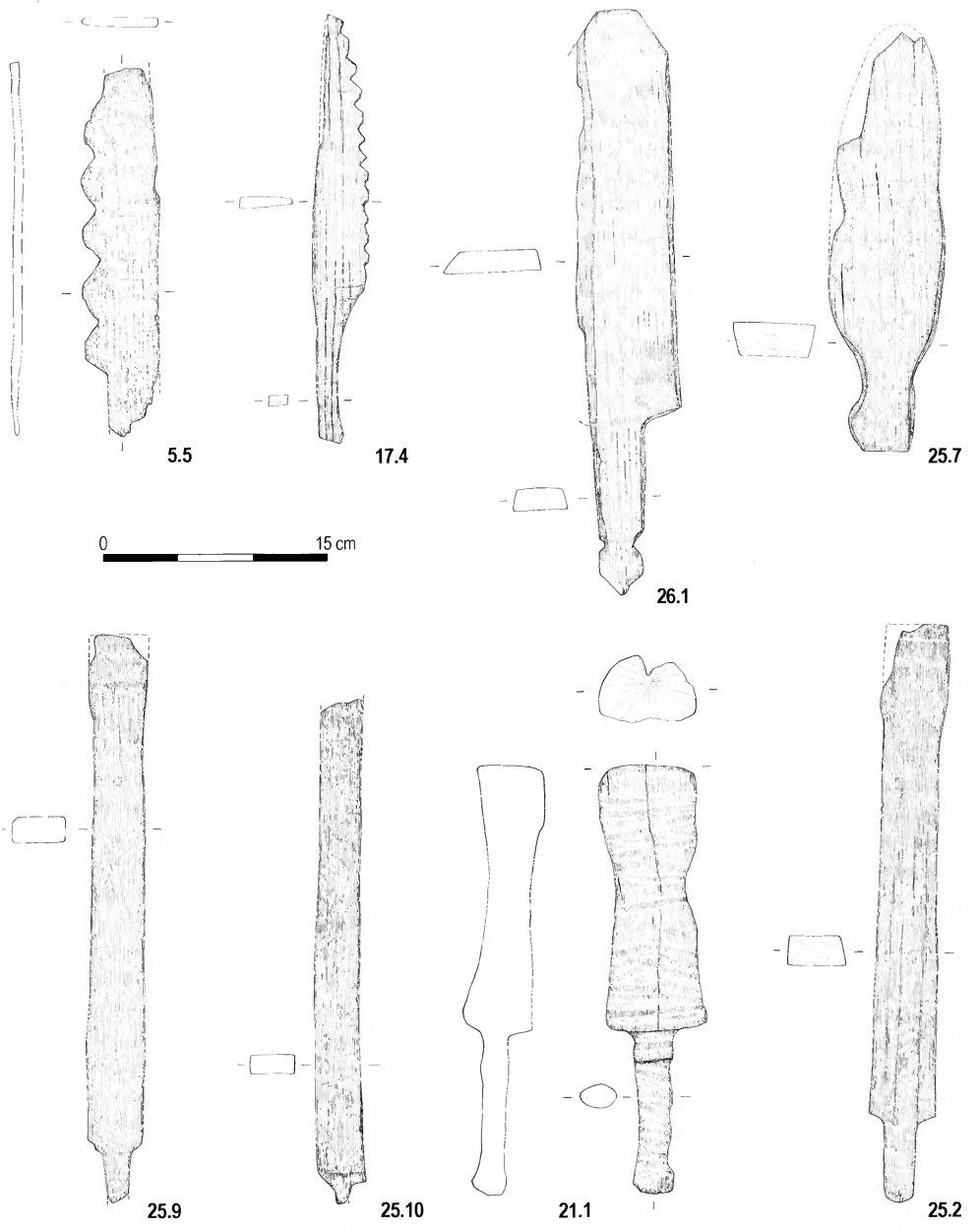


Fig. 12. Beaters and possible heckles
Ryc. 12. Kijanki i przypuszczalne międlice

-Gedigowa and B. Gediga 1986, figs. 12.11 and 14.2) but the ladle with the most striking similarity is an eleventh century example from Novgorod (A. V. Artsichovskii and B. A. Kolchin 1956, fig. 43.2 and B. A. Kolchin 1989, fig. 65.1). The only difference between these two ladles is that the end of the handle of the Novgorod example is in the shape of a stylised animal head. The Dawidgródek ladle was found directly above the well (V) and was probably used for ladling water.

Personal Equipment

Combs

Wooden combs were found in a number of buildings at Dawidgródek (Fig. 11). Although most are fragmentary, they all appear to be fully finished and no waste material from combmaking has been identified. All combs are double-sided with one set of very fine teeth and one set of much larger and more widely spaced teeth. All are thickest along the central spine of the comb with the teeth and ends tapering from this point. There are two main types of comb found on the site: the ends of the one type are curved while the other type has straight ends. A number of the combs are decorated along the spine with engraved circles with central dots; others are completely plain. Many of the combs are broken so it is not always possible to estimate their original length. However a typical size is about 70 mm long and 80 mm wide (*ie* from the ends of one set of teeth to the ends of the other set).

The combs from Dawidgródek have parallels on several contemporary Slavic sites, including Novgorod where the majority of the combs were made of boxwood (B. A. Kolchin 1989, 164–165, fig. 153). It has not been possible to microscopically identify the wood species of the Dawidgródek combs but their surface appearance is consistent with the use of boxwood. Similarly shaped combs are also recorded from Grodno (N. N. Voronin 1954, fig. 27).

Tools used in thread and cloth preparation

There are a variety of tools from Dawidgródek which were used in the manufacture of thread and cloth including various beaters probably used in the processing of flax, toothed objects which may be identified as heckles, spindles, a weaving sword, a shuttle and part of a swift (Fig. 12–14).

The preparation of flax requires a range of wooden tools, which are used in crushing the plant stems and removing waste material. There are variations in the methods used and hence in the tools required. These variations may be both chronological and geographical. Understanding of the processes involved is based on

wooden tools and depictions of their use, the earliest of which are dated to the seventh millennium BC at Çatal Hüyük in Anatolia, and ethnographic records relating to the hand production of flax from as late as the early twentieth century AD (J. P. Wild 1970, 13; B. de Wilde 1984). After harvesting and initial drying the seeds were removed either by combing or by beating. The beaters used in this process had flat asymmetric blades, they were recorded in use in Italy as late as the 1920s (B. de Wilde 1984, 160) and are known from Novgorod from the tenth to the fifteenth centuries. Threshing sticks, which were used in the same process, are also recorded at Novgorod (B. A. Kolchin 1989, 108–109, figs.110, 122.2). Similar beaters may sometimes have been used also in later stages of flax processing.

After initial beating and/or combing the flax plants were soaked in pits to soften the fibres. This process is known as retting. After retting the plants were dried and then broken by laying them across a grooved board, which was set on legs (a breaker). The stems were crushed using a wooden knife, which was sometimes attached to the board at one end so that it pivoted (a breaker). More primitive tools used for breaking included beaters with cylindrical heads examples of which are known from early historic sites in Ireland (H. O'N. Hencken 1942, fig. 27), north Germany (J. Graham-Campbell 1980, 22) Poland (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 50.21), Belarus (E. M. Zagorulskii 1982, 253) and Russia (B. A. Kolchin 1989, 108). These can be confused with clubs used in place of a mallet during woodworking (M. Abbot 1989, 71; W. Jeż-Jarecki 1969, 54, fig. D.5). The next process removed all but the fine fibres that were required for spinning. The flax stems were hung over a vertical wooden plank, which was attached to a low frame (a zwingel). The operator steadied the zwingel by placing his foot on the frame and beat the flax stems with a flat-bladed beater (a scutch). The shape of the blade could be long and narrow, almost square or fan-shaped. Evidence for the use of the zwingel comes mainly from modern times in western Europe and beaters of this type do not seem to have been found on early historic sites in eastern Europe. Finally before spinning the fibres were combed using wooden or metal combs or a heckle. The heckle is a sword-shaped tool which has a line of teeth along one side of the blade. There is little evidence for its use in western Europe but it seems to have been a common tool in eastern Europe. Heckles have been found in Novgorod (B. A. Kolchin 1989, 109–110) and are also recorded from ethnographic collections (N. I. Lebedeva 1956).

A variety of different beaters have been identified at Dawidgródek, many of which do not appear to have been fully finished (Fig. 12). This makes the identification of their function particularly difficult. However it is possible that at least some of these were used in the preparation of flax. One of the best preserved is a beater with a cylindrical head and handle (ref. 21.1). The middle part of the head is severely worn and the whole of the beater

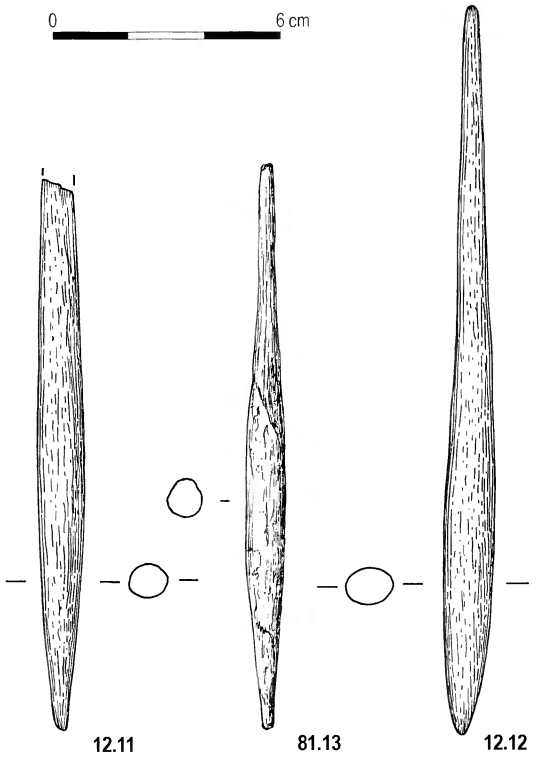
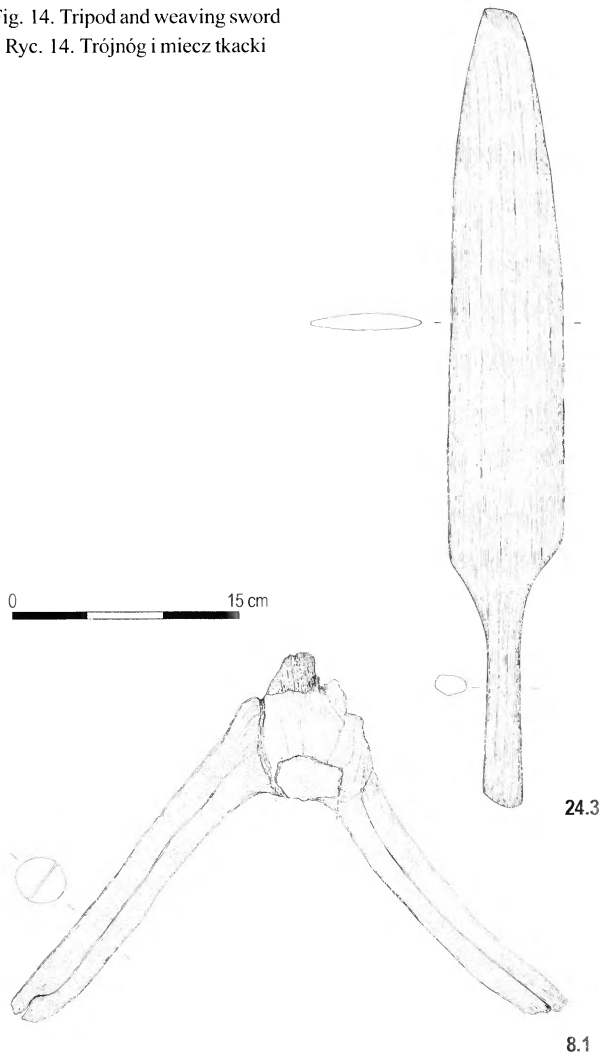


Fig. 13. Spindles
Ryc. 13. Przęślice

Fig. 14. Tripod and weaving sword
Ryc. 14. Trójnóg i miecz tkacki



is criss-crossed with marks, which appear to have been made by some form of binding, possibly cloth or leather. This may have been to protect the surface of the wood. A similar but much larger beater is also recorded (ref. 30). It is 563 mm in length with the maximum diameter of the head being 118 mm. These beaters are similar to those used in the early stages of crushing the flax plants. Another beater-like implement (ref. 26.1) may have been used to remove the seeds. However because it is broken down one side of the blade it is unclear whether this was asymmetric. There are also the fragmentary remains of four possible heckles (Fig. 12). The best preserved of these (ref. 17.4) is only 284 mm in length and is now very thin (8 mm). This is however partly the result of desiccation. The other examples are more fragmentary and lack their handles. They have the remains of up to seven teeth.

There are also three objects, which have some resemblance to beaters. All of them are broken but the most complete (ref. 25.2) has only sustained a small amount of damage at one end. It is 278 mm in length with the blade being 220 mm. The handle is therefore uncomfortably short. In section this object is approximately rectangular with sharp corners. The size and shape of these objects makes identification of their function difficult. Although it may be possible that they are partly made beaters whose edges have not yet been smoothed off, the narrowness of the blade and shortness of the handle makes this rather unlikely. The two other examples (refs. 25.9 and 25.10) are of similar size and shape although both have broken handles. All three were found in the same context: on the floor of the upper level of house IV. Most of the objects, which can be classified as beaters were found in house IV.

Other tools from Dawidgródek which were used in the production of thread and cloth include spindles (Fig. 13). These are all of the same type with a straight shaft tapering at either end to a point. Close to the lower end the shaft swells to form a thicker portion. The length of these spindles is between 150 mm and 189 mm with a maximum diameter of 13 mm. This type of spindle was first used in Europe from the first century AD (P. J. M. van Gorp 1984, 59) and were widely used from the fifth to eleventh century AD in Ireland, Britain, north Germany, Poland and Russia (C. Earwood 1993). Directly comparable examples are recorded from Opole (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 12.13), Novgorod (B. A. Kolchin 1989, fig. 113) and Lübeck (Stadtgeschichtliches Museum, Lübeck). A single example of a tripod, which may have formed the base of a swift, was found at Dawidgródek (Fig. 14; ref. 8.1). The tripod is made from the natural junction between three branches and from its shape must therefore be made of coniferous wood. On the top a short peg has been carved on which the arms of the swift could have revolved. Swifts, which were used to wind the spun thread into skeins, are unusual finds and are better known from ethnographic studies (M. Hoffman 1964, 271).

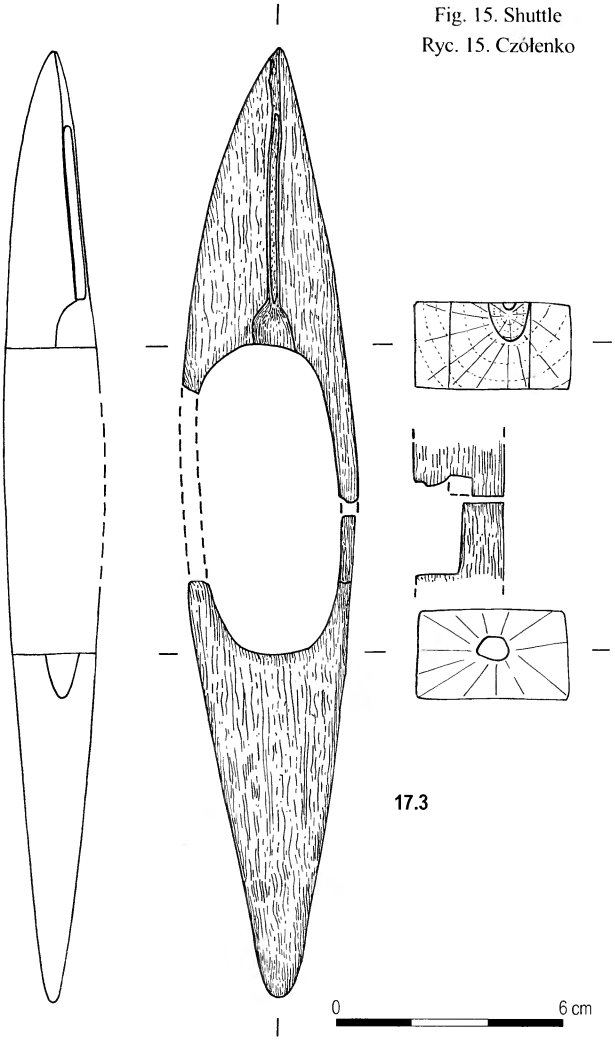


Fig. 15. Shuttle
Ryc. 15. Czółenko

Wooden tools associated with weaving are also recorded from Dawidgródek. These include a broken shuttle (Fig. 15; ref. 17.3) which would have been used on a horizontal loom. The shuttle is 223 mm in length and has two small circular holes at either end of its opening. A bar holding the bobbin would have been secured in these holes. Horizontal looms are known to have been in use in the western Slavic area but the vertical loom was also in use in the early medieval period (J. Herrman 1985, 286–287). The lack of loom parts from archaeological excavation makes it difficult to determine the precise evolution of these two different types of loom although depictions of the vertical warp-weighted loom are known from Ancient Greece (E Broudy 1979). A vertical loom using two beams rather than weights to stretch the warp was introduced in the Mediterranean area during the second century AD (J. P. Wild 1970) and a loom of this type is known from the ninth century when it is illustrated in the Utrecht Psalter. Its spread across Europe is poorly dated although it appears to have superseded the warp-weighted loom in many western countries by the later medieval period (M. Hoffman 1964, 18). The development of the horizontal loom is also far from clear although it appears to become common only from the medieval period and there seems to be no direct evidence for its use before this time. Apart from the shuttle from

Dawidgródek there are no other pieces that can be definitely associated with the horizontal loom although one of the objects that was tentatively identified as a beater (ref. 26.1) could be the treadle from such a loom. The notched end where the cord would have been secured is particularly similar to examples from Novgorod (B. A. Kolchin 1989, fig. 120.1). A more roughly shaped object of this type (ref. 25.7) may be an unfinished example of a treadle or alternatively of a toy sword. There is also evidence that a vertical loom was in use as an undamaged weaving sword has been identified (Fig. 14; ref. 24.3). This is 526 mm in length with a smoothly finished blade and handle. It is very similar in size and shape to weaving swords from Viking sites in Scandinavia as well as more recent ethnographic examples (M. Hoffman 1964, 47, fig. 14 and 138, fig. 60). Similarly shaped objects are also recorded from Opole in Poland (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 42.13).

Ceremonial or ritual objects

Maces

Two types of maceheads can be identified (Fig. 16). The first type have approximately spherical heads, which are often decorated with carved spiral patterns, set on a short staff. This shaft may have been attached to a longer stick as in once instance there is a small circular hole at the lower end of the shaft (ref. 68.1, cat. 483). The head and the shaft are carved from one piece of wood, which is often the junction between a branch and the stem of a young tree. The head of this type of mace has a diameter of between 60 mm and 70 mm. The second type of mace, which is carved from a small branch of tree stem, has a smaller head, which is asymmetric and is not decorated. It is not clear whether in fact this type of object should be classed as a mace. They are considerably smaller than the first type and in one instance the head has some similarity to that of an animal's head (ref. 81.11). They have more in common with the ritual sticks and domestic spirits, which are common, finds from Novgorod (B. A. Kolchin 1989, 191, figs. 201 and 202).

The larger type of mace were probably ceremonial objects which may have been symbols of office associated with the leaders of the town's administration. Similar wooden maces are recorded from several medieval towns in eastern Europe including Polotsk (G. V. Shtykhov 1975, 94) and metal ones are also known (B. A. Kolchin 1985, 341). Both types may also have been used as weapons. Herdsmen (L. Leciejewicz 1989, 186) used similar wooden maces in more recent times. There does not

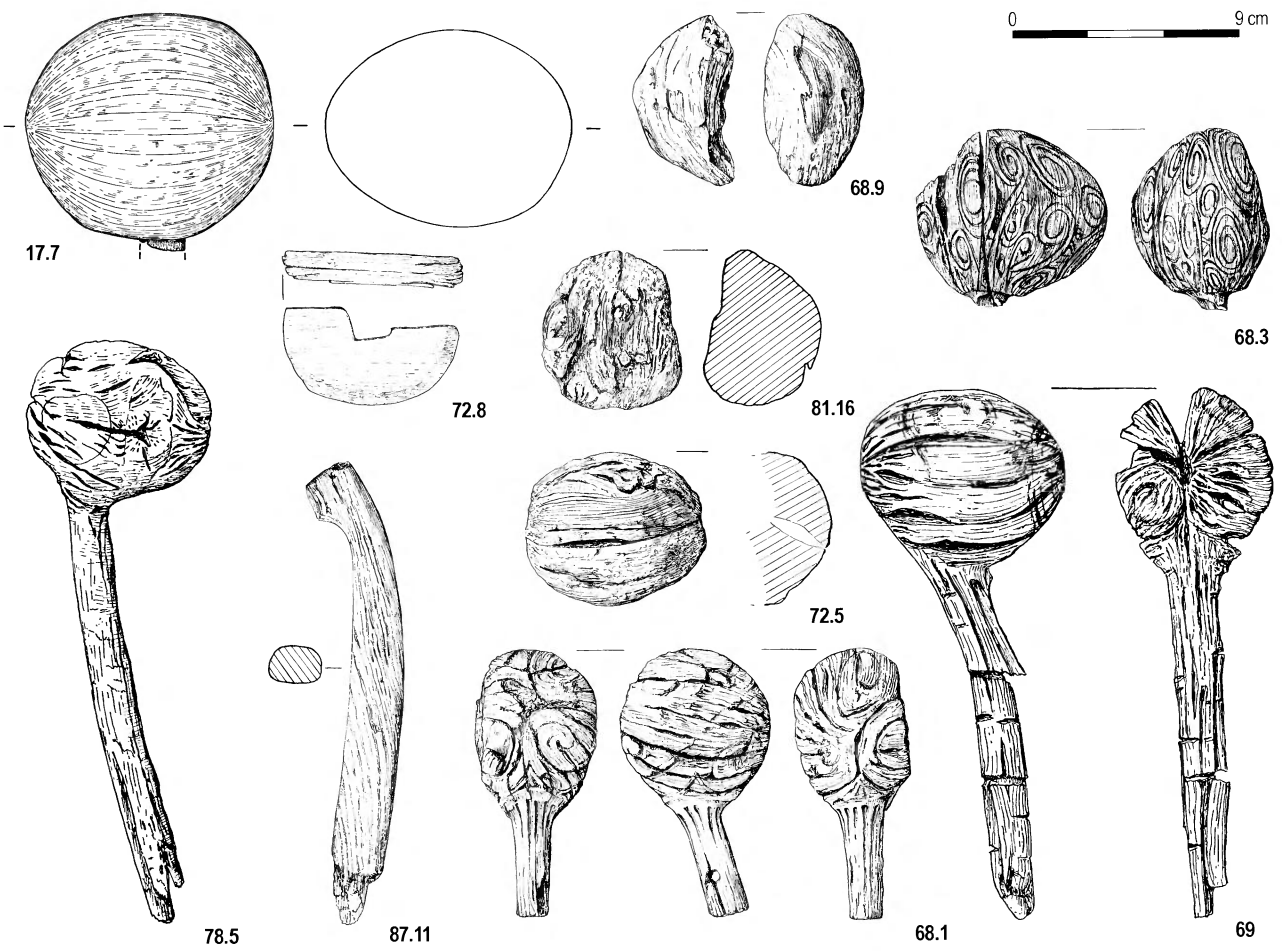


Fig. 16. Maces and stick heads
Ryc. 16. Buławki i główki pałeczek

seem to be a clear distinction between the two types of mace. The ritual sticks are considered to be associated with pagan rites and although they are more common during the tenth and eleventh centuries at Novgorod they are also recorded as late as the fifteenth century. In more recent times in Poland sticks and shepherds' crooks with heads carved in the likeness of human or animal heads are also known (E. Frys, A. Iracka and M. Pokropek 1988, pl. 130) and it may be impossible therefore to make a distinction between objects directly associated with early pagan beliefs, those used during civic ceremonies and weapons or sticks used for practical purposes in farming communities.

A single example of what may be the remains of another type of symbolic stick has a flat head, which is pear-shaped when viewed from the front (ref. 78.2, cat. 471). The head is 80 mm long by 61 mm wide with a thickness of 16 mm. The shaft is now broken where it joined the head.

Toys

A small selection of toys were found at Dawidgródek including toy boats, spinning tops and a toy sword. The sword (Fig. 17; ref. 26.2) has a superficial resemblance to a weaving sword but it is made in miniature and has more elaborate detail particularly on the handle. The end is now broken so that the length remaining is only 307 mm but it is estimated that originally the sword would have been approximately 332 mm in length. The handle, which is 122 mm long is elliptical in section and is smoothly finished. At the end of the handle there is a small pommel which has been cut in the form of a crown. Other toy swords are recorded on sites in Russia and Poland during this period (M. Rulewicz 1958, 343, 348; B. A. Kolchin 1989, 462; E. A. Rybina 1992, 173–175). Examples of late prehistoric date have been found in many European countries including Ireland, Wales and Germany and toy swords are also recorded on Viking sites. It is however often difficult to determine if some of these were ritual objects (C. Earwood 1993). Full size wooden swords are also known but these may have been practise weapons (T. Capelle 1982).

Given the close proximity to the river and the importance of water transport, it is perhaps not surprising that a few toy boats have been identified. The largest of these (Fig. 18; ref. 10) is 482 mm in length and was carved from a split log. Both ends are pointed and originally, before it became distorted in the ground, the sides of the boat sloped down from the gunwale to a slightly rounded bottom. It is a most likely a copy of a dugout boat which was made by carving out the inside of the trunk which was then widened by heating and stretching. Fitting wooden ribs retained the shape. This type of dugout which is still known in eastern Europe (A. E. Christensen 1977) has pointed ends and is either curved across the base or is slightly pointed at the keel (B. Greenhill 1976, 132–134). Dugouts of this type were used in north Germany as early as the Iron Age as a boat of fifth to sixth century BC date from Valler Moor near Randsborg testifies. Similar boats have also been trawled up from the floor of the Baltic near Gotland (O. Crumlin-Pedersen 1972, 225–228). Such boats have been classified in Poland by Stępień as *boat-like dugouts* (W. Stępień 1986, 66 and 72). O. Crumlin-Pedersen (1972, 231) considers that this widened dugout is the boat from which the Scandinavian clinker-built boat derived. The similarity of shape between the two types makes it possible that the boat from Dawidgródek could in fact be based on the Scandinavian clinker-built boat although the pointed ends are probably too low for this to be likely and the toy boat has no keel.

The second toy boat (Fig. 19; ref. 79.10, cat. 155) is a copy of a different type of dugout. In this case the bottom is slightly flattened and there are two cross pieces which probably represent bulkheads. Both ends were originally pointed although one is now broken. The toy

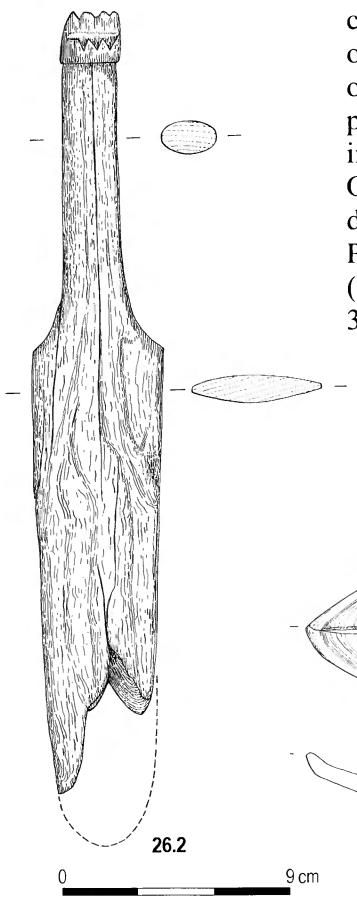


Fig. 17. Toy sword
Ryc. 17. Miecz-zabawka

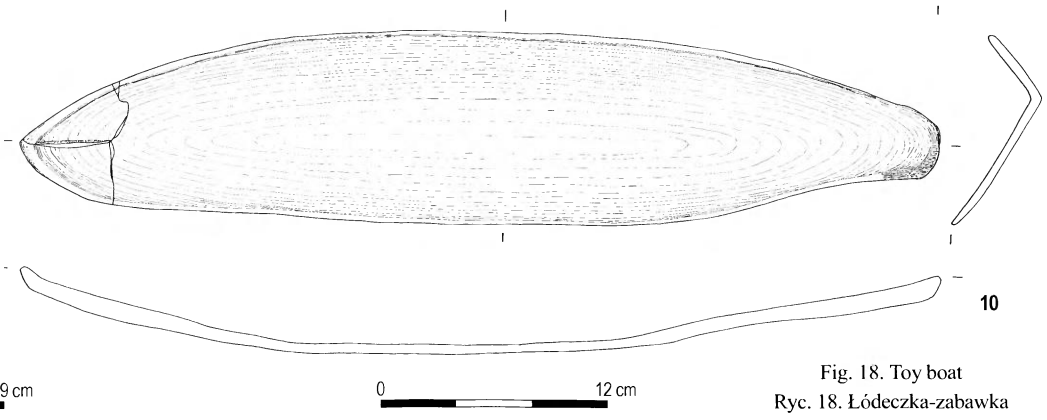


Fig. 18. Toy boat
Ryc. 18. Łódeczka-zabawka

is very tiny being only 105 mm in length and 26 mm wide. This type of dugout is well known from Europe and survived in use in eastern European countries until the twentieth century (M. Dembińska and Z. Podwińska 1978, 143). Similar toy boats have also been found at Opole (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 85.12). An even smaller example (Fig. 19; ref. 79.16, cat. 160) may be a third toy boat. It is carved from a split branch and has squared ends, which are roughly finished. The underside is curved and has a notch partway along its length. Although this has some similarity to a dugout boat it is also possible that it may be a copy of a household or animal trough. The notch on the bottom may be later damage. A similar object was again found on the contemporary site of Opole (J. Bukowska-Gedigowa and B. Gediga 1986, fig. 65.3).

There are also four examples of what may be spinning tops (Fig. 19). These are all carved from roundwood, which is very hard and dense. Unfortunately it was not possible to make a microscopic wood species identification. The objects are approximately conical in shape although the sides around the flat top are vertical. The lower parts are carefully finished but the upper part of the sides often have distinct facets cut by a knife. In height they vary from 43 mm to 79 mm and in diameter from 27 mm to 43 mm. Three of the four have a central hole which is circular at its mouth but which tapers to a point. The diameter of these holes varies from 11 mm to 37 mm and they are between 11 mm and 22 mm in depth. Similar objects from Novgorod are considered to be tops. These often have lines cut around their sides. Sometimes the tops have holes. They were set in motion with a cord and continued to be

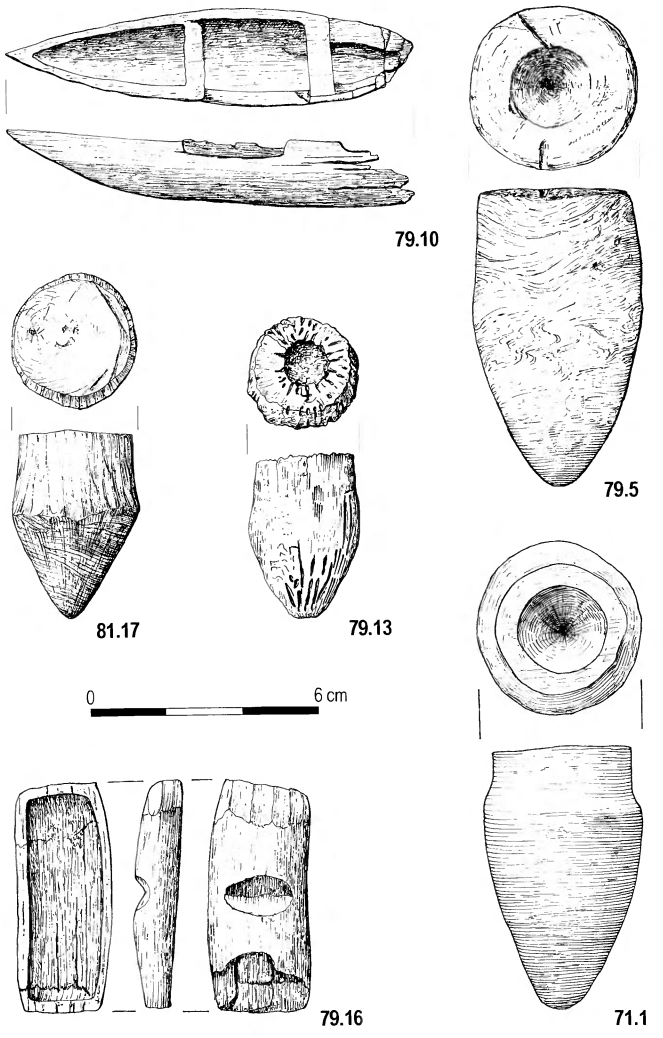


Fig. 19. Toy boats and spinning tops
Ryc. 19. Łódeczki-zabawki i szczyty bączków

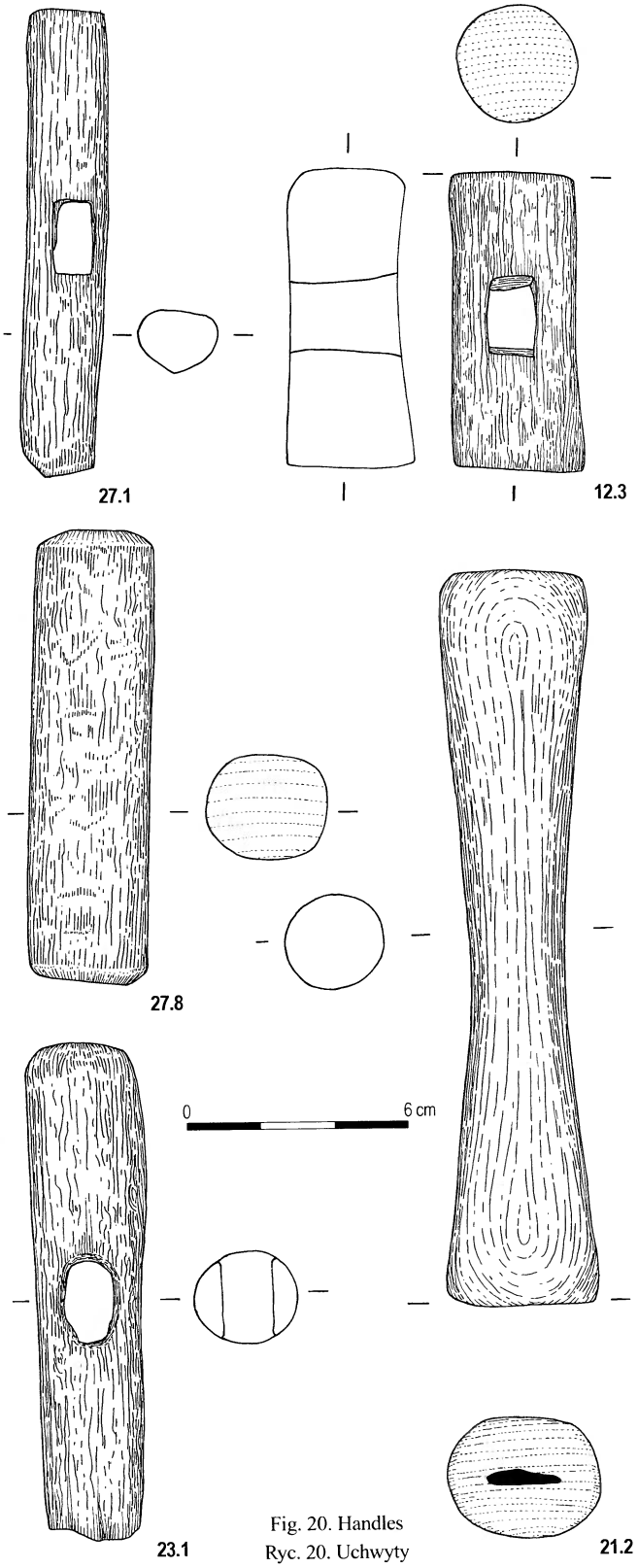


Fig. 20. Handles
Ryc. 20. Uchwyty

revolved by drawing a bow across them (B. A. Kolchin 1989, 202, fig. 215.6 and 7). Similar tops are also known from west Pomerania (M. Rulewicz 1958, 347).

Tools and other equipment

A variety of tools and fragmentary pieces of wood that may have been part of simple equipment or mechanisms have been identified. In many cases it is difficult to identify positively the function for these items. In other cases their general function is clear but the specific purpose to which they were put is less certain. This is particularly the case with pegs.

Handles

Two types of wooden handle were found at Dawidgródek. The first are socketed to hold a tool blade as is the case with the fragmentary handle still attached to its iron knife blade (ref. 67.2, cat. 2). The handle is now incomplete but was at least 43 mm in length and was carved from a piece of roundwood. A second handle (Fig. 20; ref. 21.2) has a rectangular socket at both ends. It is approximately circular in section with a greater diameter at the end than in the middle. It is unclear to which type of tool this handle may have been fitted. The most common type of handle consists of a short shaft, circular in cross section, which has a rectangular hole cut through from side to side (Fig. 20). These handles vary in length from 81 mm to 129 mm. None have been found attached to any other component but their size and shape would make them suitable as cross handles to spades, augers or spoon bits. A similar piece of wood but without the rectangular hole may be an unfinished handle of this type (ref. 27.8). The majority of the handles were carved from split pieces of wood rather than from roundwood. Although positive species identification has not been possible some at least are probably ash.

Hooks

Wooden hooks often utilise natural growth patterns such as the junction between trunk and branch or the curved wood between trunk and root. This has the advantage that jointing is not required. The wood grain of such pieces is often unusual and attractive. A simple curved hook (Fig. 21; ref. 19.6) appears to have been made from a naturally curved piece of roundwood, which has been shaped, slightly on two faces. It is possible however that bending a living sapling produced the curve. This practise is recorded from recent times in Poland as a means of producing hooked sticks. Alternatively such sticks were produced by bending the wood immediately after felling (W. Jeż-Jarecki 1969, 48–49). The Dawidgródek hook is broken at its lower end but may have originally been the head of a longer stick or staff.

The two other hooks are similar in shape although rather different in size. The hooks are formed from the junction between the trunk and a branch. This has been shaped into two arms, which taper to points. The smaller hook (Fig. 21; ref. 27.7) is approximately circular in section and is 127 mm from the end of one arm to the end of the other. The angle between the arms of the larger hook (Fig. 21; ref. 25.3) is sharper than in the small hook. The arms have been carved so that they are rectangular in section and two circular holes have been cut through each arm. In one side a wooden dowel remains *in situ*. The length of the arms is not exactly the same, one being 175 mm long while the other is 204 mm. Although it is difficult to be certain of the function of this hooked stick its size and shape are closely similar to wooden saddle bows recorded from other sites of this period including Opole (L. Leciejewicz 1989, fig. 90; J. Bukowska-Gedigowa and B. Gediga 1986, fig. 39.1). The function of the smaller hook is less easy to determine.

Notched sticks

Two straight wooden sticks with teeth or notches on one side were found. The more complete of these (Fig. 22; ref. 19.7) is 357 mm in length and is carved so that both sides are slightly domed. It is made from a piece of roundwood, which has been split down the middle. On one edge near the centre of the stick are seven "teeth" creating eight notches along the edge. They are inclined so

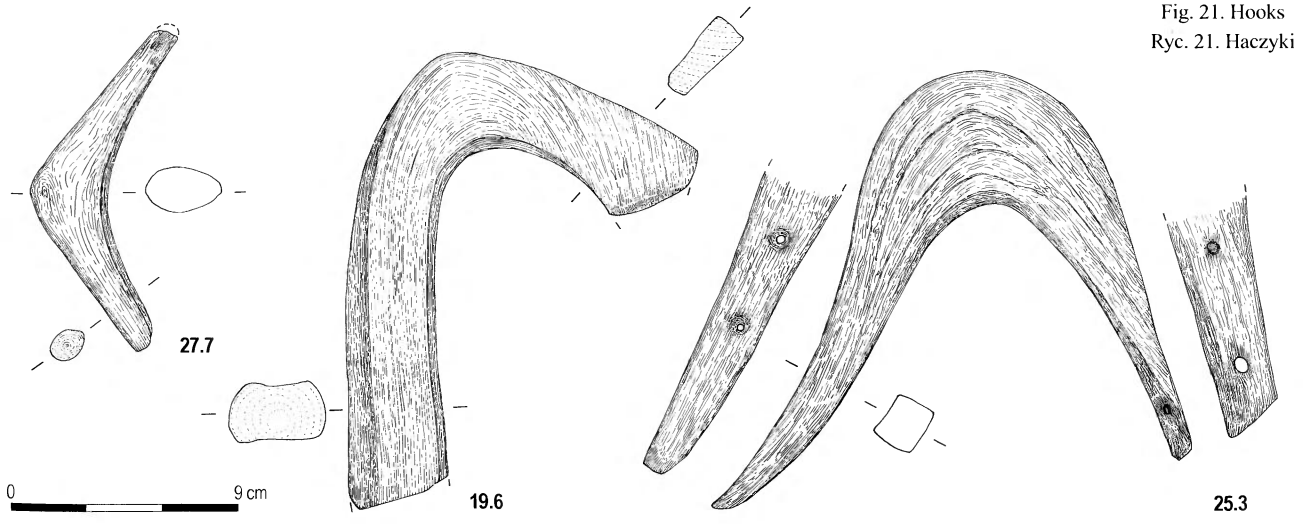


Fig. 21. Hooks
Ryc. 21. Haczyki

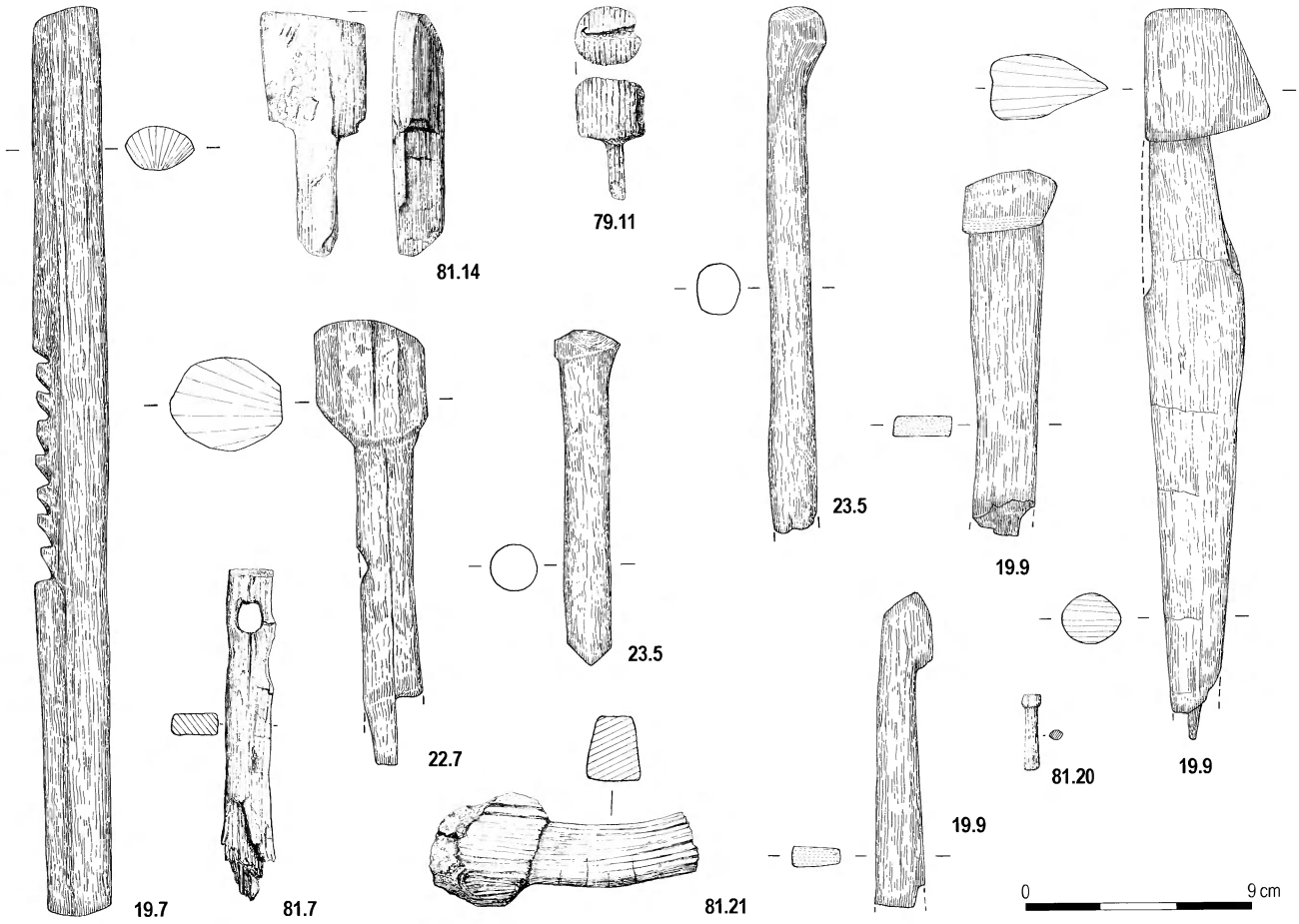


Fig. 22. Notched stick and pegs
Ryc. 22. Nacinane tyczki i kołki budowlane

that the notches are cut at approximately 45 degrees to the length of the stick. There are no other fittings or attachments. The other notched stick is similar but is incomplete (ref. 79.11, cat. 258). These sticks may have been some form of ratchet allowing a variety of positions for some tool or fitting. Similar metal ratchets are known to have been used for adjusting the height of weavers' lamps in Ireland (E. E. Evans 1988, fig. 28).

Pegs

The wooden pegs are of many different shapes and sizes. The smallest is only 30 mm long but large pegs with pronounced heads are up to 290 mm in length (ref. 19.9). The smaller pegs such as one with a large head and small shaft (Fig. 22; ref. 79.11, cat. 470) may have been used in jointing furniture, boxes or other similar items. The precise function of the majority of the larger pegs is however difficult to determine. Many have straight shafts which are circular in cross section and simple heads which flare out from the shaft and are of only of slightly larger diameter (*eg* ref. 23.5). This type is similar to those used in the construction of plank-built boats of this period (B. A. Kolchin 1989, fig. 106.1). The shafts of other pegs are rectangular in section and have asymmetric heads, which are more pronounced (*e.g.* ref. 19.9, 22.7). In one instance a similar peg has no head but has a roughly circular hole cut through its thickness close to the top (ref. 81.7, cat. 79). The majority of pegs were carved from ring porous woods such as ash or oak, which was first split into suitable lengths before trimming to the desired shape.

Discs

There are two types of disc: the first type is flat except at the edges, which are slightly tapered; the second type is domed (Fig. 23). All are of similar size varying in diameter from 71 mm to 89 mm. The flat discs have either a circular or a rectangular hole cut through the centre. In one case there is also a smaller circular hole cut close to the edge as well as six approximately circular depressions arranged around the central hole on one side of the disc (ref. 66.2, cat. 187). The domed discs all have a central circular hole and on the flat face of one broken disc (ref. 78.3, cat. 468) there is a simple decoration of incised curving lines arranged in groups of threes and fours. The function of these pieces is unclear. Suggestions include net weights, wheels for toy carts or wooden spindle whorls. They also bear a considerable resemblance to wooden rings fixed to the ends of fishing poles which were used to drive fish into nets at Novgorod (B. A. Kolchin 1989, 35 and fig. 26). Similar discs are recorded at Opole (J. Bukowska-Gedigowa and B. Gediga 1986, figs.12.29, 13.15, 15.11, 19.10). The purpose of the six depressions on one of the flat discs is not known.

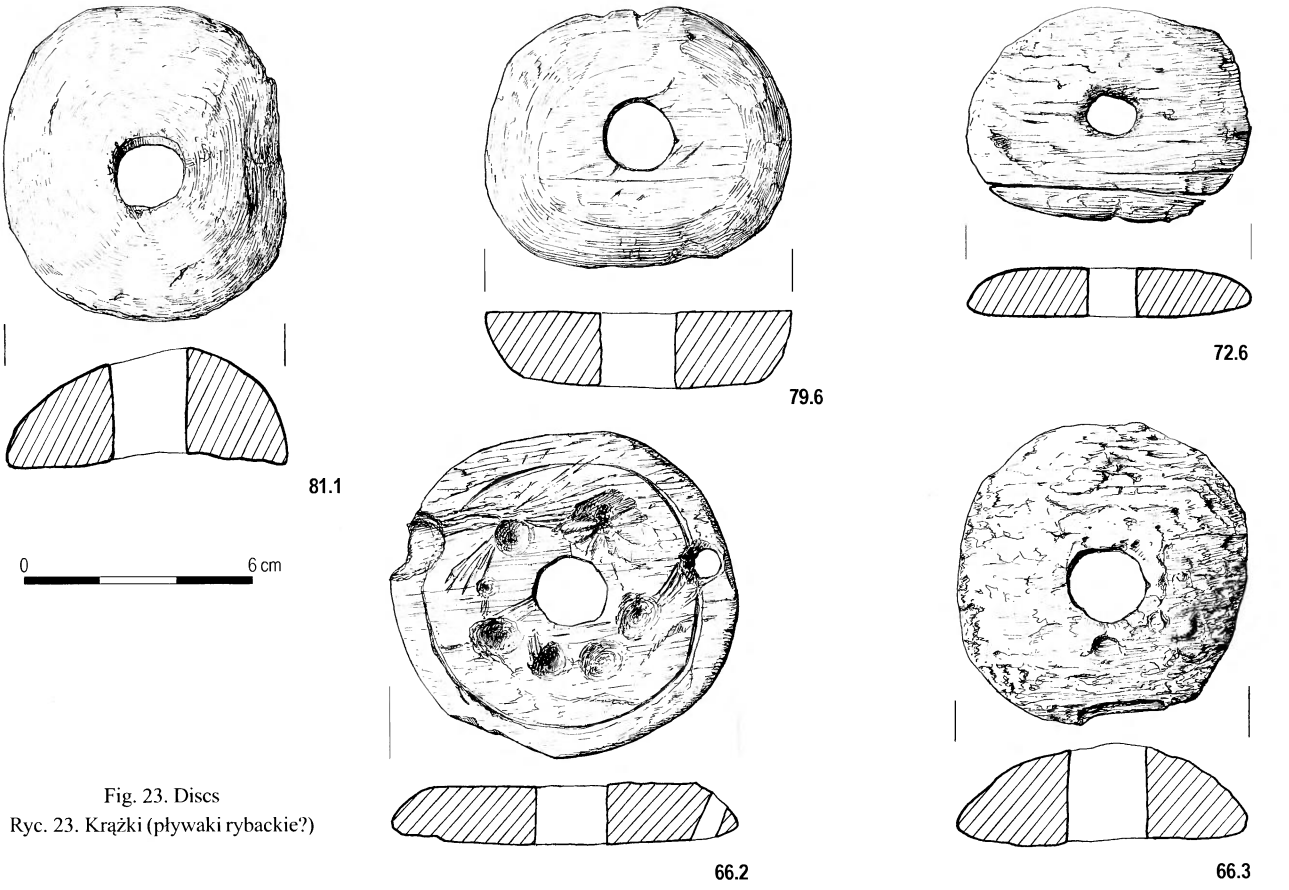


Fig. 23. Discs
Ryc. 23. Krążki (pływaki rybackie?)

Miscellaneous equipment

There are a number of other pieces, which were probably parts of tools or structures such as boats. However it is difficult to identify their true function. One piece, which may have been some form of peg or tool handle, is particularly distinctive (Fig. 24; ref. 26.7). It is a straight length of splitwood, which has been carefully carved into a rectangular cross section 181 mm in length. Near one end there are two rectangular holes. The larger one is cut from side to side and on one edge intersects with a smaller hole, which is cut through the thickness of the piece. Below the larger hole two V-shaped grooves have been cut from side to side. It is not at all clear how this object was used. It is possible that if it was a handle some form of tool may have been inserted into the larger hole and pegged into place through the smaller hole.

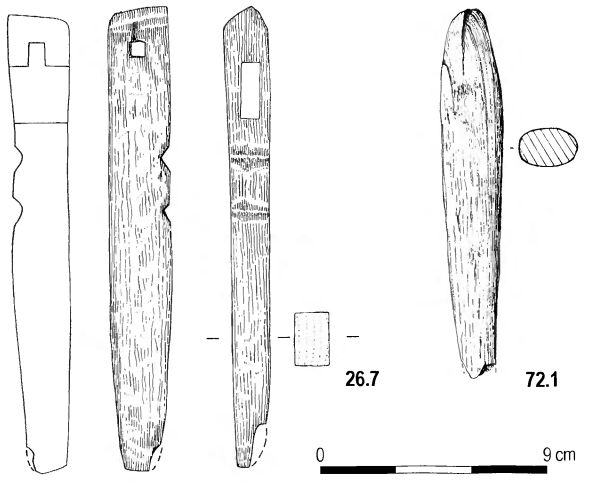


Fig. 24. Miscellaneous equipment
Ryc. 24. Różne przedmioty

Another equally distinctive object is a stick which is circular in cross section and which has a small rectangular hole through its thickness close to one end. The stick, which is made from roundwood, is 425 mm in length with a diameter of 15 mm. Both ends are flat (Fig. 25; ref. 20.8). Again the function of this object is unclear. Although it is needle-like it is rather long for such a function; it may be some form of peg. No parallels are known from the medieval period or from more recent folk life.

Other objects include two short splitwood sticks. These are elliptical in section with pointed ends (Fig. 24; refs. 72.1, 72.2, cat. 38). They may have been used as firelighters. A small wooden wedge, 57 mm in length, could have been used in woodworking

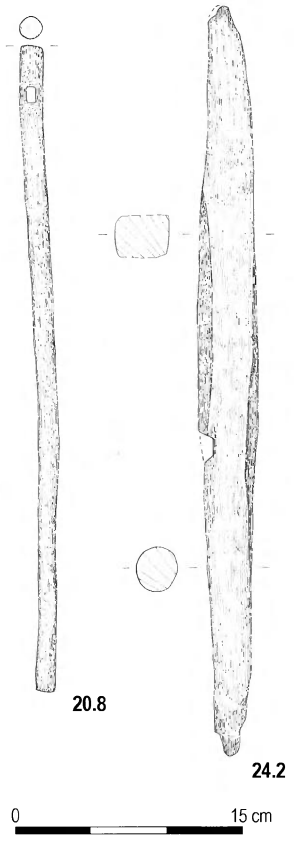
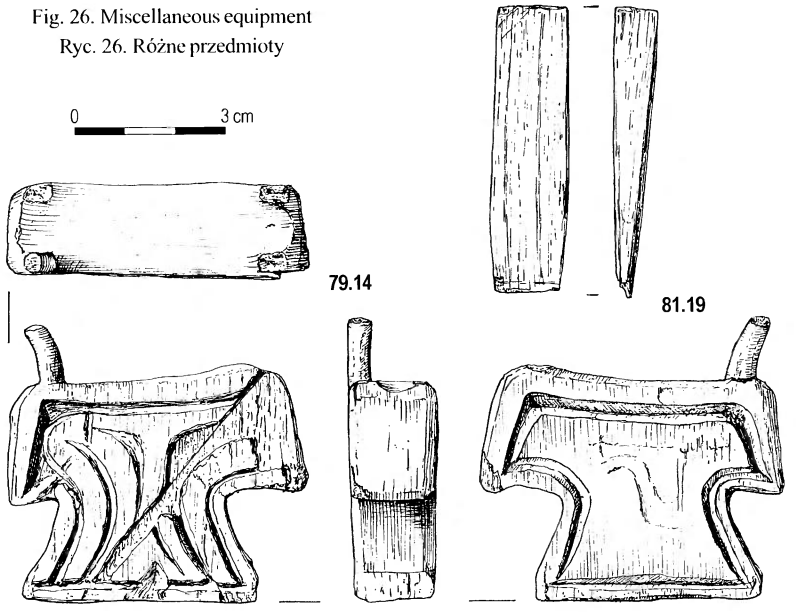


Fig. 25. Miscellaneous equipment
Ryc. 25. Różne przedmioty

Fig. 26. Miscellaneous equipment
Ryc. 26. Różne przedmioty



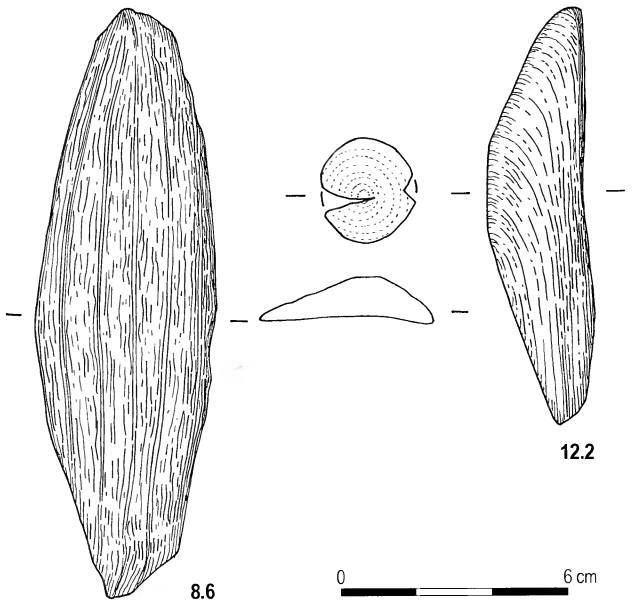


Fig. 27. Miscellaneous equipment
Ryc. 27. Różne przedmioty

although it is rather small for this purpose (Fig. 26; ref. 81.19, cat. 71). Alternatively it may have been used in securing part of some larger structure or equipment. Other pieces may be waste from woodworking or be unfinished items. Two such objects (Fig. 27; refs. 8.6 and 12.2) taper at either end to a point. The smaller of these is circular in cross section and was carved from a piece of roundwood. The larger object may be a fragment of something similar as it is split on one face. A short plank (ref. 77.3, cat. 466) with a notch at either end has some similarity to boat seats found at Novgorod while a small piece of shaped wood with a circular hole (ref. 79.9) may be part of a swivel (B. A. Kolchin 1989, figs. 102.2 & 3, 128.9).

A most unusual object, which is hard to classify, consists of a T-shaped piece of wood 60 mm in length and with a width of 43 mm (Fig. 26; ref. 79.14, cat. 484). On one face the T-shape is emphasised by a deeply incised line within which the surface is decorated with several curving lines. This surface is now damaged. The reverse side is similarly cut around the edge with a T-shaped pattern. At the top of the "T", at each corner, there are the remains of small pegs, which were carved as part of the object. Three of these are now broken but the fourth is complete measuring 13 mm in length and with a diameter of 4 mm. The function of this object is a complete mystery.

Furniture

Only one piece of clearly identifiable furniture was recorded. This is the top of a four legged stool (Fig. 28; ref. 25.13) consisting of a thick rectangular plank with four round holes cut near each corner. The stool top is 402 mm in length and 213 mm in width. The piece is fairly crudely finished although the top is smooth.

There are also two narrow planks or laths with fittings, which may have been parts of furniture. The most complete is 327 mm long and 38 mm wide (ref. 15.1). The lower surface is flat while the upper is domed. There are two approximately circular depressions in the domed surface in which small circular holes have been cut to receive iron pins. These protrude slightly through the underneath of the plank and are now bent over. Both ends are wedge-shaped. The second plank (Fig. 28; ref. 20.9) was similarly made at one end; the other end is

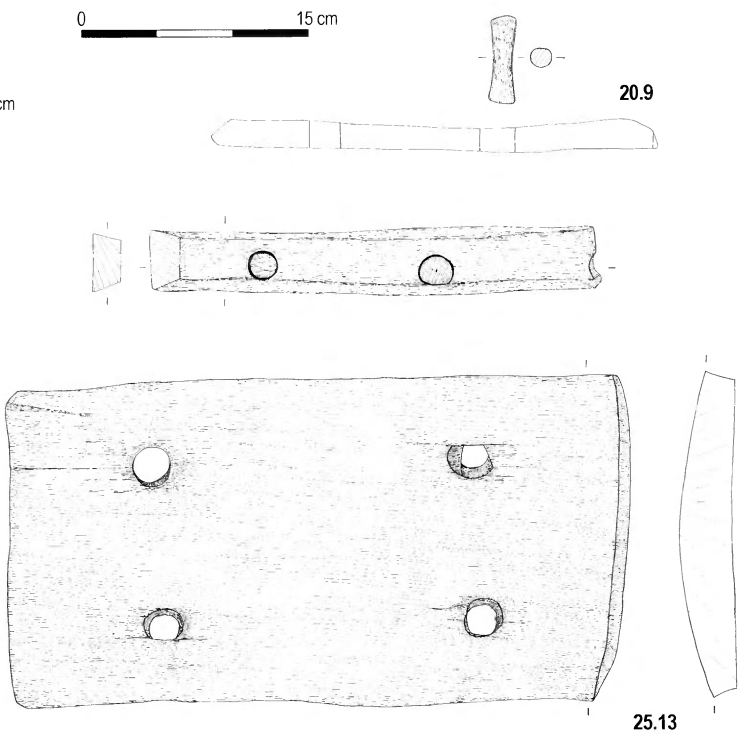


Fig. 28. Furniture
Ryc. 28. Meble

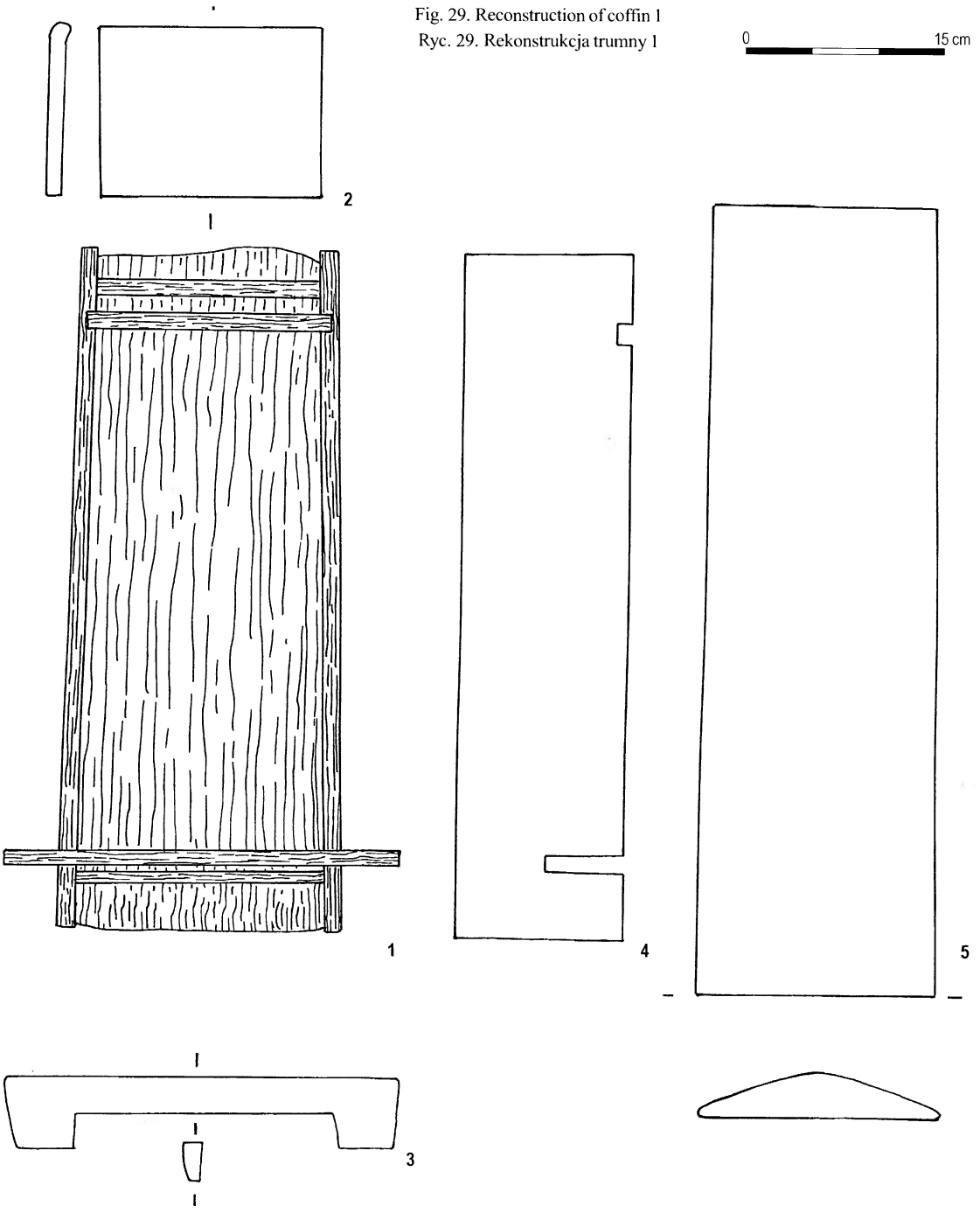
now damaged at the point where a hole was cut. Two similar circular holes were cut through the thickness of the plank and still hold circular splitwood dowels, which protrude slightly at the top and bottom. Both objects were made from splitwood; one from oak, the other probably from ash.

Graves

A considerable number of graves were found both under and within the structure (buildings VIII and IX) which has been interpreted as a chapel. These consisted of wooden coffins made of large planks which were jointed together and include both adult and child burials. The waterlogged deposits preserved not only wooden coffins but in some cases skeletons and leather shoes. Plans of coffins show how these were made but only a small number of pieces of wood have survived. The largest and best preserved of these are from coffin 2. Fragments of a child's coffin (1) have also been preserved.

The child's coffin (1), which was narrower at one end than at the other, consisted of two ends, two sides, a base and a lid (Fig. 29). The sides were partly held together with a fastening device formed from a stick with two protruding arms. The coffin, not all the parts of that now survive, was between 195 mm and 215 mm wide with a height of about 125 mm. The length, which can be reconstructed from the plans, was *ca* 520 mm. The ends slotted into grooves in the sides. The lid which was made from a small plank was slightly domed and overhung the body of the coffin. It is possible, given the difference

Fig. 29. Reconstruction of coffin 1
Ryc. 29. Rekonstrukcja trumny 1



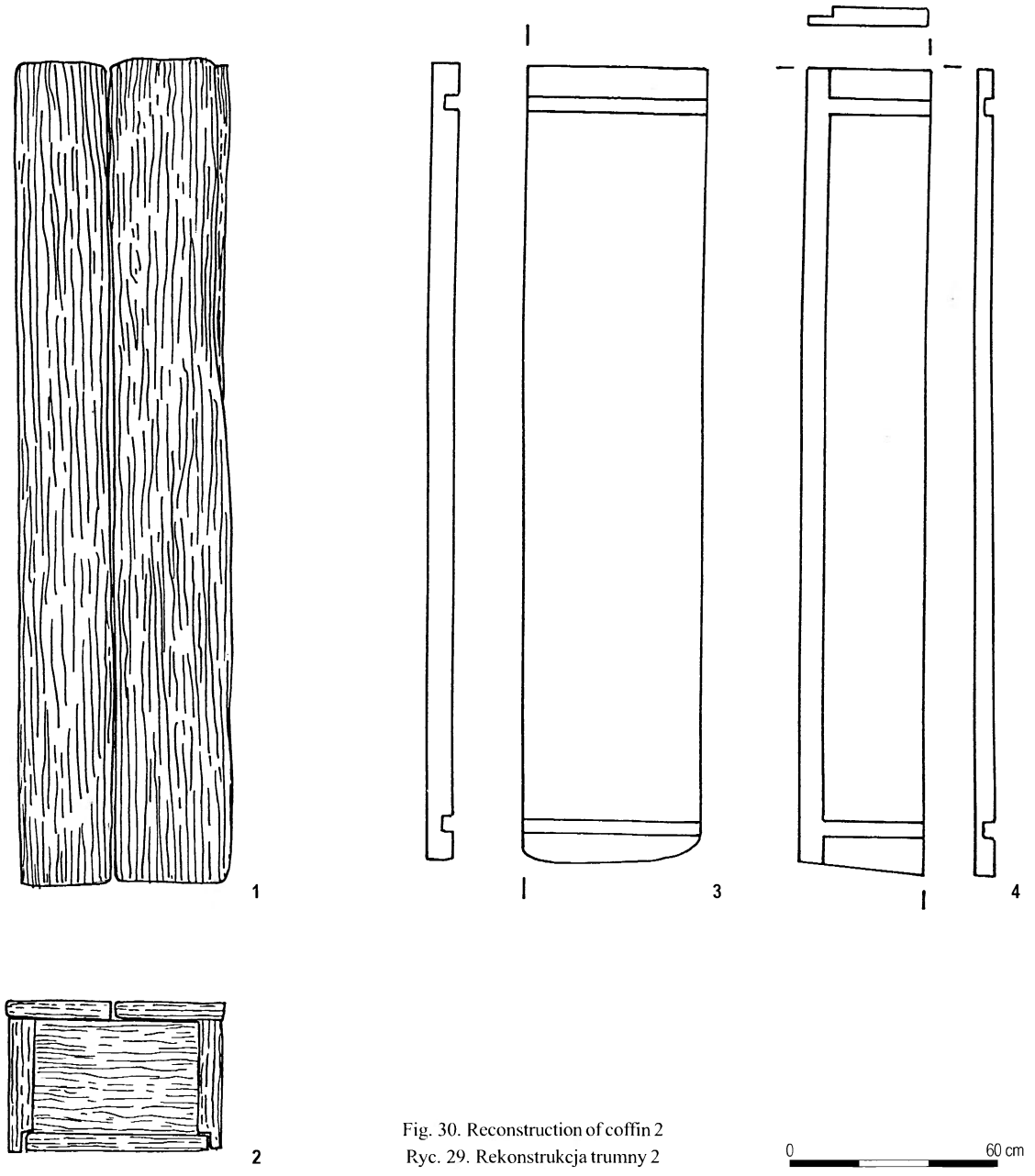


Fig. 30. Reconstruction of coffin 2
Ryc. 29. Rekonstrukcja trumny 2

between the child's coffin and the adult coffins, that it was not purpose made but was an adaptation of a wooden box which had previously been used for other purposes.

The larger coffins were all similarly made and are typified by coffin 2 (Fig. 30). The coffin was just over 2.2 metres in length and consisted of a base formed from a large plank with a groove across one face close to either end. The width of the plank and the width of the coffin was about 0.60 metres. The two sides were also made from large planks each of which had a groove on the inner face close to the bottom edge. The base of the coffin fitted into these grooves. Grooves were also cut from top to bottom of the sides close to each end in which the ends of the coffin were slotted. The surviving side of coffin 2 is 2.26 metres in length and 0.37 metres in height. The ends of the coffins were either rectangular or in some cases they were wider at the top edge than at the bottom edge. The ends of coffin 2 are now missing. The lids were made from two planks, which rested side by side on the top edges. All the surviving pieces of coffin 2 were made from oak although the ends of two other coffins (unnumbered, refs.32, 33) were made from ash.

No nails, dowels or other fastenings were used in the construction of any of the coffins which suggests that the adult coffins were actually grave linings and that the base and sides were not fastened together but assembled in the grave.

Miscellaneous timbers including structural elements

The majority of the remaining wooden objects are parts of structures including the roadways and buildings. Many of these are highly fragmentary and their exact functions are unclear. They fall into four main categories:

fragments of planks some of which may be floors of houses, stakes and rods which were probably part of fences or internal divisions of buildings, whole tree trunks which formed the walls of buildings and tree trunks with hooks formed from a branch which are probably from the rampart. Unfortunately positive identification of some of these elements is difficult and their context is unknown.

The planks range from small fragments as little as 300 mm in length to large pieces sometimes with notches or holes. Some of these are clearly parts of longer planks (*eg* ref. 12.6). A few have pointed ends and may have been vertically set as walls or fences (*eg* ref. 14.1). In some instances it is recorded that planks with holes (*eg* ref. 27.4) were part of floors. The condition of the planks makes wood species identification difficult but most appear to have been made from deciduous wood, sometimes oak.

A variety of stakes, laths and rods have been preserved. In many cases the exact context of these is not recorded but from their nature they appear to be the remains of lightweight walls or fences. In one case fragments of pointed splitwood may have been the remains of wattling (ref. 2.1). Some of these pieces show signs of burning (*eg* ref. 6.3).

It is possible from the plans of the excavation to identify many of the lengths of coniferous tree trunks as parts of the walls of the buildings. Some of these pieces have no working but others have notches and are the remains of corners where one trunk rested upon another. They vary in diameter from 100 mm to 190 mm but most are between 125 mm and 135 mm. Few of these pieces are complete, the longest being 1.33 metres. Most do not have any bark. Unfortunately the exact contexts of these pieces has not been recorded.

The other tree trunks were probably part of the rampart. It is recorded that the rampart consisted of an earth bank, which was reinforced with tree trunks. Some of these were placed parallel with the rampart while others may have been at right angles. It is the latter ones, which seem to have been preserved. These are whole tree trunks, usually of oak, which have part of one branch left projecting as a hook. At the base of the branch the trunk has been crudely cut into a notch. It appears that the tree trunks that were laid parallel to the rampart were held in place by the hook of the other timbers. The timbers, which are preserved, are up to 2.27 metres in length with diameters of between 153 mm and 235 mm.

Discussion

The distribution of the wooden finds within the area of the town that was excavated in 1937–38 demonstrates that most activity took place in the later phases (VI and VII). Until full analysis of all the evidence from Dawidgródek has taken place it will not be possible to be sure if this reflects a general increase in activity during the thirteenth century or the establishment of a carpenter's workshop in the area of the town which has been excavated.

The majority of the wooden finds came from buildings I, III and IV and they were present at all levels. As the exact stratigraphic position of some of the wooden artefacts was not recorded, it is only possible to obtain a fairly general picture of their distribution and changes that may have occurred in the types of objects used as well as where and how they were made. All the main types of woodworking are represented in buildings I, III and IV with the exception of cooperage for which there is no evidence in building IV. Waste materials including waste cores from turning, and unfinished bases and lids are the most obvious evidence of woodworking supported by finds of woodworking tools such as axes, chisels and knives.

The lack of fittings for stave-built containers suggests that the staves and bases, which were found, may have come from vessels, which were deliberately dismantled prior to rebuilding with new hoops and other fittings. It is also possible that the fragmentary remains of wooden hoops were not identified during the excavation and are thus not represented amongst the wooden finds. Stave-built buckets or tubs were however clearly used in everyday domestic life for a range of purposes including for serving and storing food. The largest number of staves were found in the foundation of road 2. It has not always been possible to directly correlate the phasing of the roads with that of the buildings but this probably corresponds with the earliest phases of activity in houses I and III. Bases for stave-built containers were more widely spread being found also in buildings III and VII. There are also two bases and a stave from the chapel and a single base from the twelfth century building XIII.

Turning is only represented in the thirteenth century buildings with finds of both finished bowls and turning waste from buildings I, II, III and IV as well as a single find from road 2. Similarly evidence for cloth production was only found in the later phases from buildings I, III and IV. Although cooperage and turning are mainly recorded from the thirteenth century wooden lids which may have been used either on stave-built or carved two-piece tubs were found at all levels and in most buildings. An elliptical base, which may have been part of a bentwood container, was found in building XIII dating from the twelfth century while a similar but fragmentary object was found in the thirteenth century levels.

Although there is a wide range of wooden artefacts from the thirteenth century buildings (I, III and IV), including combs, maces, toys, hooks, handles, discs, pegs, moulds, spoons, turned bowls and stave-built containers, these buildings had no signs of hearths or stoves which one might expect if they were houses. The range of finds and the lack of clear evidence for large scale woodworking indicates however that these are not likely to have been used purely as workshops. There is little difference in the range of wooden artefacts found in these three buildings apart from the fact that many of the toys were found in building IV including two boats, the toy sword and a spinning top. Other buildings belonging to phases

VI and VII have a smaller number of wooden finds but no particular distribution patterns can be identified. Wooden artefacts were also discovered lying between the buildings, particularly between buildings IV and VII, and were also found on or under the road surfaces. The majority of this material is the remains of wooden containers including staves, bases, lids and bowls with a few examples of items such as pegs and handles. Most of this was probably deliberately discarded. A few wooden objects were found in, or close to, the well (V) including a peg, a handle and a large ladle. With the exceptions of the coffins, none of the wooden finds from the area of buildings VIII and IX (the chapel) have any obvious association with religion or ritual. They include bases, lids and staves from containers, two discs, a stick with a flat-faced head and the smallest of the toy boats.

Few wooden objects were found in the buildings dated to the twelfth century: buildings XIV and XV had no wooden finds at all. The range of types is small including only bases and lids from containers, a notched stick and two maces, both of which were decorated, and what may have been a ritual stick. Maces were also found in many of the buildings belonging to the later phases including buildings I, II, III and IV.

Although it has not been possible to microscopically identify many of the wood species used at Dawidgródek, owing to the present condition of the wood, some general observations can be made. The majority of the stave-built containers and the lids or bases, which may have belonged to carved tubs, were made from larch of spruce. Bowls were turned from ash although other deciduous species may also have been used. Tools, beaters and pieces of equipment such as pegs were usually made from deciduous woods. A few pieces have been identified as oak but others, particularly small objects, may have been carved from fruit woods. A few of the discs were made from bark. Although this analysis of the wood species is incomplete the choice of species is in line with what is known of the natural characteristics required for specific woodworking techniques. Cooperage requires wood that is easily split, is durable and can be fashioned into water-tight containers; turning requires wood that is softer and not liable to splinter or tear; small items which receive constant wear such as tool handles need to be carved from hard, dense woods which will wear well; and, net floats require lightweight wood or bark. The range of species would appear to be much in common with that recorded at Novgorod where ash was widely used for turning, maple for carving, pine, spruce and oak were used in cooperage, and pine and spruce were mainly used for structures such as houses, pavements and fortifications (B. A. Kolchin 1989, 19–21).

The structure of the buildings at Dawidgródek required long straight tree trunks with few side branches and for this reason only coniferous species were used. Similarly the foundations of the roads utilised straight trees and again coniferous species were most common although deciduous wood was sometimes used for the split plank surfaces. Oak was also used for large hooked timbers, which formed part of the rampart structure. It was recorded from the 1967 excavations that pine, oak and birch were used in structures (P. F. Lysenko 1969) which compares closely to what is known of the wood found during the earlier excavations.

Study of the wooden finds shows also the importance of using natural growth formations in making various types of objects. Perhaps the most striking of these is the tripod, which was fashioned from three branches of a coniferous tree thus eliminating the need for jointing. However the most common use of natural forms was the choice of wood which was naturally curved. Sometimes these pieces utilised the junction between a branch and trunk wood: this was particularly common for carving maces. Alternatively a sapling or branch was selected which was bent into shape, either during its growth or immediately after felling, to form a hook.

Small changes in the types of wooden finds and their stratigraphic position may be indicative of important developments in craft production such as the presence of both vertical and horizontal looms during the twelfth century. The horizontal loom is attested by the wooden shuttle found in building I while a vertical loom is indicated by the presence of the weaving sword in house IV. The use of a horizontal loom may be indicative of an increased volume of cloth production for trade purposes.

The wooden artefacts from Dawidgródek represent many of the activities carried out as part of the daily life of the inhabitants. The work of craftsmen such as the cooper and turner are well represented. Many of the processes associated with the production of flax for thread and cloth can be identified from the tools that were used. The preparation and serving of food and drink utilised wooden tubs, bowls, spoons, ladles and moulds. Finds of toy boats, tops and a sword remind us of the presence of children, as does, more poignantly, the infant's coffin. The toy boats are also a graphic indicator of the importance of water transport and the nearby river. Although the toy boats may be simplified versions of real vessels they appear to indicate the use of two types of dugouts which we know to have survived in use in eastern Europe to the present day. The wooden saddle bow suggests another form of transport: the horse. The river may have also been the source of food if the wooden discs are indeed net floats and this is supported by the discovery of fish bones and scales from the site. Finally, death and ritual are evoked by the coffins and maces even if we are unable to understand fully the ceremonies that were practised.

Acknowledgements

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Catalogue of wooden artefacts from Dawidgródek, Belarus

Staves

Three staves from one container. Damaged. Length remaining 365 mm, width (bottom) 85 mm, (top) 78 mm, thickness 10 to 11 mm. Context: road 2 on foundation level. Ref. 2.2.

Stave with groove. Length 250 mm, width (bottom) 24 mm, (top) 22 mm, thickness 9 to 11 mm. Context: road 2 on foundation level. Ref. 2.3.

Seven staves from one container. Length 225 mm. Widths: (bottom) 58 mm, 67 mm, 72 mm, 70 mm, 38 mm, 75 mm, (top) 51 mm, 60 mm, 71 mm, 65 mm, 37 mm, 66 mm. Thickness varies from 6 to 13 mm (top to bottom). Grooved. Diameter of container *ca* 250 mm. Context: road 2 on foundation level. Ref. 2.4.

Stave, length 204 mm, width (bottom) 56 mm, (top) 60 mm, thickness 8 to 10 mm. Grooved. Context: road 2 on foundation level. Ref. 2.5

Stave, length 239 mm, width (bottom), 55 mm (top) 47 mm), thickness 9 to 13 mm. Grooved. Context: road 2 on foundation level. Ref. 2.5.

Stave, length 224 mm, width (bottom), 38 mm (top) 35 mm, thickness 7 to 12 mm. Grooved. Context: road 2 on foundation level. Ref. 2.5.

Stave, length 226 mm, width (bottom) 57 mm (top) 51 mm, thickness 9 to 10 mm. Grooved. Context: road 2 on foundation level. Ref. 2.5.

Stave, length 224 mm, width (bottom) 76 mm, (top) 74 mm, thickness 9 to 12 mm. grooved. Context: road 2 on foundation level. Ref. 2.5.

Stave, broken, length remaining 245 mm, width (bottom) 38 mm, (top) 49 mm, thickness 5 to 7 mm. Context: road 2 on foundation level. Ref. 2.5.

Stave, length 245 mm, width (bottom) 38 mm, (top) 26 mm, thickness 6 to 10 mm. Grooved. Context: road 2 on foundation level. Ref. 2.5.

Stave, broken, length remaining 222 mm, width (bottom) 52 mm, (top) 49 mm, thickness 6 to 10 mm. Context: road 2 on foundation level. Ref. 2.5.

Stave, length 251 mm, width (bottom) 33 mm (top 30 mm, thickness 10 mm to 14 mm. Slight marks from hoop near bottom edge. Context: house I, under floor of level 2 or house III, under floor of level 1. Ref. 3.1.

Stave, length 209 mm, width (bottom) 29 mm (top) 46 mm, thickness 9 mm. Context: house I, under floor of level 2 or house III, under floor of level 1. Ref. 3.2.

Three staves of same length, two with grooves, the third is broken. Length 250 mm, widths vary from (bottom) 59 to 71 mm, thickness 8 to 13 mm. Original diameter of container *ca* 300 mm. Context: house III, south-west corner on floor, level 3 (?). Ref. 5.1.

Stave, now broken. Length remaining 226 mm, width (bottom) 49 mm, thickness 10 mm. Context: house III, in south-west corner on floor, level 3 (?). Ref. 5.2.

Three staves from one container, all with grooves and tapered at the rim. Length 250 mm, widths (bottom) 92 mm, 89 mm, 90 mm, (top) 84 mm, 81 mm, 81 mm, thickness varies from 9 to 11 mm. Original diameter of container between 250 and 300 mm. Context: house I on floor of level 3. Ref. 7.1.

Large stave with groove. Length 323 mm, width (bottom) 122 mm, (top) 116 mm, thickness 10 to 14 mm. Original diameter of container *ca* 500 mm. Context: house VIII (chapel). Ref. 11.1 (Fig. 2).

Broken stave, grooved. Length remaining 249 mm, width (bottom) 44 mm, (top) 38 mm, thickness 9 to 12 mm. Context: unstratified. Ref. 12.5.

Broken stave, grooved. Length 223 mm, width (bottom) 56 mm (top) 54 mm, thickness 9 mm to 11 mm. Original diameter of container *ca* 250 mm. Context: unstratified. Ref. 13.1.

Stave, broken near the top, grooved. Length remaining 129 mm, width (bottom) 44 mm, (top) 40 mm, thickness 8 to 9 mm. Original diameter of container *ca* 200 mm to 250 mm. Context: house I below level 3. Ref. 16.1.

Stave, damaged near groove. Length 224 mm, width (bottom) 30 mm, (top) 32 mm, thickness 8 to 14 mm. Original diameter of container *ca* 125 mm. Context: under pavement 2 near house III. Ref. 19.2.

Stave, grooved. Length 370 mm, width (bottom and top) 51 mm, thickness 8 mm to 11 mm. Diameter of original container *ca* 300 mm. Context: house IV or pavement 17 near house VI. Ref. 20.6.

Stave, grooved. Length 364 mm, width (bottom) 99 mm, (top) 86 mm, thickness 9 to 11 mm. Diameter of container *ca* 300 mm. Context: house III under floor of level 1. Ref. 22.2 (Fig. 2).

Stave, grooved. Length 204 mm, width (bottom) 30 mm, (top) 28 mm, thickness 8 to 9 mm. Context: house III under floor of level 1. Ref. 22.5.

Three staves from one container, all grooved. Length 250 mm, widths (bottom) 77 mm, 81 mm, 41 mm (top) 71 mm, 74 mm, 32 mm, thickness (top-bottom) 9 mm to 13 mm, 8 mm to 12 mm, 10 mm to 8 mm. Diameter of container *ca* 300 mm. Context: on the pavement at the south-west corner of the well V. Ref. 24.1 (Fig. 2).

Four staves from one container, all grooved. On the back there are the impressions made by at least three hoops. Length *ca* 200 mm, widths (bottom) 57 mm, 59 mm, 63 mm, 63 mm, (top) 53 mm, 52 mm, 55 mm, 56 mm, thickness 7 mm, 8 mm, 7 mm, 9 mm. Context: unstratified. Ref. 26.5 (Fig. 2).

Fragment of stave with groove, broken near top and on both edges. Length remaining 128 mm, width 35 mm, thickness 13 mm. Context: house I, under floor of level 2. Ref. 81.12. Cat. 42.

Possible hoop fragments

Small fragment of splitwood which may be part of a wooden hoop. Context: house Ia. Ref. 16.3 (Fig. 4).

Bases of wooden containers

Part of composite base with bevelled edge. Length of straight edge 220 mm, width 75 mm, thickness 10 mm. Context: house I. Ref. 1.2.

Part of composite base with bevelled edge. Condition precludes accurate measurement. Context: middle of house IIIa. Ref. 1.3. Cat. 82.

Fragment of a base. Approximate diameter 195 mm, thickness 8 mm. Context: middle of house IIIa. Ref. 1.5. Cat. 481.

Part of a composite base with bevelled edges and slight traces of toolmarks on one flat surface. Length of straight edge 285 mm, width remaining 123 mm, thickness 26 mm maximum. Original diameter *ca* 300 mm. Context: unstratified. Ref. 8.3.

Fragment of base, unfinished. Length of straight edge *ca* 240 mm, width remaining 100 mm, thickness 15 to 20 mm. Context: under road 16. Ref. 8.5.

Base with bevelled edges. Diameter 220 mm, thickness 9 to 15 mm. Context: house VIII (chapel). Ref. 11.2.

Roughout for base, very thick and roughly shaped but the edges are partly bevelled. It is burnt on one surface. Diameter *ca* 310 mm, thickness 21 to 42 mm. Context: house VIII (chapel). Ref. 11.4 (Fig. 3A).

Part of composite base with circular bung hole. Length of straight edge 33 mm, width remaining 115 mm, thickness 17 to 24 mm.

Diameter of hole 20 mm. The base has an irregular outline and was not a true circle. The diameter was between 330 and 350 mm. Context: house XIII. Ref. 12.9 (Fig. 3A).

Part of composite base with unfinished edges. Diameter 301 mm, width remaining 143 mm, thickness 16 mm. Context: house IV or pavement 17 in front of house VI. Ref. 20.4.

Roughout for base, about half of circumference. Burnt on one surface. Diameter 224 mm, width 142 mm, thickness 34 mm. Context: house III under floor of level 1. Ref. 22.6.

Part of composite base now broken. The edges are bevelled. Length of straight edge 389 mm, width remaining 107 mm, thickness 15 mm. Original diameter *ca* 480 mm. Context: near house VII. Ref. 25.5 (Fig. 3A).

Part of a composite base with bevelled edges. Length of straight edge 410 mm, width remaining 131 mm, thickness 16 mm. Original diameter *ca* 480 mm. Context: house VII, upper level. Ref. 26.3.

Part of small base now broken. The edges are bevelled. Diameter 180 mm, width remaining 104 mm, thickness 17 mm. Context: near house VII on upper level. Ref. 26.6 (Fig. 3A).

Broken base (about half of circle). Diameter 233 mm, width remaining 125 mm, thickness 11 mm. Context: House XII. Ref. 79.18. Cat. 257.

Lids or bases of wooden containers

Part of composite lid/base with sloping edge. Length of straight edge 240 mm, width 104 mm, thickness 28 to 32 mm. Context: middle of house IIIa. Ref. 1.4. Cat. 79.

Part of composite lid/base with sloping edges, probably unfinished. Diameter 271 mm, maximum thickness 21 mm. Context: house I, under floor of level 2 or house III, under floor of level 1. Ref. 3.5.

Lid/base with sloping edges, probably unfinished. Diameter *ca* 240 mm, thickness 15 to 18 mm. Context: house I, under floor of level 2 or house III, under floor of level 1. Ref. 3.4.

Fragment of lid/base. Length of straight edge 242 mm, width remaining 68 mm, thickness 19 mm. Context: house III, in south-west corner on floor, level 3(?). Ref. 5.4.

Lid/base with sloping edges, probably unfinished. Diameter 135 mm, thickness 16 mm. Context: house I under floor of level 2. Ref. 6.1.

Lid/base broken on one edge. Unfinished. Diameter 190 mm, thickness 32 mm. Context: house I under floor of level 2. Ref. 6.2 (Fig. 3B).

Half of composite or broken lid/base, probably unfinished. Length of straight edge 242 mm, width remaining 111 mm, thickness 21 mm. Original diameter *ca* 250 mm. Context: unstratified. Ref. 8.2.

Part of composite lid/base with sloping edges, probably unfinished. Length of straight edge 245 mm, width remaining 120 mm, thickness 24 mm. Original diameter *ca* 300 mm. Context: under road 16. Ref. 8.4.

Lid/base with sloping edges, unfinished. Diameter 301 mm, thickness 10 to 22 mm. Context: house VIII (chapel). Ref. 11.3.

Fragment of lid/base with two straight edges. The curved edges are thick and unfinished. Length 292 mm, width 143 mm, thickness 13 mm. This may have been part of either a circular or oval lid/base. Context: house XIII. Ref. 12.10.

Two pieces of lid/base with sloping edge. Diameter *ca* 220 mm, thickness 23 mm. Context: house I. Ref. 17.5.

Part of lid/base with sloping edge. Diameter 144 mm, width of remaining portion 105 mm, thickness 8 mm. Context: house I, floor of level 3. Ref. 17.6 (Fig. 3B).

Lid/base with sloping edges. It is not a perfect circle. Diameter *ca* 230 mm, thickness 16 mm. Context: under pavement 2 near house III. Ref. 19.3 (Fig. 3B).

Fragment of lid/base with sloping edge. Length remaining 235 mm, width remaining 72 mm, thickness 10 mm. Original diameter *ca* 290 mm. Context: house IIa upper part. Ref. 19.11.

Part of composite lid/base with unfinished edges. Length of straight edge 337 mm, width remaining 168 mm, thickness 16 mm. Original diameter *ca* 340 mm. Context: house IV, level 3 or pavement 17 in front of house VI. Ref. 20.1.

Two parts of composite elliptical lid/base with sloping edges. Maximum length 343 mm, width 205 mm, thickness 11 to 15 mm. Context: house IV or pavement 17 in front of house VI. Ref. 20.2/20.3.

Roughout for lid/base with sloping edges. Diameter 323 mm, width of surviving part 226 mm, thickness 56 mm. Context: house IV or pavement 17 in front of house VI. Ref. 20.5.

Part of composite lid/base with thick unfinished edges. About one third of the whole. Length of straight edge 292 mm, width remaining 100 mm, thickness 24 mm. Original diameter *ca* 300 mm. Context: house III under floor of level 1. Ref. 22.1.

Part of composite lid/base with sloping edge. Length of straight edge 172 mm, width remaining 67 mm, thickness 18 mm. Diameter originally *ca* 200 mm. Context: house III under floor of level 1. Ref. 22.4.

Elliptical lid/base with sloping edges. It is slightly domed. Length 440 mm, width 262 mm, thickness (maximum) 17 mm. Context: house XIII upper part. Ref. 24.4 (Fig. 3B).

Lid/base with unfinished edges which slope slightly. Diameter *ca* 180 mm, thickness 8 mm to 15 mm. Context: house VII. Ref. 25.1 (Fig. 3B).

Part of lid/base with slightly sloping edges. Probably unfinished. Length of straight edge 219 mm, width remaining 106 mm, thickness 20 mm, diameter *ca* 220 mm. Context: house I. Ref. 25.12 (Fig. 3B).

Part of composite lid/base with sloping edges. The piece is thick (28 mm) and probably unfinished. Diameter 396 mm, width 211 mm. The piece is exactly half of a circle. Context: near house VII, upper level. Ref. 26.4.

Part of lid/base (?) consisting of a half-circle of wood with bevelled edges. Along the straight edge are four circular holes cut through the thickness and a semi-circular notch near the middle. In the straight edge there is a further small circular hole. Diameter 161 mm, width remaining 72 mm, thickness 23 mm maximum. Diameter of large hole or notch 27 mm, diameter of small holes 6 mm. Context: house IV, 1 metre from lower pole of south-east wall. Ref. 27.9 (Fig. 3B).

Lid/base with thick unfinished edges cut on a slight slope. Burnt on one side. Diameter 206 mm, thickness 33 mm. Context: house IV. Ref. 28.1.

Lid/base with sloping edges, probably unfinished. Diameter *ca* 260 mm, thickness 38 mm. Context: house IV. Ref. 28.2.

Part of composite lid/base that is unfinished. The edges are almost vertical but are roughly cut. Approximately a half circle. Diameter 240 mm, width 14 mm, thickness 20 to 23 mm. Context: under pavement on the level of the foundations in front of house III. Ref. 77.1. Cat. 480.

Fragment of a composite lid/base being about one third of the circumference. Length of straight side 195 mm, width 65 mm, thickness 8 mm. Context: under pavement 2 on the level of the foundations in front of house III. Ref. 77.2. Cat. 481.

Part of composite or broken lid/base being about one half of the circumference. Diameter 250 mm, thickness 18 mm to 20 mm. Context: house III. Ref. 81.3. Cat. 81.

Part of composite lid/base being about one half of the circumference. Diameter 230 mm, thickness 18 mm to 23 mm. Context: house III. Ref. 81.4. Cat. 80.

Part of lid/base in poor condition. Diameter *ca* 235 mm, thickness 15 to 18 mm. Context: house III, under floor of level 1. Ref. 81.6. Cat. 76.

Lid/base now in fragments and burnt. Diameter 234 mm, thickness 4 to 5 mm. Context: house I?. Ref. 81.21. Cat. 29.

Part of lid/base in poor condition. Diameter *ca* 300 mm, thickness 28 mm. Context: house I?. Ref. 81.23. Cat 479.

Turned waste

Three fragments of possible turning waste. Diameter *ca* 100 mm, thickness 22 mm. Context: house I under floor of level 2. Ref. 12.1.

Turning waste from bowl with central circular hole. Diameter 85 mm, height 26 mm, diameter of hole *ca* 20 mm. Context: near pavement between houses IV and VII. Ref. 23.2 (Fig. 6B).

Turning waste from bowl with central circular hole. Diameter 110 mm, height 29 mm. Diameter of hole *ca* 15 mm. Context: house IV on floor of level 2. Ref. 27.6 (Fig. 6B).

Turning waste from bowl with a central rectangular hole. Diameter 41 mm. Context: middle of house IIIa. Ref. 71.2. Cat. 72 (Fig. 6B).

Turning waste from bowl with central rectangular hole. Diameter 35 mm. Context: middle of house IIIa. Ref. 71.3. Cat. 72 (Fig. 6B).

Turning waste from bowl with central rectangular hole in one face and a circular hole cut diagonally through the side. Diameter 47 mm. Context: house I, upper part, southern side. Ref. 72.7. Cat. 37 (Fig. 6B).

Turned bowls

Turned bowl with five pairs of incised lines around the outside. The bowl is broken but was originally mended by doweling the two broken pieces together. Original diameter of bowl 293 mm, height *ca* 41 mm. *Fraxinus excelsior*. Context: house I, floor of level 3. Ref. 17.1 (Fig. 6A).

Fragment of turned bowl with footring. On the base there is a rectangular impression which may have been made while the bowl was fixed to the lathe. There are two incised lines around the outside of the bowl. Diameter of base 108 mm. Context: house I, floor of level 3. Ref. 17.2 (Fig. 6A).

Fragment of bowl or ladle. Maximum length 100 mm, thickness 6 to 10 mm. Context: House VI, upper part. Ref. 19.1 (Fig. 6A).

Fragments of bowl(?). Context: under pavement 2 near house III. Ref. 19.4.

Fragment of bowl or dish now in two pieces. Maximum length 211 mm, width 78 mm, thickness 8 mm. Context: house III. Ref. 19.5 (Fig. 6A).

Fragment of platter. Maximum length 136 mm, height 25 mm. Context: house III. Ref. 19.8 (Fig. 6A).

Two fragments of a carved bowl with toolmarks running around the vessel. Maximum length of fragment 148 mm, width 52 mm, thickness 6 mm to 8 mm. Context: near the pavement between houses IV and VII. Ref. 23.3 (Fig. 6A).

Three fragments of a bowl, possibly turned. Thickness 7 mm. *Fraxinus excelsior*. Context: house IV, floor of level 3. Ref. 27.3.

Fragment of bowl. Context: house I, on or under floor of level 2. Ref. 72.3.

Fragments of turned bowl with flat base and nearly vertical sides. Diameter *ca* 220 mm, height *ca* 45 mm, thickness 6 to 11 mm. Context: house II, under the floor. Ref. 74 (Fig. 6A).

Fragment of bowl. Maximum length 86 mm. Context: 1 metre from house IV near south east wall. Ref. 81.15. Cat. 161.

Flat plaques: moulds

Shield-shaped piece of flat wood with engraved decoration on both sides. There is a small hole near the middle and a similar hole near the top right hand corner. Length 80 mm, thickness 12 mm. Context: house I below level 3. Ref. 79.8. Cat. 23 (Fig. 8).

Approximately triangular shaped piece of flat wood with engraved decoration within the shallow recess on one side. Damaged. Length remaining *ca* 100 mm, width 57 mm, thickness 8 mm. Context: house IV. Ref. 79.12. Cat. 470 (Fig. 8).

Flat piece of wood with slight recess on one side in which there is engraved decoration. The top is shaped to a point and is pierced by a small circular hole. On the reverse side there is an arrangement of seven small rough holes. Length remaining 105 mm, width *ca* 50 mm. Context: house IV, west corner of south wall. Ref. 79.17. Cat. 158 (Fig. 8).

Spoons and ladles

Spoon with shallow bowl and short handle with a circular section. Length 200 mm, width across bowl 46 mm. Context: house I, under floor of level 2. Ref. 65. Cat. 32 (Fig. 9).

Spatula (?) broken at both ends and decorated on both sides with a cross. Length 171 mm, maximum width 47 mm. *Quercus sp.* Context: house IIIa, upper part. Ref. 66.1. Cat. 73 (Fig. 9).

Ladle with large flat-bottomed bowl and curved handle. Length of bowl 230 mm. There is second fragment, which may have come from a similar ladle. Context: above well V. Ref. 76 (Fig. 10).

Spoon now broken. Carved from a small branch and not very finely finished. Length remaining 156 mm, length of handle 105 mm. Context: near pavement at a depth of 1 metre. Ref. 79.3. Cat. 467 (Fig. 9).

Shovels

Oven (?) shovel with large flat blade and narrow straight handle. The edges are rough and may not have been finished. The blade is burnt on one side. Length 372 mm, length of handle 120 mm, width (remaining) of blade 124 mm, thickness 8 mm to 15 mm. Context: unstratified. Ref. 26.8 (Fig. 10).

Combs

Fragment of double-sided comb. All the teeth are broken. There were originally 10 large teeth. Length remaining 37 mm. Context: house Ia. Ref. 16.2 (Fig. 11).

Fragment of double-side comb. 13 large teeth remain. Length 45 mm. Context: house IV, floor of level 3. Ref. 27.2 (Fig. 11).

Double-sided comb now broken at one end. Length remaining 41 mm, width 85 mm, thickness 9 mm. Context: house IIIb, south-east corner. Ref. 79.7. Cat. 68 (Fig. 11).

Double-sided comb now broken at both ends. Decorated with large and small circles on both sides of the spine. Length remaining 52 mm, width 43 mm, thickness 14 mm. Context: house I, below level 3. Ref. 71.4. Cat. 24 (Fig. 11).

Double-sided comb decorated with circle motif on both sides of the spine. Only 8 large teeth remain. Length remaining 60 mm. Context: house I. Ref. 72.4. Cat. 31 (Fig. 11).

Double-sided comb broken one end. Length remaining 70 mm, width 37 mm, thickness 1 mm. Context: house VI, level 1. Ref. 78.4. Cat. 197 (Fig. 11).

Double-sided comb decorated with circles and dots along the spine. Broken at one end. Length remaining 63 mm, width 75 mm, thickness 11 mm. Context: unstratified. Ref. 79.2. Cat. 485 (Fig. 11).

Double-sided comb originally with 10 large teeth. Length 73 mm, width 79 mm, thickness 11 mm. Context: house IV, west corner of south wall, 1100 mm deep. Ref. 79.15. Cat. 174 (Fig. 11).

Double-sided comb fragment. Length remaining 36 mm. Context: middle of house IIIa. Ref. 81.9. Cat. 465 (Fig. 11).

Fragment of double-sided comb. Length remaining 23 mm. Context: house I, under floor of level 2. Ref. 81.10. Cat. 30 (Fig. 11).

Fragment of double-sided comb with only four teeth remaining. Length remaining 36 mm. Context: unstratified. Ref. 81.18. Cat. 464 (Fig. 11).

Beaters

Beater with approximately circular section and handle. The middle part of the beater is thinner and worn. The whole object is criss-crossed with narrow impressed bands, which appear to be the result of binding with flat strips of cloth or possibly leather. Length 288 mm, length of handle 103 mm, diameter at top 63 mm, diameter of handle 28 mm. Context: house IV or pavement 17 in front of house VI. Ref. 21.1 (Fig. 12).

Beater (?) with sword-shaped blade with short handle. The edges are angular and appear to be unfinished. length 382 mm, width (maximum) 40 mm, thickness of blade 18 mm, width of handle 17 mm. Context. house IV upper level above floor. Ref. 25.2 (Fig. 12).

Sword-shaped roughout for beater or treadle. Length 278 mm, length of blade 220 mm, maximum width of blade 75 mm, thickness 22 mm. Context: house IV. Ref. 25.7 (Fig. 12).

Beater (?). Length 379 mm, width 36 mm, length of handle 33 mm. The object is rectangular in section and not finished. Context: house IV upper level over floor. Ref. 25.9 (Fig. 12).

Beater (?) broken near tip and on handle. Length remaining 331 mm, width 29 mm, thickness 12 to 14 mm. Context: house IV upper level over floor. Ref. 25.10 (Fig. 12).

Scutch or treadle of horizontal loom. broken on one edge. The edges are thick and not finished. One surface of the blade is rough and split while the other has signs of axing/adzing. Length 389 mm, length of handle 114 mm, width (remaining) 58 mm, width of handle 31 mm. Context: house IV. Ref. 26.1 (Fig. 12).

Beater. The head and handle have a circular cross section. Length 563 mm, length of handle 241 mm, diameter of head between 91 and 118 mm. Diameter of handle 44 mm maximum. *Quercus sp.* Context: unstratified. Ref. 30.

Beater. The head and handle have a circular cross section. Length 735 mm, length of handle 255 mm, diameter of head 105 mm, diameter of handle 53.5 mm. Context: unstratified. Ref. 83.

Heckles(?)

Fragment of heckle (?) broken at both ends with five large teeth surviving. The back is rounded and carefully smoothed. Length remaining 244 mm, width 50 mm, thickness 5 mm. Context: house III, south-west corner on floor, level 3 (?). Ref. 5.5 (Fig. 12).

Heckle (?) with handle which is slightly broken. There are 12 teeth along the blade. Length 284 mm, length of handle 76 mm, maximum width of blade 35 mm. Context: house I. Ref. 17.4 (Fig. 12).

Length of shaped splitwood with curved back and "teeth" along the front edge. One end is broken and there is a rectangular hole through the thickness towards this end. Length 145 mm, width 50 mm, thickness 5 to 8 mm. Context: unstratified. Ref. 80.2. Cat. 472.

Fragment of heckle (?) broken at both ends with the remains of seven teeth. Length remaining 765 mm, maximum width 67.5 mm. Context: unstratified. Ref. 82.

Spindles

Spindle, broken one end. Length remaining 104 mm, maximum diameter 12 mm. Context: house I. Ref. 1.9. Cat. 33.

Spindle, broken one end. Length remaining 90 mm, maximum diameter 90 mm. Context: house I. Ref. 1.10.

Spindle, broken one end. Length remaining 85 mm, maximum diameter 13 mm. Context: house I, under floor of level 2. Ref. 1.12.

Spindle, broken one end. Length remaining 142 mm, diameter 11 mm. Context: unstratified. Ref. 12.11 (Fig. 13).

Spindle, length 189 mm, diameter 11 mm. Context: unstratified. Ref. 12.12 (Fig. 13).

Spindle, length 150 mm, diameter 10 mm. Context: house I. Ref. 81.13. Cat. 35 (Fig. 13).

Parts of other thread and cloth-making equipment

Tripod possibly forming the base of a swift. The tripod is made from the natural junction between three branches. At the top the wood has been carved into a short peg on which the arms of the swift could have revolved. Length of longest leg 250 mm, diameter of top *ca* 80 mm. Height of carved peg 40 mm. Context: unstratified. Ref. 8.1 (Fig. 14).

Shuttle with two small circular holes to receive the bobbin. Length 223 mm, width 47 mm, thickness 28 mm. Context: house I level 3b. Ref. 17.3 (Fig. 15).

Weaving swords

Weaving sword with flat blade with a slightly raised spine. The handle is also slightly flattened. Length 526 mm, length of blade 382 mm, width of blade 77 mm. Context: house IV. Ref. 24.3 (Fig. 14).

Maces

Mace or large peg with asymmetrically set head. Length 115 mm, diameter of shaft 10 mm. Context: middle of house IIIa. Ref. 1.6.

Mace or large peg. The head is missing. Length remaining 105 mm, diameter 14 mm. Context: middle of house IIIa. Ref. 1.7.

Macehead with shaft broken off. Width 99 mm, height 82 mm. Context: unstratified. Ref. 12.7 (Fig. 16).

Mace with short shaft. The shaft has a small circular hole cut through it towards the lower end. The head is decorated. Maximum diameter 60 mm, length of shaft 45 mm. Context: house XI, southern wall. Ref. 68.1. Cat. 483 (Fig. 16).

Fragment of macehead. Diameter 69 mm. Context: near house XI, southern wall. Ref. 68.2. Cat. 477 (Fig. 16).

Half of decorated macehead. Diameter 74 mm. Context: above house XI, 1 metre from SW corner of house IV. Ref. 68.3. Cat. 482 (Fig. 16).

Mace with shaft made from branch. Diameter 80 mm, length of shaft 142 mm. Context: house IV, upper level. Ref. 69. Cat. 163 (Fig. 16).

Fragments of a macehead. Context: house I, upper part on southern side. Ref. 72.5. Cat. 27.

Fragments of macehead. Context: house I, upper part. Ref. 73.1. Cat. 26.

Macehead with remains of shaft formed from branch. Diameter 63 mm. Context: house I, upper part. Ref. 73.2. Cat. 25.

Flat headed mace (?) attached to shaft. The shaft is now broken. Length of head 80 mm, width 61 mm, thickness 16 mm. Context: 400 mm above coffin IX. Ref. 78.2. Cat. 471 (Fig. 16).

Mace with shaft made from branch. Possibly the remains of decoration. Dimensions of head 65 mm by 45 mm, length of shaft 165 mm, diameter of shaft 19 mm. Context: house XII. Ref. 78.5. Cat. 256 (Fig. 16).

Mace (?) with curved shaft and head set to one side. Length 184 mm. Context: house I, under floor of level 2. Ref. 81.11. Cat. 39 (Fig. 16).

Macehead broken. Dimensions 6 mm by 55 mm. Original diameter *ca* 60 mm. Context: house IV. Ref. 81.16. Cat. 162 (Fig. 16).

Toys: boats

Toy boat carved from one piece of wood. One end is broken but the other is pointed. The bottom is slightly flattened and there are two cross pieces probably representing bulkheads. Length remaining 105 mm, width 26 mm. Context: house IV. Ref. 79.10. Cat. 155 (Fig. 19).

Toy boat or trough carved from a split branch. The underside is curved but with a notch partway along its length. Length 60 mm, width 25 mm, height 12 mm. Context: house IV, corner of south wall. Ref. 79.16. Cat. 160 (Fig. 19).

Toy boat carved from a piece of split timber. The boat is pointed both ends and without any internal features. Length 482 mm, width 102 mm, height 38 mm, thickness of sides 6 mm to 9 mm. Context: house VIII (chapel). Ref. 10 (Fig. 18).

Toys: swords

Toy sword broken at the point. The end of the handle has been cut into a decorative form similar to a crown. All the edges are carefully finished and smooth. Length 307 mm, length of handle 122 mm, widest part of blade 50 mm. Context: house IV. Ref. 26.2 (Fig. 17).

Tops

Spinning top of approximately conical shape but which tapers slightly towards the top that is flat. A tapered hole has been cut in the centre of this flat top. Roundwood. Height 70 mm, diameter at top 37 mm, diameter of hole 24 mm. Context: middle of house IIIa. Ref. 71.1. Cat. 72 (Fig. 19).

Spinning top of approximately conical shape with a flat top in which there is a circular hole. Roundwood. Height 79 mm, diameter 43 mm, diameter of hole 20 mm, depth of hole 22 mm. Context: unstratified. Ref. 79.5. Cat. 473 (Fig. 19).

Spinning top of approximately conical shape with a central circular hole, which tapers, to a point. Roundwood. Height 43 mm, diameter 27 mm, diameter of hole 11 mm, depth of hole 11 mm. Context: house IV, 500 mm deep. Ref. 79.13. Cat. 159 (Fig. 19).

Spinning top of approximately conical shape but which tapers slightly towards the top that is flat. Roundwood. Height 50 mm, diameter of top 30 mm, maximum diameter 34 mm. Context: house X near the south wall. Ref. 81.17. Cat. 225 (Fig. 19).

Handles

Handle with a D-shaped section and a circular hole cut from side to side. Length 110 mm, diameter 27 mm. Context: under pavement near well V. Ref. 1.8.

Handle with a circular section and a rectangular hole cut from side to side. The handle is carved from splitwood. Length 70 mm, diameter 33 mm, hole 19 mm by 17 mm. Context: house IV, 400 mm deep. Ref. 12.3 (Fig. 20).

Broken handle the shaft of which has a circular section. Length 81 mm, diameter 34 mm. Context: unstratified. Ref. 12.13.

Three fragments of worked wood one of which might be the remains of a handle. Length of "handle" 102 mm, width 24 mm, thickness 26 mm. Context: house Ia. Ref. 16.3 (Fig. 4).

Handle with a rectangular hole in either end for an attachment. The handle is of smaller diameter in the middle than at the ends. Length 198 mm, diameter in middle 22 mm, diameter at ends between 34 mm and 36 mm. Context: house IV or under pavement 17 in front of house VI. Ref. 21.2 (Fig. 20).

Handle with circular section and a hole through the thickness. Length 134 mm, diameter 24 mm, whole 26 mm by 15 mm. Context: house IV near middle of west wall on floor. Ref. 23.1 (Fig. 20).

Handle with circular section and a rectangular hole through the thickness. Made from splitwood. Length 129 mm, diameter 19 mm, hole 25 by 13 mm. Context: house IV, floor of level 3. Ref. 27.1 (Fig. 20).

Handle with circular section. Carved from splitwood. Length 121 mm, diameter 29 mm. Context: house IV. Ref. 27.8 (Fig. 20).

Fragment of a wooden handle and iron knife blade. Length of surviving part of handle 45 mm. The handle is carved from roundwood and is socketed for the blade. Context: house I, on floor of level 3. Ref. 67.2. Cat. 2.

Hooks

Hooked stick of naturally bent growth. Length 187 mm, length of hook 128 mm, width 37 mm, thickness 12 to 20 mm. Context: near house IIIb, east corner. Ref. 19.6 (Fig. 21).

Hook formed from a natural branch/trunk joint. Two pairs of circular holes have been cut through the arms of the hook close to the ends. Two of these have the remains of wooden dowels still in place. Possibly part of a saddle bow. Length of arms 175 mm and 204 mm. Context: house VI. Ref. 25.3 (Fig. 21).

Hook formed from a natural branch/trunk joint. The ends are pointed and the object is roughly circular in section. Length of arms 82 mm and 89 mm. Context: house IV. Ref. 27.7 (Fig. 21).

Notched sticks

Stick with "teeth" set at angle. Possibly this is a ratchet. Length 357 mm, width 29 mm, thickness 12 mm. Length of portion with "teeth" 31 mm. *Quercus sp.* Context: house III, level 3. Ref. 19.7 (Fig. 22).

Bar of wood with several "teeth" some of which are now broken. Surviving length 220 mm, width 23 mm, thickness 10 mm. Context: house XII. Ref. 79.11. Cat. 258.

Discs: flat

Flat disc with slightly bevelled edge and central circular hole. Another smaller circular hole has been cut close to the edge of the disc and on one side there are six approximately circular depressions arranged around the central hole. Diameter 89 mm, thickness 15 mm. Context: house IV. Ref. 66.2. Cat. 187 (Fig. 23).

Flat disc now broken, with centrally placed circular hole and tapered edges. Now shrunk across grain of wood. Diameter *ca* 75 mm. Context: house I, upper part, southern side. Ref. 72.6. Cat. 36 (Fig. 23).

Flat disc now broken in half with a central rectangular hole. Made from splitwood. Burnt. Diameter 71 mm, thickness 12 mm. Context: 400 mm above coffin IX. Ref. 78.1. Cat. 471.

Flat disc with central circular hole. The disc is irregular made and is not circular. Diameter between 70 mm and 80 mm, thickness 20 mm, diameter of hole 20 mm. Context: between houses IV and VII. Ref. 79.6. Cat. 469 (Fig. 23).

Discs: domed

Domed disc with central circular hole. Diameter 76 mm. Context: house IV. Ref. 66.3. Cat. 156 (Fig. 23).

Domed disc now broken in half with a central circular hole. The flat side of the disc is decorated. Diameter 89 mm, thickness 2 mm. Context: 400 mm above coffin IX. Ref. 78.3. Cat. 468.

Domed disc with central circular hole. The disc is now distorted. Diameter 75 mm to 85 mm, height 24 mm to 28 mm. Diameter of hole 20 mm. Context: house III. Ref. 81.1. Cat. 69 (Fig. 23).

Pegs

Splitwood or peg. Length 140 mm. Context: house I, under floor of level 2. Ref. 1.12.

Three pegs with asymmetrically set heads. All are carved from splitwood. 1. Length 290 mm, width 39 mm, thickness 26 mm. 2. Length 142 mm, width 1222 mm, thickness 12 mm. 3. Length 122 mm, width 20 mm, thickness 9 mm. Context: house III. Ref. 19.9 (Fig. 22).

Peg with circular section. Length remaining 174 mm, length of shaft 128 mm. Context: house III under floor of level 1. Ref. 22.7 (Fig. 22).

Two pegs made of splitwood. The best preserved has a wedge-shaped point and a domed top. Length 123 mm, diameter at top 25 mm. Length 207 mm, diameter at top 19 mm. Context: near the pavement between houses IV and VII. Ref. 23.5 (Fig. 22).

Peg with large head and thin shaft. Carved from splitwood. Dimensions of head 27 mm by 25 mm, diameter of shaft 6 mm. Context: on pavement near south west corner of well V. Ref. 79.11. Cat. 470 (Fig. 22).

Peg with hole near top. Length 260 mm, dimensions at top 17 by 36 mm. Context: house III, under floor of level 1. Ref. 81.7. Cat. 79 (Fig. 22).

Peg with tapered head and broken shaft. Length remaining 110 mm, dimensions of top 28 mm by 27 mm, diameter of shaft 19 mm. Context: middle of house IIIa. Ref. 81.8. Cat. 74 (Fig. 11).

Peg probably split in half. Length 97 mm, width of top 43 mm. Context: pavement 2 in front of house III. Ref. 81.14. Cat. 474 (Fig. 22).

Peg, splitwood. Length 30 mm, diameter of shaft 5 mm to 6 mm, diameter of head 7 mm. Context: under pavement in front of house III. Ref. 81.20. Cat. 475 (Fig. 22).

Large peg with shaft of rectangular section. Length remaining 106 mm, diameter of head *ca* 45 mm. Context: near the pavement. Ref. 81.21. Cat. 476 (Fig. 22).

Other miscellaneous equipment

Piece of shaped wood with one flat surface and a domed back. The ends are slightly pointed. Length 154 mm, width 47 mm, height 20 mm. Context: under road 16. Ref. 8.6 (Fig. 27).

Shaped piece of wood with a circular section tapering to pointed ends. It is now burnt and split. Length 108 mm, diameter 41 mm. Context: under pavement 2/house II or III (?). Ref. 12.2 (Fig. 27).

Peg (?) with rectangular hole through thickness near one end. The peg is round in section with blunt ends. Length 425 mm, diameter 15 mm. Length of hole 15 mm, width 9 mm. Context: house IV or pavement 17 near house VI. Ref. 20.8 (Fig. 25).

Carved piece or waste with pointed end. Length 49 mm, width 24 mm, thickness 24 mm. Context: near the pavement between houses IV and VII. Ref. 23.4.

Peg or handle (?) with two holes cut at right angles to each other. The peg is rectangular in section with a wedge-shaped pointed. On one side there are two notches. Length 181 mm, width 23 mm, thickness 14 mm. Context: unstratified. Ref. 26.7 (Fig. 24).

Shaped splitwood with pointed end and a single circular hole through the thickness. Towards the broken end there is a carefully made step. Length remaining 159 mm, maximum width 31 mm. Context: house I, on floor of level 3. Ref. 67.1. Cat. 40.

Object cut from a short length of splitwood and which tapers at either end to a blunt point. Possibly a fire lighter. Length 147 mm, maximum diameter 23 mm. Context: house I, on or under floor of level 2. Ref. 72.1. Cat. 38 (Fig. 24).

Object cut from a short length of splitwood and which tapers at either end to a blunt point. Possibly a fire lighter. Length 106 mm, maximum diameter 16 mm. Context: house I, on or under floor of level 2. Ref. 72.2.

A short plank with a notch at either end. Length 230 mm, width 110 mm, thickness 15 mm. Context: under pavement 2 on the level of the foundations in front of house III. Ref. 77.3. Cat. 466.

Flat piece of shaped wood with a small circular hole through the thickness. Length 82 mm, width 25 mm, diameter of hole 7 mm. Context: house IV, 300 mm from the top. Ref. 79.9.

T-shaped piece of decorated wood with one small peg protruding from one corner. Three similar pegs have been broken from the other three corners. The decoration follows the shape of the object and is more elaborate on one side than the other. Maximum length 60 mm, width 43 mm, thickness 17 mm. Context: unstratified. Ref. 79.14. Cat. 484 (Fig. 26).

Wedge with flat top. Length 57 mm, width at top 14 mm, thickness at top 8 mm. Context: house III lower near west side. Ref, 81.19. Cat. 71 (Fig. 26).

Furniture

Lath with sloping ends, two notches in upper surface and the remains of two iron pins. Length 327 mm, width 38 mm, thickness 18 mm. Context: unstratified. Ref. 15.1.

Plank with two circular holes and two wooden pegs. The pegs are slightly tapered and there is the remains of a third hole at the broken end of the plank. Length remaining 291 mm, width 39 mm, thickness 16 mm. Diameter of pegs *ca* 20 mm, length 52 mm and 54 mm. *Quercus sp.* Context: house IV or pavement 17 in front of house VI. Ref. 20.9 (Fig. 28).

Possible stool top: rectangular plank with four round holes cut near each corner. Length 402 mm, width 213 mm, thickness 27 mm. The holes are approximately circular with diameters varying from 22 mm to 32 mm. Context: house IV. Ref. 25.13 (Fig. 28).

Coffins

Parts of coffin 1: short plank from **narrower end**, length 148 mm, with 94 mm to 103 mm, thickness 7 mm to 12 mm; short plank from **wider end**, length 167 mm, width 104 mm to 111 mm, thickness 8 mm to 15 mm; **fastening device for end**, length 273 mm, width 25 mm, thickness 12 mm; **lid** consisting of a rectangular plank which is slightly domed in section, length 564 mm, width 151 mm, thickness 19 mm; plus three other fragments. Ref. 25.6.

Parts of coffin 2: side consisting of large plank with grooves along the bottom edge and the two ends, length 2.26 metres, height 0.37 metres, thickness between 25 mm and 60 mm; **base** consisting of large plank with grooves at both ends, length 2.23 metres, width varying between 0.46 and 0.51 metre, thickness 50 mm; **lid** consisting of two long rectangular planks one with a broken end. Length 2.25 metres, widths 0.26 and 0.28 metres, thickness 49 mm and 56 mm. All pieces are *Quercus sp.* Ref. 29.3/29.4/29.1/29/2.

End of coffin consisting of a plank with sloping ends. Length of long side 524 mm, length of short side 478 mm, height 252 and 239 mm, thickness 30 mm. *Fraxinus excelsior*. Context: not recorded. Ref. 32.

End of coffin consisting of a plank with sloping ends. Close to either end and parallel with it there is a groove. Length of long side 571 mm, length of short side 509 mm, height 345 mm, thickness 29 mm. The grooves are cut 25 mm in from the edges. *Fraxinus excelsior*. Context: not recorded. Ref. 33.

Possible end of coffin consisting of a plank with a groove near each end. Length 523 mm, height 130 and 166 mm, thickness 32 mm. Width of groove 25 mm. *Quercus sp.* Context: not recorded. Ref. 35.

Miscellaneous timbers including structural elements

Fragments of worked wood. *Fraxinus excelsior*. Context: house IIIa. Ref. 1.1.

Two pieces of splitwood. Maximum dimensions 110 mm long, 30 mm wide, 8 mm thick. Context: house I. Ref. 1.11.

Four pieces of splitwood possibly from wattling, pointed one end. Lengths vary from 330 mm to 464 mm, widths from 15 to 23 mm. Context: house IV. Ref. 2.1.

Wedge-shaped piece of radially split wood, triangular in section. *Quercus sp.* Length 257 mm, width 78 mm. Context: house I, under floor of level 2 or house III, under floor of level 1. Ref. 3.3.

Broken pieces of splitwood varying in thickness from 52 to 75 mm. Maximum length surviving 378 mm. Context: unstratified. Ref. 4.

Lath with sharpened and burnt end. The top is slightly damaged. Length 265 mm, maximum width 41 mm, thickness 7 mm. Context: house III, south-west corner on floor, level 3 (?). Ref. 5.3.

Fragment of lath. Length 278 mm, width 51 mm, thickness 16 mm. Context: house III, in south-west corner on floor, level 3 (?). Ref. 5.4.

Length of splitwood broken and burnt one end. Length remaining 237 mm, maximum width 52 mm, thickness 15 mm. Context: house I under floor of level 2. Ref. 6.3.

End of notched beam possibly from the construction of a building. Made from half of a coniferous tree trunk. Context: near house IV. Ref. 9.

Short length of plank with a pointed end through which has been cut a circular hole. Length 304 mm, width 58 mm, thickness 13 mm, hole diameter 8 mm. Context: unstratified. Ref. 12.4.

Plank with notch on one side, possibly part of the floor or roadway. Length 303 mm, width 128 mm to 150 mm, length of notch 36 mm, depth 20 mm. Context: unstratified. Ref. 12.6.

Broken plank in six pieces. Length of largest piece 361 mm, width 59 mm, thickness 14 to 30 mm. Context: unstratified. Ref. 12.8.

Pieces of lath and one burnt stake. The longest lath is 454 mm with a width of 22 mm and thickness of 13 mm. The stake is 324 mm long, 48 mm wide at top. Context: unstratified. Ref. 12.14.

Plank with pointed end. Length 245 mm, width 60 to 67 mm, thickness 18 to 38 mm. Context: unstratified. Ref. 13.2.

Plank with pointed end and a hole cut through the thickness. Length remaining 256 mm, width 70 mm, thickness 17 mm. Hole 19 by 27 mm. Context: house IV, upper level in wall 2, possibly west corner. Ref. 14.1.

Stake in seven pieces. Longest 258 mm, with pointed end. Context: house IV upper level in wall 2, possibly west corner. Ref. 14.1.

Length of tree trunk split in half now in three pieces. Possibly part of a building. Largest piece is 294 mm in length by 115 mm wide. Context: unstratified. Ref. 15.2.

Tree trunk of coniferous wood with pointed end. The upper end has been cut off. Length 477 mm, diameter 140 mm. Context: house VII. Ref. 18.1.

Three planks from floor. One plank has two notches cut in one edge, perhaps for securing pegs. Length of notched plank 511 mm, width 129 mm, thickness 15 mm. Length of notches 30 and 28 mm, width 22 and 26 mm. Context: house VII. Ref. 18.2.

Thin split plank. Length remaining 312 mm, width 188 mm, thickness 11 mm. Context: house IIIa upper part. Ref. 19.10.

Lath, broken one end. Length remaining 517 mm, width 19 mm, thickness 7 mm. Context: house IV or pavement 17 in front of house VI. Ref. 20.7.

Plank. Length remaining 260 mm, width 120 mm to 131 mm, thickness 39 to 42 mm. Context: house III under floor of level 1. Ref. 22.3.

Piece of roundwood. Length 189 mm, diameter 41 mm. Context: pavement 2 in front of house 1. Ref. 23.6.

Lath with slight shallow groove one end. Length 174 mm, width 25 mm, thickness 6 mm. Context: unstratified. Ref. 23.7.

Splitwood with tapered end. The main part is rectangular in section 34 by 33 by 281 mm long which steps down to a tapered section with a diameter of *ca* 15 mm. Total length 491 mm. Context: house III upper part. Ref. 24.2 (Fig. 25).

Five fragments of split rod with rectangular section. Maximum length 324 mm, width 19 mm, thickness 12 mm. Context: house IV. Ref. 25.4.

Pointed stake with rectangular section and wedge-shaped end. Length remaining 345 mm, width 38 mm, thickness 26 mm. Context: house IV upper level over floor. Ref. 25.8.

Piece of splitwood. Length 416 mm, width 30 mm, thickness 7 mm. Context: house IV upper level over floor. Ref. 25.11.

Four fragments of plank with the remains of a circular hole. Length 89 mm, width 38 mm, thickness 17 mm. *Fraxinus excelsior*. Context: house IV, floor of level 3. Ref. 27.4.

Plank cut from the outside of a tree so that one side follows the natural curve and there are signs where branches have been cut off. Two sub-rectangular holes have been cut along the length. Length 4.60 metres, width 0.26 metres, thickness 39 mm. The holes are 1.48 metres apart and measure 42 by 46 mm and 46 by 41 mm. *Quercus sp.* Context: unstratified. Ref. 31.

Rectangular plank with two rectangular holes. The holes are cut close to either end and are 550 mm apart. Length of plank 823 mm, width 229 mm, thickness 16 mm. Hole dimensions 37 by 42 mm, 31 by 43 mm. *Quercus sp.* Context: house I (?). Ref. 34.

Rectangular plank with axing at one end. Length 877 mm, maximum width 156 mm, thickness 32 mm. Context: unstratified. Ref. 36.

Approximately semi-circular plank. Length of straight edge 902 mm, width 335 mm, thickness 76 mm. *Quercus sp.* Context: unstratified. Ref. 37.

Fragment of splitwood plank. Length 596 mm, maximum width 124 mm, maximum thickness 32 mm. *Quercus sp.* Context: unstratified. Ref. 38.

Fragment of splitwood. Length 542 mm, maximum width 121 mm, thickness 41 mm. *Quercus sp.* Context: unstratified. Ref. 39.

Plank with two rectangular holes close to one edge. Length 725 mm, width 263 mm, thickness 27 mm, holes 17 mm by 15 mm, 160 mm apart. Context: unstratified. Ref. 40.

Plank with sloping ends and a groove running parallel to and close to each end. The grooves are 175 mm from the ends and are 48 mm wide. There are also a number of small holes, some rectangular and some circular. Length of short side 741 mm, length of long side 767 mm, width 238 and 320 mm. Context: unstratified. Ref. 41.

Tree trunk of coniferous wood now broken. Length remaining 329 mm, diameter 122 mm. Context: unstratified. Ref. 43.

Squared beam of splitwood with wedge-shaped point possibly an upright pole. The top is weathered. Length 1.06 metres, dimensions at top 172 by 133 by 164 mm. *Quercus sp.* Context: unstratified. Ref. 44.

Tree trunk of coniferous wood with notch. Length 1.01 metres, diameter 190 mm maximum. Length of notch 250 mm, depth 90 mm maximum. Context: unstratified. Ref. 45.

Tree trunk with hook formed from branch. A notch has been cut below the hook. Length 2.12 metres, diameter 219 mm, height of hook 297 mm, width of notch 306 mm. *Quercus sp.* Context: unstratified. Ref. 46.

Tree trunk with branches removed and slightly pointed one end. Length 1.28 metres, diameter 220 mm maximum. Probably *Fraxinus excelsior*. Context: unstratified. Ref. 47.

Tree trunk with hook formed from a side branch. Length 2.25 metres, diameter 156 mm maximum. *Quercus sp.* Context: not recorded but may be rampart. Ref. 48.

Tree trunk with notch at one end. Length remaining 127 mm, diameter 161 mm. *Fraxinus excelsior*. Context: unstratified. Ref. 49.

Fragment of tree trunk of coniferous wood. Length remaining 148 mm, diameter between 124 and 129 mm. Context: unstratified. Ref. 50.

Fragment of split timber. Length 511 mm, width 50 mm, thickness 42 mm. *Quercus sp.* Context: unstratified. Ref. 51.

Tree trunk of coniferous wood now broken. Some bark remains in place. Length 948 mm, diameter 149 mm. Context: unstratified. Ref. 52.

Tree trunk of coniferous wood. Length remaining 486 mm, diameter 128 mm. Context: unstratified. Ref. 53.

Tree trunk of coniferous wood broken in half. Length remaining 484 mm, diameter 148 mm. Context: unstratified. Ref. 54.

Tree trunk with natural curve. Some bark still in place. Length 951 mm, diameter 82 mm. Context: unstratified. Ref. 55.

Split plank with rectangular hole near one end. A wooden peg rests in the hole. Length of plank 1.83 metres, with 90 mm, thickness 29 mm. Hole 26 by 20 mm, 47 mm from one end and set centrally across the width. Context: unstratified. Ref. 56.

Split plank with rectangular hole near one end. Length of plank 1.75 metres, width 76 to 109 mm, thickness 22 mm. Hole 27 by 25 mm, set 65 mm from the end and centrally across the width. Context: unstratified. Ref. 57.

Tree trunk of coniferous wood. Length remaining 430 mm, diameter 125 mm maximum. Context: unstratified. Ref. 58.

Tree trunk of coniferous wood. Length remaining 1.33 metres, diameter 133 mm. Context: unstratified. Ref. 59.

Tree trunk of coniferous wood. Length 1.23 metres, diameter 115 mm. Context: unstratified. Ref. 60.

Tree trunk of coniferous wood with a slight step near one end and to one side. Length 1.22 metres, diameter 166 mm. Length of cutaway portion 784 mm, width of cutaway portion 83 mm, depth 49 mm. A circular hole has been drilled from one side of the trunk to the other just below the beginning of the cutaway portion. Diameter of hole 22 mm. Context: unstratified. Ref. 61.

Tree trunk of coniferous wood. Length remaining 1.29 metres, diameter 100 mm. Context: unstratified. Ref. 62.

Tree trunk with a hook formed from a branch and a notch cut below the hook. Length 2.20 metres, diameter 153 to 226 mm. Height of hook 205 mm, length of notch 342 mm. *Quercus sp.* Context: not recorded but may be rampart. Ref. 63.

Tree trunk with a hook formed from a branch and a notch cut below the hook. Length 2.27 metres, diameter 235 mm. Height of hook 520 mm. Context: not recorded but may be rampart. Ref. 64.

Stick made of splitwood with a pointed end. Burnt. Length 125 mm, width 17 mm, thickness 10 mm. Context: house IIIb on floor. Ref. 70. Cat. 77.

Two pieces of splitwood, one with a pointed end. Context: unstratified. Ref. 75.

Plank broken one end. Length remaining 195 mm, width 60 mm, thickness 8 mm. Context: unstratified. Ref. 80.1. Cat. 478.

Plank with shaped end. Length 130 mm, width 70 mm, thickness 6 to 18 mm. Context: middle of house IIIa. Ref. 81.2. Cat. 76.

Splitwood stake with pointed end. Charred. Length 265 mm, dimensions of top 30 by 23 mm. Context: house III, under floor of level 1. Ref. 81.5. Cat. 70.

Broken plank. Length 362 mm, width 148 mm, thickness 90 mm. Context: house I. Ref. 81.22. Cat. 34.

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DREWNIANE ZABYTKI ZE ŚREDNIOWIECZNEGO MIASTA W DAWIDGRÓDKU, W REPUBLICE BIAŁORUŚ

STRESZCZENIE

Dawidgródek położony jest nad rzeką Horyń, dopływem Prypeci, w Republice Białoruś. Podczas wykopalisk z lat 1937 i 1938 odkryto tu pozostałości średniowiecznego miasta z XII i XIII wieku. Dalsze badania prowadzone były w Dawidgródku w roku 1967, jednak przedmiotem tego opracowania są wyłącznie znaleziska drewniane z badań przedwojennych.

W wyniku ówczesnych prac stwierdzono, że miasto otoczone było wałem ziemno-drewnianym obejmującym obszar o wymiarach 110×100 m. Wydaje się, że teren ten był w całości zajęty przez budynki o ścianach z pni drzew iglastych, układanych poziomo jedne na drugich. Z uwagi na podmokły grunt drogi były również zbudowane z drewna i od czasu do czasu odnawiane. W czasie badań z lat 1937–1938 zidentyfikowano siedem głównych faz zabudowy miasta – niektóre oddzielone były poziomami spalenizny. W pobliżu centrum miasta odkryto wiele grobów z dranic drewnianych – zachowały się w nich szkielety zmarłych i elementy wyposażenia. Groby usytuowane były wewnątrz i obok budynku z dwoma pomieszczeniami, być może kaplicy. W młodszych poziomach miasta nie odkryto żadnych budynków; najpóźniejszym znaleziskiem

z Dawidgródka jest moneta z 1548 roku, odkryta tuż pod powierzchnią ziemi w 1967 roku.

Podczas prac wykopaliskowych odkryto bardzo liczne i różnorodne przedmioty, w tym metalowe części broni i narzędzi, biżuterię, naczynia szklane i gliniane, wyroby ze skóry, osełki kamienne, guzy, oprawki uchwytów noży i grzebienie z kości i poroża, gliniane ciężarki i przęśliki, tkaniny i wyroby z drewna. Wiele z tych zabytków znajduje dobre analogie w innych średniowiecznych miastach Rosji, Białorusi, Polski i Niemiec. Zabytki z drewna to w większości przedmioty codziennego użytku, w tym wyroby bednarzy i tokarzy.

Liczne są drewniane sprzęty domowego użytku i naczynia, zarówno do przechowywania i przygotowywania żywności, jak i stołowe. Powszechnie korzystano z klepkowych pojemników różnych kształtów i wymiarów. Najmniejsze z nich – wiaderka i cebrzyki – wysokości ok. 25 cm i średnicy 25–30 cm były zapewne używane zarówno do przechowywania jak i podawania napojów i pożywienia. Największe kadzie mogły być wykorzystywane do magazynowania zboża lub do mycia czy prania. Prawdopodobnie wśród przedmiotów z drewna jest też maselnica i dno małej beczułki. Żadne z naczyń klepkowych nie zachowało się w całości; część klepek i den została wyrzucona albo wskutek złego wykonania, albo po uszkodzeniu przedmiotu. Nie znaleziono natomiast żadnego drewnianego haka lub uchwytu, nie wiadomo więc, czy były one robione z metalu, czy z drewna, choć te ostatnie były znacznie częściej używane w miastach wschodnioeuropejskich w XII i XIII wieku. Omówione wyroby można porównać ze znalezionymi w Nowogrodzie w Rosji i w Opolu w Polsce.

Spośród innych naczyń drewnianych wymienić trzeba miski i talerze, wykonane na tokarce. Stylistycznie odpowiadają one miskom i talerzom z innych średniowiecznych stanowisk z Rosji, Polski i Białorusi, żadna nie znajduje jednak dokładnej analogii – są one zapewne wyrazem lokalnego wzornictwa. Dowodem na produkcję takich naczyń w Dawidgródku są liczne odpady drewniane, noszące ślady toczenia i pochodzące zarówno z wnętrza, jak i z podstawy naczyń. Ich analiza dowodzi stosowania dwóch metod mocowania półwytworów do tokarki. W pierwszym przypadku koniec trzpień tokarki powinien być zaopatrzony w mały kołek o prostokątnym przekroju, wkładany do otworu w górnej części półwytworu misy, a sznur owinięty wokół trzpienia nadawał mu napęd. Podstawa misy obracała się na krótkim kołku lub szpili przymocowanej do górnej części tokarki. Odpady mogły być usuwane z podstawy misy po jej wytoczeniu. W drugim przypadku trzpień tokarki być przymocowany do zbędnej partii drewna przy dnie misy a sznur owinięty był wokół tego trzpienia Wydaje się, że drugi trzpień był umocowany do górnej części misy a oba trzpienie obracały się na szpilach lub kołkach tkwiących w górnej części tokarki. Ta druga metoda jest najczęściej rejestrowana w północnej i wschodniej Europie we wczesnym średniowieczu, a jej stosowanie poświadczone jest już w VI wieku przed Chr.

Używane były też zapewne naczynia z giętego drewna lub żłobione z jednego kawałka, jednak w Dawidgródku odkryto tylko ich dna i pokrywki. Większość z tych pokrywek jest kolista, ze skośnymi krawędziami i lekko wysklepionym szczytem. Niektóre robiono z jednego kawałka drewna, inne w wielu elementów. Pojedyncza pokrywa ze sfazowanymi brzegami może być częścią pokrywy maselnicy. Denka o owalnym kształcie są prawdopodobnie pozostałością pojemników z giętego drewna. Wśród innych przedmiotów domowego użytku spotykane są zdobione formy do odciskania masła lub sera, łyżki, łopatka i starannie rzeźbiony czerpak znaleziony ponad obudowaną drewnem studnią. Wyposażenie osobiste jest reprezentowane przez małe grzebienie drewniane.

W mieście lub w jego sąsiedztwie przerabiano len, znaleziono tu bowiem wiele drewnianych narzędzi do międlenia i wyczesywania włókien lnianych. Należą do nich kijanki z cylindrycznymi uchwytami i sztychami, kijanki o płaskim sztychu lub miecze międlic oraz resztki zębatych narzędzi, które mogą być pozostałością grzebieni do czesania włókien. Prawdopodobnie znaleziono też półwytwory kijanek. Przędzenie i tkanie poświadczone jest licznymi znaleziskami drewnianych przęślic z lekko cebulastymi końcami oraz kamiennych przęślików. Właśnie ten typ przęślic jest najczęściej spotykany we wczesnośredniowiecznej Europie, a jego używanie jest potwierdzone nawet w dalekiej Irlandii. Chociaż nie zidentyfikowano żadnych części warsztatów tkackich to można przyjąć, że w Dawidgródku używano zarówno pionowych jak i poziomych warsztatów. Czółenko z poziomego warsztatu i miecz tkacki stosowany w warsztacie pionowym zostały odkryte w przyległych budynkach.

Naturalnie ukształtowane fragmenty drewna używane były do produkcji wielu przedmiotów, zwykle wymagających łączenia z wielu części. Trójnóg wykonany z rozgałęzionego konaru tworzył podstawę szpuli do nawijania nici. Haczyki, z których jeden może być łękiem siodła, robione były z tych części, gdzie gałęzie odchodzą od pnia drzewa. Zdobione buławki i rzeźbione pałeczki ze zgrubiałymi główkami, używane może do celów ceremonialnych lub rytualnych, robiono także z naturalnych połączeń gałęzi z pniem. Chociaż mikroskopowa identyfikacja gatunków drewna nie byłą możliwa, można przyjąć, że do różnych celów stosowano wybrane rodzaje surowca. Tylko drewno iglaste stosowano w bednarstwie, miski wytaczano głównie z drewna jesionowego, a uchwyty zdają się być robione z drewna liściastego. Lekkie drewno lub korę stosowano do wyrobu krążków, służących może jako pływaki sieci rybackich. Domy i drogi robiono zwykle z pni i bierwion z drzew iglastych i z dranic dębowych.

Obecność dzieci jest potwierdzona przez wiele drewnianych zabawek, wśród nich bączki, miecz i trzy łódki. Te ostatnie są szczególnie ciekawe, mogą bowiem być modelami dużych łodzi używanych w średniowieczu na rzece Horyń. Największa z tych zabawek wydaje się naśladować dłubankę, której burty po ogrzaniu rozparto wstawiając do drewnianą ramę. Takie dłubanki, znane we wschodniej i północnej Europie już we wczesnej epoce żelaza, są do dziś robione w Finlandii. Mniejsze łódki są modelami wąskich dłubanek – jedna z nich ma dziób i rufę płasko ścięte, druga, z dwoma ławkami dla wioślarzy, ma końce spiczaste.

W jednym z grobów pochowano dziecko. Trumną było tu drewniana skrzynia, której ścianki umocniono tyczką z zaczepami. Groby dorosłych były wyłożone drewnem w sposób przypominający raczej skrzynie kamienne, niż drewniane trumny. Zbudowane były z szerokich dranic, zwykle dębowych lub jesionowych. Dno, ściany i szczyty grobów oszalowane były pojedynczymi dranicami, pokrywa zrobiona zaś była z dwóch węższych desek. Pomimo uszczelniania styków między deskami nie były one łączone w żaden inny sposób, nie mocowano też do siebie dna i ścianek.

Rozmieszczenie znalezisk drewnianych wskazuje, że ich produkcja miała miejsce głównie w młodszych fazach grodu, tj. w XIII wieku. Większość znalezisk pochodzi z trzech tylko budynków (I, III i IV), gdzie natrafiono na ślady wszystkich podstawowych metod obróbki drewna, zarówno w postaci odpadów, jak i narzędzi. Wiele klepek znaleziono też w fundamentach drogi. Liczne kategorie przedmiotów drewnianych, w tym grzebienie, buławki, haki, uchwyty, krążki, kołki, foremki, łyżki, miski i naczynia klepkowe z budynków z XIII wieku wskazują, że były one domami mieszkalnymi, choć nie znaleziono tam żadnych śladów palenisk czy pieców. Odpady po produkcji bednarskiej i tokarskiej świadczą o używaniu tych budynków także jako warsztatów rzemieślniczych. Tylko nieliczne, a w dodatku niezbyt zróżnicowane przedmioty drewniane odkryto w budynkach datowanych na XII wiek.

Drewniane znaleziska z Dawidgródka reprezentuje wiele z codziennych zajęć mieszkańców grodu. Przygotowywanie, przechowywanie i podawanie żywności i napojów wymagało drewnianych misek, cebrzyków, łyżek i foremek, które robione były przez mieszkających w grodzie rzemieślników. Przygotowywanie, przechowywanie i podawanie żywności wymagało posiadania drewnianych misek, cebrzyków, łyżek, łopatek i foremek, które robione były przez rzemieślników mieszkających w grodzie. W sąsiedztwie grodu przerabiano len, z którego po uprzędzeniu tkano płótno na ubrania. Dzieci bawiły się zabawkami. W pobliskiej rzece łowiono zapewne ryby – sieci zarzucano z łodzi-dłubanek. W końcu mieszkańcy grodu umierali i grzebani byli w grobach szalowanych drewnem.

tłum. J. Andrzejowski

КАРАЛІН ІРВУД

ЗНАХОДКІ З ДРЭВА З СЯРЭДНЯВЕЧНАГА ГАРАДЗІШЧА Ў ДАВЫД-ГАРАДКУ, У РЭСПУБЛІЦЫ БЕЛАРУСЬ

РЭЗЮМЕ

Давыд-Гарадок знаходзіцца над р. Гарынь – прытоке Прыпяці, ў Рэспубліцы Беларусь. Падчас раскопак 1937 і 1938 гадоў тут былі выяўлены рэшткі сярэднявечнага горада XII–XIII стагоддзяў. Далейшыя даследаванні праводзіліся тут у 1967 г., аднак тэмай дадзенага артыкула з'яўляюцца выключна вырабы з дрэва, якія былі знойдзены падчас даваенных раскопак.

У выніку гэтых даследаванняў высвятлена, што гарадзішча было акружана драўляна-земляным валам, які ахоўваў тэрыторыю памерамі 110×100 м. Падаецца верагодным, што гэтая плошча была цалкам занята драўлянымі пабудовамі, складзенымі пераважна з бярвенняў дрэў хвойных парод, якія гарызантальна ўкладваліся адно на адно. У сувязі з вільготнасцю грунта вуліцы таксама былі пабудаваны з дрэўна і час ад часу паднаўляліся. Падчас даследаванняў 1937–1938 гг. было выдзелена сем галоўных фаз забудовы гарада – некаторыя з іх былі перакрыты праслойкамі пажарышчаў. У цэнтральнай частцы гарадзішча знойдзена шмат пахавальных канструкцый з колатых драўляных дошак – унутры іх захаваліся шкілеты і рэшткі адзення нябошчыкаў. Пахаванні знаходзіліся ўнутры і каля двукамернай пабудовы, магчыма капліцы. У позніх гарызонтах гарадзішча не было адкрыта ніякіх будынкаў; найбольш позняй знаходкай з Давыд-Гарадка з'яўляюцца манета датаваная 1548 г., якая была знойдзена ў 1967 г. ў дзірвановым слоі помніка.

Падчас раскопак была знойдзена вялікая колькасць разнастайных прадметаў, у тым ліку фрагменты зброі і прылады працы з розных металаў, біжутэрыя, посуд з гліны і шкла, скураныя вырабы, каменныя асялкі і гузікі, накладкі на тронкі нажоў, грабенчыкі з косткі і рогу, гліняныя грузікі і праселкі, фрагменты тканін і вырабы з дрэва. Многія з гэтых знаходак маюць добрыя аналогіі ў матэрыялах перыяду ранняга сярэднявечча іншых гарадоў Беларусі, Расеі, Польшчы і Германіі. Вырабы з дрэва ў асноўным прадстаўлены прадметамі штодзённага ўжытку, у тым ліку бандарнымі і такарнымі.

Вялікай колькасцю знаходак прадстаўлены драўляныя прылады хатняй гаспадаркі і посуд – як для гатавання і захавання ежы, так і сталовы. У шырокім карыстанні былі клёпкавыя ёмістасці розных форм і памераў. Найбольш малыя з іх – вядзерцы і цэбрыкі – каля 25 см. у вышыню і 25–30 см. шырынёй, хутчэй за ўсё выкарыстоўваліся як для хранення прыпасаў, так і сервіроўкі напояў ды ежы. Найбольш буйныя – кадкі, маглі выкарстоўвацца для хранення зерня, альбо мойкі і сціркі. Сярод прадметаў з дрэва верагодна прысутнічаюць часткі маслабоек і дно маленькай бочачкі. Ніводная з клёпкавых пасудзін не захавалася цалкам; частка клёпак і донцаў была выкінута альбо з-за дрэннай якасці вырабу гэтых прадметаў, альбо з-за пашкоджанняў. Не было знойдзена ніводнага драўлянага крука альбо ўхвату, так што невядома, рабіліся яны з металу ці дрэва, хаця апошнія выкарыстоўваліся ва усходнееўрапейскіх гарадах XII–XIII ст. значна часцей. Узгаданыя вырабы можна параўнаць са знаходкамі ў Ноўгарадзе (Расія) і Аполю (Opole, Польша).

Сярод іншых вырабаў з дрэва трэба ўзгадаць міскі і талеркі, выкананыя такарным спосабам. Стылістычна яны адпавядаюць міскам і талеркам, якія вядомы на іншых сярэднявечных помніках Расіі, Польшчы і Беларусі, аднак ніводная не знаходзіць дакладнай аналогіі – яны верагодна з'яўляюцца праяўленнем мясцовага стылю. Сведчаннем вырабу ў Давыд-Гарадку такога посуду з'яўляюцца шматлікія знаходкі фрагментаў драўлянага посуду, якія захавалі сляды такарнай апрацоўкі – як на ўнутраняй паверхні, так і на прыдонных частках пасудзін. Іх аналіз сведчыць аб выкарыстоўванні двух спосабаў мацавання паўфабрыкатаў на такарным станку. У першым варыянце вось павінна была мець з тарца маленькі прамавугольны выступ, які ўстаўляўся ў адтуліну верхняй часткі нарыхтоўкі міскі, а шнур, абкручаны вакол восі прыводзіў у рух сам такарны станок. Пры гэтым аснаванне міскі свабодна круцілася на кароткім альбо падоўжаным завостраным колышку, замацаванай у верхняй палове рамы станка. Адходы маглі быць зрэзаны з дна пасудзіны пасля аканчання такарнай апрацоўкі. У другім варыянце фіксацыі нарыхтоўкі ў выступ на дне міскі ўстаўлялася адна з паўвосяў, а шнур закручваўся вакол яе. Верагодна пры гэтым другая паўвось замацоўвалася ў верхняй частцы пасудзіны і абедзьве яны круціліся на колышках замацаваных у верхняй і ніжняй рамах станка адпаведна. Апошні варыянт фіксацыі паўфабрыкатаў на такарным станку найбольш часта адзначаецца на трыторыі Усходняй і Паўночнай Еўропы ў раннім сярэднявеччы, але яго выкарыстанне засведчана ўжо ў VI ст. да н.э.

Верагодна выкарыстоўваўся таксама посуд з гнутага дрэва, альбо зроблены з аднаго кавалка, аднак у Давыд-Гарадку былі знойдзены толькі донцы і накрыўкі ад іх. Большасць накрывак мае акруглую форму, скошаныя краі і злёгку выпуклыя вяршыні. Некаторыя з іх вырабляліся з цэльнага кавалка дрэва, іншыя з некалькіх элементаў. Адна з накрывак са зрэзанымі краямі могчыма з'яўляецца часткай накрыўкі ад маслабойкі. Донцы авальнай формы верагодна з'яўляюцца фрагментамі ёмістасцяў з гнутага дрэва. Сярод іншых прадметаў хатняга ўжытку сустракаюцца арнаментаваныя формы для фармоўкі сыру альбо масла, лыжкі, рыдлёвачка і старанна выкананы разны чарпак, які быў знойдзены над ашаляваным дрэвам калодзежам. Прадметы асабістага карыстання прадстаўлены маленькімі драўлянымі грабенчыкамі.

На тэрыторыі гарадзішча альбо ў яго навакольлях апрацоўваўся лён – было знойдзена шмат драўляных прылад для размінкі і вычэсвання ільняных валокан. Да іх ліку належаць льнамялкі з ручкамі цыліндрычнай формы і лапаткамі, льнамялкі з пляскатымі лапаткамі, а таксама грабёнкі для расчэсвання ільну і фрагменты льнатрапалак з зазубранамі на рабрынах, якія тож маглі выкарыстоўвацца для вычэсвання раслінных валокан. Верагодна былі знойдзены таксама напоўфабрыкаты льнамялак. Працэсы прадзення і ткацтва адлюстроўваюць шматлікія знаходкі драўляных верацёнаў з цыбулькападобнымі патаўшчэннямі на адным з аканчанняў, а таксама каменныя праселкі. Менавіта гэты тып верацёнаў з'яўляецца найбольш распаўсюджаным ў старажытнасцях сярэднявечнй Еўропы, і яго выкарыстанне падцверджана нават у далёкай Ірландыі. Негледзячы на тое, што ніякіх фрагментаў ткацкіх станкоў выявіць не ўдалося, можна мяркаваць, што ў Давыд-Гарадку былі ў выкарыстанні станкі як вертыкальнай, так і гарызантальнай канструкцыі. Чаўнок ад гарызантальнага ткацкага станка і ткацкі мечык, якія выкарыстоўваліся падчас працы на вертыкальных станках, былі знойдзены ў двух суседніх будынках.

Фрагменты дрэва складанай натуральнай формы выкарыстоўваліся для вырабу цэлага шэрагу прадметаў, зазвычай тых, канструкцыя якіх патрабавала аб'яднання многіх дэталяў. Трохрогая рагуля, зробленая з разгалінавання галіны ўтварала аснаванне шпількі для наматвання нітак. З рагуляк рабіліся таксама крукі, адзін з якіх можа з'яўляцца сядзельнай лукой. Арнаментаваныя булавы і разныя палкі з патаўшчэннямі на адным з аканчанняў, якія магчыма выкарыстоўваліся ў цырыманіяльных альбо рытуальных мэтах, таксама выконваліся з тых ўчасткаў ствала дрэва, дзе ад яго адыходзілі сучкі. Негледзячы на тое, што ідэнтыфікацыя гатункаў дрэва з дапамогай мікраскопа не была магчыма, можна мяркаваць, што для вырабу розных прадметаў знаходзіла выкарыстанне дрэва розных парод. У бандарнай вытворчасці выкарыстоўвалася толькі хвойная драўніна, міскі вытачваліся толькі з ясеню, а тронкі, як падаецца, рабіліся з ліставых гатункаў дрэва. З лёгкай драўніны, альбо кары выразаліся кружкі, якія верагодна служылі ў якасці паплаўкоў для

рыбалоўных сетак. Дамы і насцілы вуліц звычайна рабілі з бярвенняў хвойных парод і колатых дубовых дошак.

Аб прысутнасці на гарадзішчы дзяцей сведчаць шматлікія знаходкі драўляных цацак, сярод якіх юла, меч і тры човенкі. Апошнія выклікаюць найбольшую цікавасць, так як могуць уяўляць сабой мадэлі сапраўдных, вялікіх чоўнаў, што выкарстоўваліся ў сярэднявеччы на р. Гарынь. Найбольш вялікая з гэтых цацак, як падаецца, імітуе выдзеўбаны човен-аднадрэўку, борты якога пасля распарвання былі разсунуты з дапамогай драўлянай рамы. Падобныя выдзеўбаныя чоўны, якія вядомы на тэрыторыі Паўночнай і Усходняй Еўропы пачынаючы з ранняга жалезнага перыяду, да сённешняга часу вырабляюцца ў Фінляндыі. Больш малыя цацачныя човенкі з'яўляюцца мадэлямі вузкіх аднадрэвак – адна з іх мае прама зрэзаныя насавую і кармавую часткі, а другая, з дзвюмя лаўкамі для грабцоў – завостраныя нос і карму.

У адным з пахаванняў быі знойдзены шкілет дзіцёнка. Труна ўяўляла сабой драўляную скрынку, сценкі якой былі ўзмоцнены жардзінай з зачэпамі. Пахавальныя ямы дарослых асоб былі ўсланыя ў прыдонных частках спосабам, які больш нагадвае кладку каменных скрынак, чым уласна труны. Яны былі складзены з шырокіх колатых дошак, звычайна дубовых, альбо з ясеню. Акрамя ўшчыльнення стыкаў паміж дошкамі, канструкцыі ніяк не былі злучаны паміж сабой. Дно і сцены пахавальных ям былі абкладзены колатымі дошкамі, а накрыўкі рабіліся з двух больш вузкіх дошак. Акрамя ўшчыльнення стыкаў паміж дошкамі, канструкцыі ніяк больш не мацаваліся, як не замацоўваліся паміж сабой таксама іх дно і сценкі.

Стратыграфія знаходак, зробленых з дрэва, сведчыць аб тым, што яны былі больш пашыраны на ранніх фазах функцыянавання гарадзішча – ў XIII ст. Большасць знаходак гэтага тыпу знойдзена ў трох пабудовах (I, III і IV), дзе былі выяўлены сляды выкарыстання ўсіх асноўных спосабаў апрацоўкі дрэва – як ў выглядзе адыходаў, так і прылад працы. Шмат клёпак таксама было знойдзена сярод лаг вулічных насцілаў. Шэраг катэгорый драўляных прадметаў, у тым ліку грабенчыкі, булавы, крукі, тронкі, кружкі-паплаўкі, формачкі, лыжкі, міскі і клёпкавыя пасудзіны з пабудоў XIII ст. сведчаць аб жылым характары пабудоў, хаця ў іх не было выяўлена слядоў ацяпляльных сістэм. Адходы бандарнай і такарнай вытворчасці сведчаць аб выкарыстанні гэтых пабудоў таксама ў якасці рамесных майстэрняў. У пабудовах, датаваных XII стагоддзем вырабы з дрэва вельмі нешматлікія, а да таго ж не надта разнастайныя.

Давыдгарадокскія знаходкі вырабаў з дрэва адлюстроўваюць цэлы шэраг штодзённых заняткаў жыхароў гарадзішча. Гатаванне, захоўванне, сервіроўка ежы і напіткаў патрабавала выкарыстання драўляных місак, цэбрыкаў, лыжак і формачак, якія выраблялiся мясцовымі рамеснікамі. У наваколлях гарадзішча апрацоўваўся лён, з якога пасля прадзення нітак выраблялася тканіна для вопраткі. Дзеці гуляліся цацкамі. У рацэ ля гарадзішча лавілі рыбу – сеткі закідваліся з борта чоўнаў-аднадрэвак. Нарэшце жыхары горада паміралі і хавалі іх у пахаваннях ашаляваных дрэвам.

thm. В. Г. Белявец

WYKAZ SKRÓTÓW TYTUŁÓW CZASOPISM I WYDAWNICTW WIELOTOMOWYCH

AAC – „Acta Archaeologica Carpathica", Kraków
AAHung. – „Acta Archaeologica Academiae Scientiarum Hungaricae", Budapest
AFB – „Arbeits- und Forschungsberichte zur sächsichen Bodendenkmalpflege", Berlin (Stuttgart)
APolski – „Archeologia Polski", Warszawa
AR – „Archeologické rozhledy", Praha
B.A.R. Int. Series – British Archaeological Reports, International Series, Oxford
BerRGK – „Bericht der Römisch-Germanischen Kommission", Frankfurt a.M.-Berlin
BJahr. – „Bonner Jahbücher", Köln/Bonn
BMJ – „Bodendenkmalpflege in Mecklenburg-Vorpommern", Lübstorf (wcześniej: „Bodendenkmalpflege in Mecklenburg. Jahrbuch ...", Schwerin/Rostock/ /Berlin)
FAP – „Fontes Archaeologici Posnanienses" (wcześniej: „Fontes Praehistorici"), Poznań
Inf.Arch. – „Informator Archeologiczny. Badania rok ...", Warszawa
InvArch. – „Inventaria Archaeologica, Pologne", Warszawa-Łódź
JmV – „Jahresschrift für mitteldeutsche Vorgeschichte", Halle/Saale
JRGZM – „Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz", Mainz
KHKM – „Kwartalnik Historii Kultury Materialnej", Warszawa
KSIA – Kratkie soobščenija Instituta archeologii Akademii nauk SSSR (Краткие сообщения Института археологии Академии наук СССР), Moskva
MIA – Materialy i issledovanija po archeologii SSSR (Материалы и исследования по археологии СССР), Moskva
MatArch. – „Materiały Archeologiczne", Kraków
MS – „Materiały Starożytne", Warszawa
MSiW – „Materiały Starożytne i Wczesnośredniowieczne", Warszawa
MSROA – „Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego", Rzeszów-Krosno-Sandomierz-Tarnów (-Przemyśl/Tarnobrzeg)
MZP – „Materiały Zachodniopomorskie", Szczecin
PA – „Památky archeologické" (wcześniej: „Památky archeologické a místopisné"), Praha
PArch. – „Przegląd Archeologiczny", Poznań
PMMAE – „Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi. Seria Archeologiczna", Łódź
PomAnt – „Pomorania Antiqua", Gdańsk
Prahistoria ziem polskich – Prahistoria ziem polskich, tom I: Paleolit i mezolit (red. W. Chmielewski, W. Hensel), Wrocław-Warszawa-Kraków-Gdańsk 1975; tom II: Neolit (red. W. Hensel, T. Wiślański), Wrocław-Warszawa-Kraków-Gdańsk 1979; tom. III: Wczesna epoka brązu (red. A. Gardawski, J. Kowalczyk), Wrocław-Warszawa-Kraków-Gdańsk 1978; tom IV: Od środkowej epoki brązu do środkowego okresu lateńskiego (red. J. Dąbrowski, Z. Rajewski), Wrocław-Warszawa-Kraków-Gdańsk 1979; tom V: Późny okres lateński i okres rzymski (red. J. Wielowiejski), Wrocław-Warszawa-Kraków-Gdańsk 1981
Prussia – „Sitzungsberichte der Altertumsgesellschaft Prussia" (później: „Prussia. Zeitschrift für Heimatkunde"), Königsberg i.Pr.
PSAS – „Proceedings of the Society of Antiquaries of Scotland", Salisbury
PZ – „Praehistorische Zeitschrift", Berlin-New York
RArch. – „Recherches Archéologiques", Kraków
RB – „Rocznik Białostocki", Białystok
RO – „Rocznik Olsztyński", Olsztyn
SJahr. – „Saalburg Jahrbuch", Berlin-New York
SlA – „Slovenská archeológia", Bratislava
SovArch – „Sovetskaja Archeologia" (Советская археология), Moskva
SprArch. – „Sprawozdania Archeologiczne", Kraków
SprPMA – „Sprawozdania P.M.A.", Warszawa
WA – „Wiadomości Archeologiczne", Warszawa
ZNUJ – „Zeszyty Naukowe Uniwersytetu Jagiellońskiego", Kraków
ZOW – „Z otchłani wieków", Warszawa

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