The Rythm of the City Development at the Cultural Frontier
Study of Nowy Targ Square Zone in Wroclaw

Summary

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I. Introduction

In the 13th century in Central and Eastern Europe a development occurred that fundamentally changed the social structure and the economic model. Significant phenomena within this event were the inflow of a new population from the overpopulated West, modernization of rural areas, urbanization and the widespread use of money. Most of the towns were founded at that time a novo, in areas devoid of older settlement, sometimes at castellan strongholds or monasteries. However, central places where ducal authority, the bishopric and the non-agrarian economy were concentrated were of particular importance. The communities that became established in these areas quickly became the catalyst for progressive transformations. New economic challenges were reflected in the new legal organization and urban spatial structure. The great significance of the changes taking place was reflected in the terms describing them in literature on the subject – 'commercialization' or even 'Europeanization.' The essence of this change was the integration of Central and Eastern European territories into a supra-regional economy, the development and legal consolidation of private property, as well as openness to European-wide cultural currents. In Wrocław - the main town of historical Silesia - these changes were particularly strong. Their analysis is important for understanding the whole of the transformation of medieval civilization in this part of Europe, separating prehistory from modern times.

The main aim of the authors of this work is to examine the dynamics of Wrocław's medieval transformation; to analyse the features that were typical of the local cultural background and the ones brought by newcomers as well as the significance of these phenomena to the cultural landscape of the medieval and post-medieval town. We will try to refer to their genesis, development and meaning. At the same time, a discussion will be held about the views expressed in literature on the subject. The current different perspectives on the formation of cultural profile of cities in Central and Eastern Europe will be discussed. These range from confrontation to the partial unification of old and new features to the extinction of the old civilization and the construction of a new one created by the colonists will be examined. We assume that the cultural profile of Wrocław was created as a result of the process of creating the economic base and social structures over a wider area.

The main source of the archaeological evidence used in this study is from the eastern zone of medieval Wrocław, where the burgher structures overlapped with the proto-urban settlement. The large excavations in Nowy Targ Square in 2010–2012 yielded an enormous amount of new material. Stratigraphical relations as well as the remains of buildings and infrastructure were relatively identifiable and the state of preservation of artefacts was good. The functional diversity provides a wide range of interpretative possibilities. The resulting new perspectives from our observations allowed us to formulate questions concerning the origins and rhythms of the development of proto-urban trade and craft settlement, the technique of constructing wooden houses and the lifestyle of their inhabitants, the material image of the incorporation process, the organization of the novum forum, trade, supraregional contacts, weaponry, crafts, symbolic culture, games and plays as well as what we will broadly call consumption. The combination of materials from Nowy Targ Square with the information obtained in the course of previous research changes a considerable number of the views presented to-date in publications on the subject.

Jerzy Piekalski

II. Geographical, military-political and economic factors in the town's location

The location of Wrocław was not the result of a deliberate decision aimed at increasing the prosperity of the burgher commune. It took three centuries before the communal town was founded under different political and economic conditions. The factor determining the selection of the town's location was the natural defensive quality of the riparian island, later referred to as Ostrów Tumski (Cathedral Island). The development of the small stronghold in the first half of the 10th century influenced the location of later settlements. The rapid development of the stronghold and its immediate surroundings led to the emergence of a polycentric complex with centralised political, military and ecclesiastical functions. The great importance of this early medieval settlement complex resulted in its environs becoming attractive to the burgher commune of the 13th century.

Wrocław is situated in the Odra River Valley - a large lowland river that flows in a fluctuating river beds. The results of geomorphological studies indicate that the complex form of the hydrographic network naturally shaped the development of the early settlement. As in other medieval towns situated on rivers, the advantages and disadvantages of such a situation were evenly balanced. The advantages included easy access to water for households and crafts, the benefits of river
transport, water power, fishing opportunities and the value of water as a defensive element for the town. The disadvantages included the dampness of the substrate, the danger of flooding and the poor water quality in wells. All these issues are reflected in the results of the archaeological research. They also indicate that the original ground’s altitude was not the most important factor in the choice of a place to settle. The earliest occupied area on the left bank of the Odra River covered a low-lying terrace in the zone of today’s Plaskowa Street and Nowy Targ Square. In the Middle Ages, it was an area between the main crossing of the Odra River and the oldest left bank church of St Adalbert as well as the riparian strip from the crossing towards today’s University. The crossing led to the stronghold with the ducal seat and the cathedral, and also to Olbin on the right bank of the Odra River. The location of the early settlement on the left bank of the Odra River was influenced by local needs. On the other hand, the relationship of the settlement with the most likely course of external routes is noticeable. This is mainly the via regia route from Germany through Lusatia to Wroclaw and further on to Krakow and Kiev as well as crossing the route from Prague to Greater Poland. The crossing point of both reconstructed routes in Wroclaw coincides with the main axis of the pre-incorporation left bank settlement. The zone between the crossing and today’s University, in turn, overlaps with the probable course of the via regia route towards Lusatia.

The inconvenience of wet land and its limited usefulness for permanent construction were not more important than the political, administrative, religious and economic factors.

The area of Nowy Targ Square, where excavations were conducted in the years 2010-2012, was characterized by relatively low usefulness for settlement purposes. The height of the natural ground was about 3 m above the reconstructed water level in the Odra River, and it did not provide adequate protection against flooding. It has been found that the top layers of the terraces consists of sands of variable sorting as well as silts, while the soil cover is mostly formed by alluvial soils. The surface moisture had to be significant, especially in autumn-winter time. The regulation of the river bank and construction of hydrotechnical equipment, which was in progress from the 13th century, resulted in an increase in the average level of the water table, but this was balanced by the growth of the organic anthropogenic layer. The usefulness of the area for construction and was worse in this part of the town than in the main market square of the medieval town, where the natural ground level was about 2 m higher. It was also an area with unhealthy conditions for humans.

Kamila Marcinkiewicz & Jerzy Piekalski

III. Land transformation in the proto-urban phases

1. Comments about the development of the discussion

The development of pre-incorporation Wroclaw has been repeatedly analysed by archaeologists, historians and architectural historians. From the mid-19th century numerous and varied in terms of value, conceptions and hypotheses have been presented. Most of them assumed the presence of a craft and trade settlement on the left bank of the Odra River. The subject of discussion was the date of its beginnings, its internal structure and its role in influencing the later incorporated town. The different views concerned in particular the dating of the settlement’s beginnings. It was believed to be either very early, i.e. in the 11th century, or as late as at the end of the 12th century. There was a similar disparity in the case of the settlement’s end. It was thought to have either ended at the beginning of the 13th century, and the early incorporated town was formed in its place, or as late as in the 1270s. If the second case is accepted then the settlement area would have been included into an extant, regularly planned town around today’s Market Square.

2. Development of the early settlement in Nowy Targ square

The results of research conducted in the eastern part of the Old Town, including Nowy Targ Square, by Józef Kaźmierczyk in the 1960s and Cezary Buśko in the years 1999-2000, was augmented by the extensive materials obtained during excavations from 2010-2012. The analysis of new materials was aimed at correlating the results, comparing them to earlier interpretations and their corrections. Three proto-urban settlement phases were identified.

a. Phase I - beginnings of the settlement

This phase included features at the natural ground level. They comprised the remains of 32 sunken-featured dwellings and other pits of with undefined functions. Some of features were the remains of craft workshops that focused on smithing, leather processing and bone and antler production. Spatial analysis enabled the identification of four separate complexes of features. The plans of these complexes were approximately
circular or oval, with an open space in the centre. Each complex had dwelling features and other pits.

This phase lasted for at least several decades, and some sunken-featured buildings or other pits overlap, which indicates structural changes at that time. The dating of this phase is based on the analysis of artefacts, mainly pottery vessels, spurs and coins. It was determined to be the second half of the 11th – the end of the 12th century.

b. Phase II - ad sanctum Adalbertum

This phase included a layer marked as a stratigraphical unit (hereafter referred to as s. u.) 72 and 98 and various sunken features associated with it. The recorded pits and buildings overlapped in many places. The fundamental change in relation to the previous plan, which had four separate building complexes, is the designation of a new street, crossing the settlement along the north-south axis. It ran in the eastern part of the excavation, near the extant Piaskowa Street and its remains were perceptible over about 35 metres. The street designation was a vitally important event for the development of the layout of Wrocław's settlement on the left bank of the Odra River. It led from the main river crossing, i.e. from the stronghold on Ostrów Tumski, through Sand Island, through the left bank settlement, for which it was the main axis, to St Adalbert's church and further, as the external route (via regia?) to Opole and Krakow. On both sides of the street a loose building was erected. Above-ground buildings in wattle and daub construction, log construction and probably also timber-framed construction - of western origins dominated. The craft function of the settlement continued including smithing, shoemaking, animal butchery and intensive wood processing.

Taking into account the stratigraphical relations, the traits of pottery, spurs and other artefacts, as well as dendrochronological dates, we can date Phase II to the end of the 12th and the beginning of the 13th century.

c. Phase III - early civitas

This is evidenced by a period of intensive use of the area, an increase in the density of wooden buildings and associated infrastructure - streets, fire devices and numerous pits of various functions. Layer (s. u.) 16, locally determined as layers s. u. 35 and s. u. 52, as well as 277 with other, parallel stratigraphical units were assigned to this phase. The significant thickness of s. u. 16 imposed the artificial division of phase III into stages IIIa (older) and IIIb (younger).

The most important change in stage IIIa in relation to Phase II was the disappearance of the street constituting the axis of the settlement. It was moved about 15 m to the east, retaining the previous north-south alignment. Shortly afterwards, the street was provided with a wooden surface. Its course proved to be permanent, and after minor corrections it still exists today. Confirmation of its significance is the density of features along its course. These were above-ground buildings in wattle and daub construction, log construction and timber-framed construction. The latter dominated in number and had surface areas larger than the others. In the neighbourhood of the buildings, ground surfaces were strengthened with laths on ground beams or loosely thrown wooden elements. Some of them gave the appearance of irregularly laid out streets.

Stage IIIb. Its main feature is the short time span of the features and the dynamic building changes. Houses of solid construction were usually destroyed by fire, and newly built buildings did not always correspond to their location. The spatial organization corresponded in general to the preceding phase. The main transport axis connecting the Odra River with St Adalbert's Church still remained under the today's Piaskowa Street. The area to the west of the main street had the largest concentration of buildings in its history. The width of the building strip along the main street was approximately 35 m. Despite this, the distances between buildings were still differentiated and do not allow for the identification of any possible parcel boundaries.

Further to the west a similar density of buildings was recorded. The walls of the buildings were aligned to two new streets, which ran transverse in regard to the main axis of the settlement.

The craft occupations of the inhabitants as evidenced mainly by artefacts discovered in buildings, other sunken features and in the cultural layer. They confirm the crafts already known in the settlement. A new craft that appeared was the production or repair of weapons.

The basis of phase III dating were artefacts, stratigraphy and the results of dendrochronological analysis. Stage IIIa is generally dated to the first half of the 13th century, and its end was probably marked by the Mongol invasion in 1241 and the destruction of most of the buildings. Stage IIIb closes with the deliberate demolition of the entire built-up area, the removal of the settlement and the preparation of the surface for the new market square along with a regular network of streets. This happened in the 1260s.
The pre-incorporation left bank settlement in the light of current interpretative possibilities

The rise and development of settlement on the left bank of the Odra River was a consequence of the earlier construction and use of the Ostrów Tumski stronghold. At the latest, from the turn of the 11th and 12th centuries, it took on an elitist character, and locating the bishopric’s seat there elevated it to the rank of the most important political and religious centre in the Piast state. A two-segment stronghold with separate ducal and ecclesiastical parts, occupied the entire 6 hectare surface of the island. The lack of space on the island and the related lack of possibilities for the development of a suburbium ensured the development of areas outside the island - on the right bank at Ołbin and on the left bank of the Odra River. Both of these zones were settled at approximately the same time in the last decades of the 11th century or, at the latest, at the beginning of the 12th century, i.e. about 150 years after the founding of the stronghold. In the case of the settlement in Olbin, we have to rely on research from the 1980s. We assume, that after a settlement episode dated to the 8th-9th centuries, a permanent settlement arose in the 11th century. In the 12th century, its special character resulted from the manor of the noble Włostowic family being located there and the monastery of St Vincent founded by them. The economic importance of Olbin in the second half of the 12th century was based on the then extant inn, butchers’ stalls and the annual market in the spring octave of St Vincent.

The issue of the origins of the craft and trade settlement on the left bank of the Odra River has been discussed in literature for several decades, and new theories have been presented alongside the expansion of the archaeological source base. Recent findings have enabled a return to the dating proposed in the 1960s by J. Kaźmierczyk. Phase I as determined in a trench from 2010-2012 excavations was dated to the end of the 11th century and the beginning of the 12th century.

Based on the results of archaeological excavations carried out on the left bank zone from the 1950s to 2012, it can be stated that the settlement occupied the area from the crossing to Piasek Island (Sand Island), developing to the south. Its range in this direction reached no more than 400 m in the 11th-12th century, i.e. at most to St Adalbert’s Church, and in the east-west direction to about 300 m. At the south-western edge of the settlement a regulated or artificial watercourse that could have formed its border was discovered. The structure of the settlement in its oldest phase was dominated by sunken buildings. J. Kaźmierczyk was the first to present a thesis on the craft character of this settlement, and the basis of his interpretation was mainly traces of metallurgy and leather production. This thesis has also been confirmed by the materials from the 2010-2012 excavations.

The Odra River terrace to the south of the settlement was occupied by a large cemetery, stretching from the zone of the later St Adalbert’s Church to the east and to St Elizabeth’s Church in the west. The grave density was uneven, mostly low. The oldest graves were dug in the 11th century in the eastern part of the cemetery area, while the youngest ones dating to the first decades of the 13th century were at the western end. The current level of knowledge allows us to state that this cemetery preceded the construction of the left bank churches of Wrocław.

At the end of the 12th and in the early 13th century, a significant boom in the left bank settlement development occurred. The size of the settlement increased. The layers dated to this period were found in a strip of land beyond the old settlement, about 250 m to the south and south-west. The use of the aforementioned cemetery was discontinued, and its function was taken over by graveyards at the churches. The oldest of these was St Adalbert’s Church built at the latest in the 1140s. The second church, of St Mary Magdalene, was erected in the south-western part of the newly settled zone at the end of the 12th or in the early 13th century. The settlement’s name ‘at St Adalbert’ was probably no longer valid at the time. The range of the cultural layer associated with the proto-urban settlement reached to the church of St Mary of Egypt in the south, about 250 to the south of St Adalbert’s Church. In parallel with the intensification of development in the area of the subsequent Nowy Targ Square, new elements of the pre-incorporation settlement structure of Wrocław became established, i.e. clusters of Jewish and Wallon settlers.

The devastation caused by the Mongol invasion in 1241 did not have a catastrophic effect on Wrocław. The stronghold on Ostrów Tumski was not conquered and the craft and trade settlement on the left bank of the Odra River was quickly rebuilt and the density of buildings increased. The excavations indicate that, in the area of Nowy Targ Square, the settlement which was organized according to the pre-incorporation pattern, without regular parcels, functioned until the 1260s. Thus, we must recognize that there was a parallel existence of the old settlement with the incorporated town around the rectangular market square with a chequered grid of streets and regular plots of 60 feet wide. The coexistence of differently organized zones of the town lasted for up to half a century. It was not interrupted by the Mongol...
invasion, after which it was probably decided to build the fortifications. They covered both the incorporated town and the zones under direct control of the dukes. Kamila Marcinkiewicz & Jerzy Piekalski

IV. Nowy Targ Square in the Middle Ages and the early Post-medieval period

1. The origins and dating of Nowy Targ square

The scarcity of written sources concerning the origins of Nowy Targ Square resulted in many, often exclusive, conceptions of its dating and its role in the development of the incorporated town. Most of them focused on its relations with other Wrocław marketplaces. It was supposed to be ‘new’ in relation to the alleged proto-urban market at the crossing to Piasek Island or the Market Square - the main marketplace of the medieval town. The results of archaeological excavations from the 1960s suggested a late dating for Nowy Targ Square. After the excavations in 1999-2000, the concept of the early incorporation of the town was introduced, precisely in the Nowy Targ Square zone, and the delimitation of the square along with the regular grid of streets. The small size of the trenches was a hindrance in the proper assessment of the situation. This changed in 2010-2012, after an area of 4,000 m² was excavated. This has allowed a relatively good insight into the stratigraphy depicting the transformations of the square. The activities related to the creation of the square are illustrated by the stratigraphical units grouped in phase IV. Its main element was a layer of sand up to 60 cm thick, and it covered the remains of previously destroyed buildings and helped to level the ground. The remains of cobbles were found on the top layers. The stratigraphical relations and dendrochronological dates of the adjacent layers have allowed us to date the marketplace organization to the 1260s. We believe that at the same time a network of streets around the square developed.

2. Transformations of Nowy Targ square in the late Middle Ages and in the early Post-medieval period as evidenced by stratigraphy

Nowy Targ square was one of two auxiliary squares in medieval and post-medieval Wrocław. It combined daily trading with long-distance wholesale trade. The evidence of this activity was a rich sequence of cultural layers.

a. Phase V - early stage of the square's use

It covers the events that occurred immediately after the square’s delimitation and paving in the second half of the 13th century. The stratigraphical units included in it indicate that the use of the area was at that time diametrically different from that in Phase III, preceding spatial and ownership transformations. The earlier streets/routes vanished, and Piaskowa Street became the eastern edge of the square. A perceptible feature was the lack of dwellings. The few wooden structures identified were the remains of the marketplace activities. The pavement was quickly destroyed, and in its place an organic layer of garbage, marked as s. u. 22 was deposited. Its dating was determined to the last decade of the 13th century and the beginning of the 14th century.

b. Phase VI - development of the marketplace

It marks the continuation of the marketplace’s use in the late Middle Ages and realization within it of subsequent investments. The basis for the determination of this phase were the events documented in the stratigraphy, and mainly a layer marked as s. u. 19. The features associated with it evidenced a few marketplace constructions: a shed and equipment for segregating and branding animals - pigs, sheep and goats (?). Animal trade was the primary economic function of the square at that time. This is evidenced by a layer rich with pelage, manure, chaff and straw. A feature of this layer is the absence of traces of surface strengthening and a perceptible mixing of the content, probably due to the constant presence of animals churning up the ground. The presence of water supply facilities enabled herds of animals, which were destined to be traded, to stay at the marketplace, is also an important argument for such an interpretation. There was a system of wells and a water network probably associated with the oldest urban waterworks. A series of dendrochronological dates from wells and troughs allows us to specify the time of their construction to the first half of the 14th century.

c. Phase VII - stabilization

It is evidenced by a layer (s. u.) 7 of organic garbage and sand after the demolished pavement. It is associated with the remains of wooden marketplace activities: stalls and light sheds. We date it to the 14th century. It was the last of the layers preserved in situ.

d. Phase VIII - layers mixed in the late Middle Ages and in the Post-medieval period
Phase VIII - layer (s. u.) 1-2 developed after the cessation of the rapid rise of the level of the town's ground level. This was due to the widespread use of stone paving and the introduction of strict orders for the cleaning of streets and squares. The content of the layer was sandy sub-crusts under the pavement, which itself had been replaced several times, mixed during subsequent events with humus and fine brick rubble. Within it there were water networks and other underground infrastructure.

Kamila Marcinkiewicz & Jerzy Piekalski

3. Transformations of the square in the late Middle Ages and in the early Post-medieval period as evidenced by written sources

Mentioned since 1266, the name of central point of the north-east part of the Old Town called the Great Quarter - New Market is evidence of its relative chronology in relation to the Old Market, i.e. the Market Square. The plots' layout, preserved until the mid-20th century, was predominantly in place before the mid-14th century. Due to the specifics of the source materials, the wooden-clay structures of houses were distinguished here from the masonry ones only in the 14th century. The 'Pomeranian Side' – the west frontage of the square - recorded from the end of the 14th century, corresponds to three names of properties or groups of properties in 1360, related to the Baltic navigation points and ports in the Sound region, including those related to the herring trade. One of the large corner properties at the north frontage was mentioned as belonging to the Cistercian abbey in Henryków from 1326. In the same strip of the town's layout, near the square houses of three other Cistercian monasteries were located as well as the Lubusz Land bishop. Twice in the Middle Ages, the properties located according to descriptions from the era at Nowy Targ Square were purchased by the dukes of Silesia, but their property, unlike the church one, was not lasting here. The Nowy Targ Square area, located between the Franciscan and Dominican monasteries complexes, was a concentrated and a distinct part of the Wrocław foundation for the pious communities of single women, so-called Beguines and Tertiaries. In this neighbourhood, clerical dwellings were evident, including two houses of altaristae mentioned in texts from the second half of the 15th century. The research on the professions of the inhabitants of the area around the square at the turn of the 14th and 15th centuries showed, apart from clusters of bakers and butchers, an exceptional variety of craftsmen and professions, while typical brewing activities were conducted on full-fledged burghers' plots. There were also parchment manufacturers and, possibly, beaker producers with turners, as well as, to a lesser extent, painters, coopers and stall keepers.

The emergence of new, or else small butchers' stalls, permanently located along the current Kotlarska Street, from its beginning at Nowy Targ Square, is linked with the year 1266. On Nowy Targ Square itself from 1271 or 1273, a section of bakers' stalls was located and continued to be mentioned in texts as being in this location until 1354. Up to about the mid-14th century, for part of the week so-called poor vendors also traded in this area, especially during feast days, where they would stand in front of churches. In the years 1345-1353, chambers, or tallow stalls, associated with the butcher stalls were mentioned in sources. Degraded and devoid of a trading function, Nowy Targ Square, as described at the beginning of the 16th century, contained only a lime shed and a cattle shelter. The reform of the market square was undertaken just a little later, as from 1534 it was used for fairs, and from 1569 it housed herring stalls, geese traders, stalls selling wooden products, groats and butter. According to an account from the first half of the 18th century on the square there was also a timber market and, at the beginning of the 19th century, food products could be purchased. The removal of stalls began in 1893.

Mateusz Goliński

4. Architectural analysis of building transformations around Nowy Targ Square in the Middle Ages and in the early Post-medieval period

Most of the historic buildings of the quarters around Nowy Targ Square have ceased to exist. The results of archaeological research are complemented by rich drawing and photographic iconography. It consists of the following:

- axonometric plans and views as well as graphics and drawings created since 1562
- construction documentation from 1839-1944
- archive photographs from the period from the 1880s to the 1950s

On this basis, an attempt was made to analyse the transformation of mortared architecture in Nowy Targ Square frontages in the Middle Ages and the beginning of the 16th century.

Nowy Targ Square was designed around 1260. From the three corners of the square emanated two streets each and from the north-eastern corner to the city gate ran Piaskowa Street. One of the streets of the south-eastern corner reached the Ceglarska Gate,
also known as Krupnicza Gate. In front of it, in the south-western corner, in the area of Kotlarzka Street, a row of timber-framed New Butcher Stalls, known from 1263, was located. The southern and northern quarters were additionally separated by Drewniana or Jednorozća streets (‘Holczgasse’ 1464) and St Vitus (‘Vitusgasse’ 1346). In the mid-14th century timber-framed houses were mentioned on the square, however, according to Stenus Bartholomaeus, at the beginning of the 16th century, all the houses on the square were already made of brick. The typical, late medieval building of a plot at Nowy Targ Square consisted of a two or three-storey house with a cellar and with a two or three-bay plan, topped by a steep, sometimes double, often multi-storey roof, covered with trough-shaped roof tiles. It was accompanied by lower and less compact outbuildings in the form of one or two narrow connectors, sometimes galleries reaching the back of the house, in which the brewery was usually located.

In 1562, the western part of the southern frontage consisted of six gable front townhouses. In the eastern part there was one townhouse with a ridge, double roof (NT 9) and four gable front townhouses. In the mid-18th century, as a result of the division of plots, there were eight and six townhouses. Some of them (NT 1, 3, 8, 12b) still had Gothic gables. Most of the others had Renaissance forms and details. In 1765, the last three townhouses (NT 12abc) were combined into the Baroque townhouse of the merchant Itzinger (‘Old Dye-house’). The buildings on plots 1-8 were demolished and, in 1914, the building of the former High Presidium Office of the Province of Silesia was constructed, which is preserved to this day.

The eastern frontage was called the Painters’ Side (‘Maler seite’). The frontage of 20 houses continued uninterrupted up to the City Arsenal complex, located in front of Piaskowa Gate. As early as in the 14th century, the parcels at Piaskowa Street were enlarged eastwards. In 1562, the outbuildings and backyards of the plots had already reached the city wall, in which the wickets connecting the parcels with gardens in the strip between the walls and the city moat were pierced. The square was enclosed by only ten townhouses, including three gable front ones (NT 13-15), and two ridge front ones (NT 16-17) and the last five gable front ones (NT 18-22). Numerous Gothic details had been documented in the complex of townhouses. Well-illustrated examples of Gothic ridge front townhouses were the townhouses Nowy Targ 13 and 22. A different type was represented by the ridge front townhouse Nowy Targ 17. Its varied levels of windows indicate the typical medieval internal communication solution by means of half-levels. Such solutions were widely used, amongst others, in the townhouses of Świdnica. At the beginning of the 16th century, the townhouse ‘under the Golden Star’ (NT 21) was rebuilt, giving it an early Renaissance form.

The eastern part of the northern frontage was occupied by five townhouses, including two gable front ones (NT 23-24) and three ridge front ones (NT 25-27). The western part of the frontage consisted of one ridge front townhouse (NT 28) and five ridge front ones (NT 29-33). The distinguishing feature of the facades of this frontage was the presence of grills and trellises for grapevines. On 18th-century drawings of the facade of the Nowy Targ 26 townhouse, rows of probably Gothic niches analogous to those found, amongst others, on Kurzy Targ Street are visible on both storeys. The Nowy Targ 28 and 27 townhouse facades also had a Gothic appearance. The latter preserved its medieval shape until 1945. Renaissance stonework existed until 1945 on the Nowy Targ 30 townhouse and the Nowy Targ 26 townhouse had an excellent Renaissance portal presenting its emblem ‘under the Angelic Greeting’.

The western frontage was the only one moved towards the square. This was associated with the absorption by the front buildings of medieval arcades, demolished in 1527. It consisted of ten gable front townhouses visible on a plan from 1562. In fact, the frontage was divided into 12-13 parcels (NT 34-45). On photographs from 1892 on the Nowy Targ 45 townhouse, there is a Gothic-Renaissance, two-armed portal from 1559. The Nowy Targ 39 townhouse had the best preserved example of the Renaissance facade of Nowy Targ Square.

Maciej Małachowicz

V. A house and its furnishing

1. Structure and size of buildings

The basic building material of Wrocław in the early and high Middle Ages was wood. It was used for the construction of dwellings and outbuildings implementing various technical solutions and cultural patterns.

a. Sunken-featured buildings

The poor state of preservation of the wood in the remains of sunken-featured buildings makes their interpretation problematic. We find it difficult to identify the remains of a sunken-featured building from a pit with a different function. A sunken-featured building is a structure with a sunken interior and a roof at ground level. The roof of semi sunken-featured building, in
turn, is supported on the construction of walls above the ground level. The excavated remains do not enable these two forms to be separated from each other. It is also difficult to distinguish a single storey sunken-feature building from the basement of a ground floor building.

In the category of sunken-featured buildings on Nowy Targ Square, 35 features were included. They were found in three oldest settlement phases (I-III). Their remains in plan most often had shape of an elongated oval, and rarely a rectangle. Their sizes ranged within 2.60-49 m². The depth also varied (0.20-1.98 m). Some of them had an entrance from an outer corridor. The smallest buildings might have been makeshift shelters, while the largest ones needed a solid supporting structure. The use of log construction is assumed in the case of features that were rectangular in plan. Oval plans, instead, are rather associated with the wattle and daub system. Their floors were usually clay.

b. Wattle and daub buildings

In Wrocław, located in the valley of a large lowland river, the advantage of the traditional wattle and daub system was the ease of obtaining raw material - rods and stakes of several species of willow, rarely hazel, hornbeam or birch. They were built frequently, but their fragmented state of preservation makes their interpretation difficult. In materials from the excavations in 2010-2012 on Nowy Targ Square 19 above-ground buildings of this construction were recorded. Their surface ranged from 7.92 to 24.80 m². Their function as dwelling is difficult to prove. They could also have served as craftsmen's workshops or animal shelters.

c. Log construction buildings

This construction was of fundamental importance to the building of dwellings in Wrocław up to the 13th century. In the late medieval city it was a decadent cultural element. In the trench on Nowy Targ Square the remains of 12 log construction buildings were discovered. Oak, pine or fir wood were used as the building material. The secondary use of construction material, recovered from older structures, was also confirmed.

The plans of the houses were almost square and the interiors were a single space, with a surface area of 15.96 - 26.8 m². The interior was clay-clad; less frequently they had wooden floors. In the corner or at the wall was a clay oven or an open hearth.

d. Post construction buildings

To this category belong buildings, whose common feature was a roof support provided by posts embedded in the ground. Such a load bearing structure was accompanied by various wall fillings. These may also have been open sheds. Nowy Targ Square excavations had 21 such features. Of particular importance are 8 post construction buildings with walls made of laths on interrupted sills (Schwellriegel). This is the first certainly foreign system, transferred from north-western Europe, and indicates a new trend in wooden construction and a changing style of dwellings. The presence of such structures in Wrocław is evident from the turn of the 12th and 13th century. The area of these buildings varied. For most of them, the length of the walls ranged from 4 to 6 m, in one case reaching 18.5 m. The interiors were stabilized with a clay floor, and rarely with lath floors. They were provided with slightly sunken clay hearths in wooden frames.

There were three other post structures, unusual or difficult to characterize due to their poor state of preservation. One such construction was s. u. 58 from phase IIIb. It consists of a double wall of vertically set laths, filled with clay.

e. Timber-framed construction buildings on sills

The appearance of houses of this construction is one of the elements of the acceleration of Wrocław’s development in the 13th century. They gradually displaced log construction and wattle and daub construction. In a trench from the 2010-2012 excavations, 27 certain or probable houses erected in the timber-framed system of oak wood were discovered. Their surfaces were in the range of 10 - 46, 8 m². Small and medium-sized houses had almost square plans, while the largest were built on the plan of an elongated rectangle. All of them were partially sunken into the ground. The walls of the sunken parts were filled with boards and the higher parts were insulated with clay. Some of them were two-storey. The sunken ground floor served as a storage area or workshop and the upper floor was used as a dwelling.

Jerzy Piekalski

2. Interior furnishings

The remnants of furniture, due to the use of wood in its construction, which easily decomposes, were obtained from the cultural layers of medieval towns intermittently. In the case of medieval Wrocław, the use of furniture as one of the elements of house furnishings is confirmed by written sources. The sources are, however, descriptively poor, which prevents the reconstruc-
tion of the exact form of furnishings used. In wills as well as in the debt and property pledge lists furnishings are mentioned, which can be divided into three basic groups - storage furniture: laden, schreyne, almareyen, elmirchein, kasin, buchssen, meste, schkathe; ones used during meals and work: tyche, sedil, benecce and to rest: bette, spanbette.

During the excavations on Nowy Targ Square in Wrocław, three artefacts were recovered, which the author has interpreted as minor decorative elements of furniture. One of them, found in layers from phase VI, is in the shape of a carved slate with symmetrically tapered edges cut in the middle part in a ‘bow’ shape with a projection and slightly cut ends. It was presumably the decorative element of an openwork wall of a piece of furniture. The other two lathe turned (?) artefacts are wooden posts with three profiled protuberances. Analogous specimens are known from excavations on Ostrówek in Opole and Greifswald. Marked ends - wedges with small diameters were used to attach them to the piece of furniture. The specimens in question were obtained from layers dated to the end of the 13th – the beginning of the 14th century and the second half of the 14th – the beginning of the 15th century.

The decorative elements of furniture i.e. fittings mounted on it, and often also utilitarian ones, were products of artistic blacksmiths. In the material from Nowy Targ Square were a group of 13 iron furniture fittings dating from the early 13th century to the Post-medieval period. In this collection specimens were identified that have numerous analogies in Europe, amongst others, are oval discs with visible mounting holes as well as rivets preserved in situ, bands with split ends in the form of rolled out tendrils as well as simple iron bands with mounting holes. The youngest specimens, finished with a lily emblem on one side and a plate with rivet holes on the other, do not differ in style from late medieval fittings.

3. Interior Lighting

The rooms of Wrocław’s houses were illuminated with artificial light, including wooden slivers, wax, plant oils and fats of animal origin – tallow and blubber. The excavations conducted in 2010-2013 on Nowy Targ Square expanded the already known inventory of artefacts used to light Wrocław’s houses. Not only were fragments of partially burnt torches found, but also the devices to hold the light source - torch holders, cresset-lamps and candlesticks.

Torches were considered to be the cheapest form of interior lighting and were used as late as the 19th century. During the excavations, 30 artefacts were discovered, of which 10% are torches dated to the end of the 12th century – the beginning of the 13th century. More than a half of them were found within layers from the 13th century, the rest are dated to the end of the 13th century and into the 14th century.

In Polish literature an iron rod with an oval-shaped sleeve is referred to as świecak. They are associated with holding torches in the house. It should be noted, however, that some of the specimens found during the excavations could have served as wall candle holders. The use of torch holders to support candles is also confirmed by the residue of wax/tallow in the sleeve of one of them. Within the assemblage three types of torch holders were identified - with a spike vertically driven from the sleeve; with a spike driven at right angle from the sleeve, and a complex form, in which the sleeve is attached to a quadrilateral drip along with a transverse spike attached to the underside.

During the excavations on Nowy Targ Square, four candle holders were found: a wooden one, a pottery one, an iron one and the most sumptuous one - cast of copper alloy. The iron specimen, dated stratigraphically to the second half of the 14th century – the beginning of the 15th century was made by hammering three elements - the spike on which the candle was set and the two arms set against the spike at an angle of about 70°, ending in a split hammered in the form of a rim. The candlestick cast from copper alloy is made in the late Romanesque style. It was found within the 13th-century remains of a dwelling house. Its spike, attached to the lead core covered by the drip, transforms into a shank on which the central nodus was placed. Out of the decorative round base, three lion’s paws were driven.

The pottery cresset-lamps that were used for interior lighting had different shapes. However, in Wrocław only a fragment of a shallow bowl with a handle survived, which had been fired in a reducing atmosphere. Metal cresset-lamps, oval or quadrilateral in cross section were found in layers dated from the beginning of the 13th century to the beginning of the 14th century. Iron rods or toothed bars were used to hang them, with which they were secured by short pins hammered at one end and hooked at the other. The rods allowed the cresset-lamps to hang at only one height. Greater possibilities for controlling the lighting range - by adjusting the height of the cresset-lamp suspension was provided by iron, toothed bars. The specimen obtained from Nowy Targ Square does not match any published analogies from Silesia or Poland.

The largest to-date collection of artefacts used for interior lighting was recovered from the Market Square
excavations. The number of artefacts analysed as well as the context of the finds (found in the remains of dwellings), provides a new insight into the availability and the variety of artificial lighting of late medieval houses. Katarzyna Wieczorek-Kańczura

4. Between the kitchen and the table

a. Kitchen equipment

The indisputable identification of a kitchen or a room allocated for this purpose is often difficult, and the mere presence of the remains of fires/hearths etc., because of their multifunctional nature, does not always confirm the room as a kitchen. Therefore, an attempt to reconstruct the furnishing and appearance of a kitchen would not be possible without the use of comparative materials in the form of written and iconographical sources.

This author analysed the equipment used for storing food products, the processing of food and the preparation meals for which the use of a kitchen is unquestioned. However, in the artefacts from Nowy Targ Square there are items of equipment which cannot be unambiguously attributed solely to kitchen work or to what is widely understood as the culture of the table.

From Nowy Targ Square 107 staves and 50 bases, which were recognized as the remains of large cooper vessels, were recovered. These had storage functions. The material analysed is dated from the end of the 12th – the beginning of the 13th century to the second half of the 14th – the beginning of the 15th century. Amongst the acquired artefacts, the presence of fragments of two- and one-bottom vessels was identified. Based on the presence of distinctive features, 9 barrels, 5 kegs and 7 buckets were identified. The reconstruction of the volume of the barrels, due to the lack of preserved staves, was impossible. Different diameters indicate that they do not belong to standardized forms. Kegs, despite their characteristic form, rarely appear in the late medieval material. The good preservation of the four Wrocław specimens allowed their original volume to be calculated. The volume ranges from 4.39 L to 10.75 L. Amongst the fragments of storage vessels there were also 28 staves – the remains of 13th-century buckets. The diameters of the bottoms and rims were reconstructed for four vessels and thus their volume was established as 6.40, 6.50, 7.40 and 9.60 L. The characteristic protrusions served as handles around which was tied a string, replacing the iron bow. No holes or traces of fittings were found on any of the staves. However, their use is confirmed by fragments of three iron bows indicating the use of 3 subsequent buckets (at least). The fragments of bottoms of four turned vessels were interpreted as the remains of cans. This type of material appears on medieval sites mostly between the 11th and the 16th centuries. In this chronological range, there are also specimens from Nowy Targ Square (from the end of the 12th century – the beginning of the 13th century to the end of the 13th century - the beginning of the 14th century). Eleven artefacts (dated from the end of the 11th – the beginning of the 13th century to the second half of the 14th – the beginning of the 15th century), are fragments of bilaterally turned container lids and other, larger vessels.

A rich collection of artefacts from Nowy Targ Square is associated with the preparation of meals. For this purpose ladles, scoops and spatulas were used, amongst others. They enabled food to be gathered, mixed, rolled or spread. Spatulas of small size could have been used in the kitchen for gathering and spreading semi-liquid, soft products such as honey or butter. Apart from the listed wooden kitchen utensils, metal utensils were also used during meal preparation. In Nowy Targ Square, in layers dated to the first half of the 14th century a fragment of an iron sheet with holes – a strainer/strainer ladle was found. The presence of link fire strikers (9 specimens), as well as double bow one (1 specimen) was also recorded. A unique artefact is a fire striker dated to the first half of the 14th century in the form of a straight bar decorated with diagonal cuts. Its lowered and rolled upward ends are decorated with the stylized heads of dragons, which perfectly combines the function of the artefacts in question with the symbolism of fire. The first example of metal cauldron in Wrocław was found on the Nowy Targ Square excavations. This is a fragment of the wall of a copper vessel. Under the slightly rolled up rim an iron handle was attached by four iron rivets. A partially preserved iron frying pan was excavated from the interior of a 13th-century dwelling building of timber-framed construction (s. u. 158). Two fragments of another pan with sides; a bottom and a piece of a flat handle were obtained from the fill of a well, dated to the first half of the 14th century. Other important finds were that of the first two grills (fragments) ever found in Wrocław. They were obtained from a stratigraphical unit dated to the second half of the 14th – the beginning of the 15th century. Because of poor state of preservation of both artefacts, a complete reconstruction is not possible. However, based on the available metric data, it can be assumed that the Wrocław specimens were medium size grills.
The burghers of Wrocław used vessels and utensils that were common throughout Europe at that time. The only difference is the amount of artefacts, especially made of metal (not only the vessels themselves, but also grills, spits and tripods). In this author's opinion this is due solely to the level of advancement of archaeological research, the state of preservation of artefacts and the specificity of the reused material.

Jakub Szajt & Katarzyna Wieczorek-Kańczura

b. Knives, sheaths and mounts of knife sheaths

Amongst the knives obtained during the excavations on Nowy Targ Square in Wrocław 483 specimens were analysed. Due to the size of the collection and the lack of the possibility of accurate functional differentiation, for the purposes of this study, the authors adopted a division modelled based partly on the classification of the German researcher G. Holtmann, choosing as the main criterion the shape of the blade’s end. From the entire collection a group of knives with pointed and blunt blades’ ends was separated and were assigned to four types. Type I consists of knives with simple backs and pointed ends, type II consists of knives with straight pointed blades; while type III comprises knives with centred points. A differentiation of the blades’ shape made it possible in the case of type III to separate them into six groups. Blades with blunt ends were classified as type IV, within which straight, concave, volute and ornamental projections can be identified. In many cases, the blades of knives with blunt ends were richly decorated. The form of the blades allowed the cutting of and portioning of meals, so in German literature on the subject it is described by the term Vorlegemesser.

The abundant material from Nowy Targ Square enabled the identification of a variety of blacksmith marks stamped on the blades of 76 specimens. The oldest Wrocław artefacts with preserved marks were obtained from layers dated to the turn of the 12th and the 13th centuries. The youngest ones are dated from second half of the 15th century to the 18th century. Some of the identified marks include flowers, trefoils (trefoils in circles), stars (stars in circles), crosses, letters ‘S’, ‘T’ (?), circles and hearts. The functions of marks placed on the blades of knives can be interpreted differently. They were stamped both by manufacturers and merchants. Sometimes they can be directly linked to the place of origin and to the craftsman. They also served as a proof of the quality of the product. It is also apparent from the Late Medieval written sources that the manufacturers were allowed only to stamp marks which differed from those already in circulation and recorded in the guild books.

In terms of the construction of the grips of knives, 28 specimens were identified, in which the spike-shaped tangs were attached in the hilt and 25 specimens with bar-shaped tangs to which grips were fastened by rivets. This collection is dated from the turn of the 12th and the 13th century to the second half of the 14th century—the beginning of the 15th century. Most notable is a 14th-century grip terminating in zoomorphic decoration. Only the paws and back of the torso have survived of the carved animal. The state of preservation of the artefact does not allow us to say if we are dealing with a representation of a lion breathing at cubs. The width of the animal, which is equal to the cross section of the grip, suggests rather that it was a single representation, and that the grip should be included in the so-called Italian type.

The excavations in Nowy Targ Square carried out in 2010-2012 provided not only the largest knife collection in the area of today’s Poland, but also an assemblage of leather sheaths which were used to protect and carry knives. 155 specimens were analysed, of which 113 were preserved enough to determine their dimensions. The division’s criterion was the point of the joining of the sheaths’ connecting edges. Type I represent artefacts connected along the lateral and lower edges, accounting for 81% of the total of the collection. Type II includes 28 sheaths with a seam placed approximately in the middle of the back of the pocket, constituting 18% of the material. The aesthetic qualities of some specimens were enhanced by their shapes, highlighting the construction elements, and most of all, by ornamentation. In addition to specimens decorated with cut patterns, exceptionally only openwork ones, sheaths covered with stamped representations are noteworthy, appearing as late as in the urban period. They were made of thicker leather, on which floral motifs were stamped, which included a stylized representation of the lily (French fleur-de-lis).

In addition 82 iron mounts were analysed, 60% of which are dated to the first three quarters of the 13th century. The main division’s criterion was the presence of a sheet metal chape which protected the end of the sheath from being pierced by the blade’s point. Type I, represented by 55 specimens, is characterized by a separated chape with barbs protruding from it. Based on the way the barbs were connected to the chape, three variants were determined, amongst which variants a-c indicate the ratio of the sheet metal’s height to its width. Type II mounts were made from one rod. In this case, the chape is not as strongly separated as those of type I. The strengthening of the sheath base allowed the curled part of the rod to be bent. The angle between the resulting chape and the barbs was the basis for identi-
fying the individual variants of the analysed mounts. Sheath mounts had both structural and decorative roles. In the case of the Wroclaw material the simplicity of their forms indicates, however, that the mounts were mainly intended to strengthen the leather sheath and prevent it from being pierced by the knife’s blade.

Jakub Szajt & Katarzyna Wieczorek-Kańczura

c. Wooden vessels and wooden spoons

A total of 1,877 stave vessels elements were obtained during the excavations on Nowy Targ Square that were mostly preserved in fragments, which were used for statistical purposes. A detailed analysis was carried out on the preserved staves, as well as 11 bowls reconstructed from 86 staves during conservation treatment. Staves and bottoms were found in layers of all the settlement phases, dating from the late 12th to the end of the 15th century, with the highest intensity - 53% - recorded during the urban period.

The analysis showed that the inhabitants of Wroclaw used flower pot-like bowls widening upwards, typical of many European cities. These vessels were both wide and shallow and there were deep ones, small in diameter, similar in appearance to mugs. The material analysed also showed the transformation in bowl production. In the early Middle Ages, small stave vessels were joined mainly by two bonds, whereas in the late Middle Ages more and more frequently only one bond was used to join the staves. A typical treatment of the entire period in question was to seal vessels with wood tar, the residue of which were recorded in total on 74.5% of staves.

Turned bowls and plates were analysed together, mainly due to the lack of consistent criteria to distinguish between the two categories of vessels. Joint analysis also facilitated the identification of transformations in the production of shallow turned vessels. Amongst the artefacts discovered on Nowy Targ Square, an assemblage of 333 fragments representing 284 vessels was identified. Only 9% of the turned bowls and plates from Nowy Targ Square date from the early Middle Ages (phases I-II). However, there is no significant difference in the number of turned vessels obtained from various late medieval layers (phases III-VIII). In the assemblage vessels turned on both sides (209 specimens) and turned on one side and trimmed on the outside (81 specimens) were noted. The first of these belong to the most frequently produced forms in all settlement phases, although production of the latter ones visibly increased in phases V to VIII.

The marking of wooden vessels was applied on both cooper and turned vessels. In the analysed stave vessel collection, traces of marks were recorded only on 9 artefacts (amongst others a pentagram and a crescent). In the case of the turned material, the marks appear on 27 vessels dated to all settlement periods. Both uncomplicated motifs were made, in which the compositions consist mainly of different forms of crosses, other geometric figure as well as marks corresponding to the appearance of masons’ marks. Amongst the burnt marks semicircles and hooks dominate.

It is difficult to establish criteria (except for the size) that would enable us to separate kitchen vessels from table ones. Based on the varied size of stave bowls from Nowy Targ Square, it is only possible to suppose that it was more practical to use larger sizes for storing products and in their preparation, while on the table smaller vessels were handy. The diverse functions of these products can be confirmed by their varying volumes ranging from less than 0.5 to about 3 litres.

The analysis also included 64 wooden spoons and their fragments, dated mostly between the end of the 12th and the 15th century. The greatest number, i.e. 69% of the artefacts, were discovered in layers of the urban settlement period (phases V-VIII). The shapes of spoons are similar. The dominate specimens have round or oval bowls and are round in cross section, sometimes with profiled handles. Only a few specimens are covered with decoration of uncomplicated cut patterns.

Spoons were used for both food preparation and consumption. Apart from open flame working, during which ladles were used, in other cooking processes spoons with longer and more sturdy handles could have been used, which made them handier and more durable.

Jakub Szajt & Katarzyna Wieczorek-Kańczura

d. Pottery vessels - form and function

The analysis included 7,740 pottery fragments, as well as reconstructed and complete vessels, obtained mainly from the area of one are of Nowy Targ Square. Due to the dearth in such a small area of a sufficient amount of pottery from the oldest settlement phase, selected fragments of vessels dated to the first phase, excavated from three other areas, were included. In order to better illustrate these forms of vessels, photographs of artefacts in a good state of preservation, discovered in other parts of the studied area, were also used.

The main purpose of the analysis was to examine the issues related to the form and function of pottery
used from the 11th to the 16th century, with particular emphasis on clay vessels as an element of medieval home furnishings. Archaeological material was assigned to eight categories of products, including: pots, lids, pitchers, bowls, cups, frying pans (three-legged pans), beakers, miniature vessels and other vessels. The authors’ focus was on technical and technological questions of pottery products, by assigning the forms of vessels to eight so-called technological groups used by researchers dealing with Wrocław pottery. The criteria for the identification of individual groups were different technological features, such as the method of manufacture, the type of clay paste and the method of firing.

From the oldest settlement period, dated from the 11th to the beginning of the 13th century, on the left bank of the Odra River the production of multi-functional, handle less pots with S-shaped profile was dominate, supplemented by forms with cylindrical necks as well as beakers with an inverse conical shape, which, apart from Wrocław, were also identified in Legnica and Głogów. These types of vessels of Slavic origins, characteristic of the end of the early Middle Ages, continued to be used in the early period of transformation dated from the 1220s to the 1260s, which was associated with the development of the incorporated town. Nevertheless, significant changes took place in pottery at that time in Wrocław, initiated by settlers from the West. It manifested itself not only in the introduction of new types of vessels, such as pots with handles, pitchers, previously unknown beaker forms, but also in a different method of firing the pottery in a reducing atmosphere, resulting in various shades of grey of the vessels’ surfaces.

From the turn of the 13th and the 14th century until the end of the 15th century, there was a further formal diversification of vessels, related to the development of feeding needs and habits. Other important products were bowls and, from the 14th century, three-legged frying pans. The percentage of common pots steadily decreased, although they were still the largest group of items purchased. There is also evident a complete disappearance of such early medieval forms as pots with cylindrical necks and inverse conical beakers which had already begun to decline in the previous period. The analysis showed, however, that pottery with Slavic features was used in Nowy Targ Square for almost the entire late Middle Ages, though its share was systematically decreasing.

Further changes in pottery production, which occurred at the end of the 15th and in the 16th century, were related to the so-called Post-medieval break-through. It was not, however, a single leap, but rather an accelerated development, initiated around the mid-15th century. It manifested itself, amongst others, in an increase in the share of wheel-thrown pottery from one portion of clay paste with a modified composition, fired in a strongly oxidizing atmosphere and increasingly glazed, and included the development of new vessel shapes. From Nowy Targ Square, however, a relatively small number of early Post-medieval pottery fragments were obtained.

It is difficult to determine the function of the different types of vessels, as it might have varied according to the individual needs of the user. Iconography, written sources and the archaeological record aid in the interpretation of pottery. Beakers, cups, small pitchers and bowls had their place on the table, which is indicated by examples in late medieval painting. However, it should be noted that tableware often included vessels that were not pottery. Pots fitted with lids were used for example to store food supplies in pantries, while larger jugs were used to transport liquids for various purposes. Localised fire traces can be seen on a large number of three-legged frying pans, pots, but also on pitchers, and prove that they were used to heat up food and liquids in the kitchen. Miniature vessels, in turn, could have been used as containers for all kinds of valuable contents or as toys for children.

Jakub Szajt & Katarzyna Wieczorek-Kańczura

e. Table culture

The material determinant of table culture, defined as a set of rules, habits, behaviours and rituals related to the consumption of food, are objects that were used to serve people in the dining space, hence not only on, but also in the vicinity of the table. The analysed collection included pottery, wood and metal vessels, as well as cutlery made of various raw materials.

A unique object is a ceramic, glazed aquamanile in the shape of a horse and rider, which can be dated to about the mid-13th century. It was made with great attention to detail. Vessels of this type served for ritual hand washing, and in court circles their use could have been a symbolic invitation to a feast. Pottery aquamaniles found in Central European towns usually do not display great artistic quality, but they may evidence the adoption of court customs in the circles of rich townspeople.

The most common item of cutlery in the late Middle Ages was a knife, often a component of individual equipment worn in a leather sheath on the belt.
Amongst the knives of various types of blades and handles, however, only some can be attributed solely to dining. This category includes knives with blunt ended, relatively wide blades, the oldest of which are dated to the turn of the 12th and the 13th century. Knives of such design facilitated the spearing of food. In addition, artefacts with blades decorated with pattern welding or other decorative elements are luxury items. Furthermore, knives with richly decorated handles were part of table wares. An example of one such is a bone handle ending in a carved animal figurine (lion?), discovered in a layer dating from the first half of the 14th century.

Spoons were used as part of tableware much less frequently than knives. From Nowy Targ Square there are 64 remnants of these objects made of wood, of which a few were decorated. Once such utensil is a spoon with a short, profiled handle with a partially preserved bowl, dated to the second half of the 14th - the first half of the 15th century. It is decorated with carved representation of a human face. Much less frequently found during archaeological excavations are metal spoons, mostly made of tin. The Nowy Targ Square excavations yielded four bowls of such spoons, decorated with relief ornament: two of them dated to the second half of the 13th – the beginning of the 14th century, the next one broadly to the Post-medieval period, while for the last one no exact chronology could be established. Due to, amongst others, the rich decoration on these artefacts and the fact that a large number of bowls are flat, some researchers do not believe they had a practical use, instead including them as badges.

On Nowy Targ Square only one, two-pronged fork was found, which came from a stratigraphical unit dated broadly to the late Middle Ages and the Post-medieval period. It has an iron grip, integrated into a wooden handle that ends with a ferrule made of sheet tin.

From the same stratigraphical unit as the fork a small tin bowl, was recovered, probably a sauce boat. Vessels of this type were filled with seasoned sauces in which bread was mainly dipped. In documents, amongst others, from German testaments tin sauce boats are mentioned by the second half of the 14th century, while in the Wroclaw sources reference to them as late as about the mid-15th century.

Stave bowls and turned bowls and plates, some of which served as tableware, are described in the chapter on wooden vessels. In this chapter, attention is focused on wooden vessels, which are rarely found in archaeological material. These include beakers and pitchers. The first group of vessels is represented by eight artefacts, amongst which the best preserved are two beakers dated to the second half of the 12th century - the beginning of the 13th century. The beakers have a large variety of forms and small sizes. The remains of pitchers, belonging to about five specimens, are unique forms in Silesia. The best preserved is an egg-shaped pitcher with a round handle, approximately 36 cm high, dated to the first half of the 13th century. It has analogies in iconography, amongst others, from the area of Franconia and Thuringia, where in this period vessels of this shape were produced.

Pottery tableware, in the form of small beakers, cups and pitchers have been described in the chapter on pottery. Here, the focus is on more elitist clay products, which include mainly glazed and stoneware vessels. An increase in the number of glazed tablewares was recorded in the III settlement phase, dated to the first half of the 13th century. Identified tableware from this period includes glazed pitchers, cups and beakers, and a significant number of them have specific forms not found in the material of the younger phases. It is worth noting, for example, the rim of a pitcher represents a bearded face and is covered with orange-yellow glaze. Throughout the Middle Ages the percentage of glazed pottery gradually increased. Stoneware products begin to appear on Nowy Targ Square in the V phase (the fourth quarter of the 13th century - the beginning of the 14th century), but by the end of the Middle Ages they are used rarely and are limited to small forms dominated by jugs without rich decoration.

Jakub Szajt

5. The technological and functional analysis of iron knives

Archaeological excavations on Nowy Targ Square in Wroclaw yielded a large collection of late medieval iron knives, which, due to their relatively good state of preservation, underwent metallurgical examination. One subject studied was raw material analysis as well as the production technology of knives in order to determine the existence of material unification and production techniques for knives of different morphological form. A separate aspect of the metallurgical examination was an attempt to determine the possible function of the knives and its relation to technology and raw material.

The results of previous research on medieval knives indicate the incomplete development of functional specialization and the frequent varied functions of one knife, especially in personal use. Therefore, the largest number of these knives was examined. The second group consisted of marked knives, where the level of manufacturing was determined (quality of raw ma-
Material and method of forging). These are probably the most numerous examined marked knives from one late medieval urban site of in Poland (which confirms the lack of reports about such research on multi-element assemblages of artefacts obtained from other late medieval and early Post-medieval sites).

Metallographic examination of the knives included microscopic observations on the prepared samples of artefacts. They were carried out under various conditions, before and after nital etching (revealing the crystalline structure of the knives) using different magnifications. The basic instrument was a Nikon Eclipse LV100 metallographic microscope, which works with NIS Elements software. Microhardness tests were also performed using the hardness tester Zwick/Roell ZHV 10 with a Vickers indenter.

The examined assemblage of forty-six knives from Nowy Targ Square in Wroclaw is in one respect quite a large group, providing an opportunity for the better understanding of the workshops of medieval craftsmen. On the other hand, the selection of less than fifty artefacts of more than five hundred knives (complete and fragments) does not allow us to state that the subject is completely researched. Proceeding to a detailed discussion of the research results, it is possible to confirm the validity of the above material division of knives, consistent with the quality of the objects tested. Of the lowest quality are knives with a low hardness of 100-200HV, which are made primarily of wrought iron, but also of soft steel, with a ferritic-pearlitic structure. Such knives can be successfully used at mealtimes.

On the second range of hardness are knives with very hard blades (even about 500HV). These wholly steel items can be regarded as specialized tools (perhaps used in leather production).

Another variant of knife production is hammering them from materials with different properties. This was a common practice, which is evidenced by most of the examined artefacts (not only made of wrought iron, but also of steel). In the course of the study the method of connecting the steel blade with the back of the blade made of different material was also identified. The blade and back of the blade were usually connected diagonally to provide maximum contact surface. Sometimes both surfaces were diagonally formed (either convex or concave from the edge) in order to further enlarge the contact point. It was also found out presence of straight covers, occurring in the early Middle Ages. No serrated covers, commonly found in early medieval knives were recorded though. A similar variety in terms of raw material and manner of manufacturing was recorded in the case of marked knives.

6. Raw material analysis of selected wooden artefacts

The examination of raw materials was undertaken on 29 wooden artefacts, dated to the second half of the 12th century – the 16th century. They are stave and turned vessels, as well as spoons, and handles and grips of knives. The identification of the wood type was based on the analysis of the characteristics of its structure at the macro- and microscopic level. The results of the analysis were compared with the previous results of research of this type carried out on Silesian artefacts. The state of preservation of artefacts allowed for the determination of the species of wood only in some cases, in the rest only of its kind.

A small flower pot-like stave bowl (first half of the 13th century – third quarter of the 13th century) was made entirely of larch wood, similarly to the bottom of a younger bowl (second half of the 14th century – first half of the 15th century) and two staves belonging to one bucket (second half of the 14th century – first half of the 15th century). The stave of another bucket was made of pinewood (second half of the 12th century – the early 13th century), while the stave of a keg (second half of the 12th century – the early 13th century) was of yew wood. The bottom of a barrel (second half of the 12th century – the beginning of the 13th century) was made of fir wood.

Of seven analysed turned artefacts, four were made of maple wood and two of ash wood. In the first group there was a plate turned on both sides (second half of the 15th – the 16th century), two pitchers (first half of the 13th century – third quarter of the 13th century) and a lid (second half of the 12th century – the beginning of the 13th century), while in the second group a can (second half of the 14th century – first half of the 15th century) and a plate-bowl turned on one side (fourth quarter of the 13th century – the beginning of the 14th century).

Three spoons were analysed. The oldest one (second half of the 12th – the beginning of the 13th century) was carved out of spindle wood, the next ones were made of juniper wood (fourth quarter of the 13th century – the beginning of the 14th century) and fir wood (second half of the 14th century – first half of the 15th century).
Wooden handles and grips of knives discovered in Silesia to-date have not been the subject of a wider raw material analysis. Seven examined artefacts from Nowy Targ Square, discovered in layers dated from the second half of the 12th century to the first half of the 15th century were produced mainly from deciduous trees. The variety of raw material selection deserves a mention, as maple, common pear, spindle, boxwood and yew have been identified. 

Edwart Roszyk & Jakub Szajt

VI. Trade and exchange

1. Coins

During archaeological excavations conducted from 2010 to 2012 on Nowy Targ Square at least 152 coins were found. Fifty-seven or more made a hoard, and five more formed a second hoard, four assemblages contained two coins each, and the other 82 coins were found singly. Both hoards and three single coins date prior to 1250, 83 coins found singly and in pairs landed in the soil in the years c. 1295 – c. 1335 and four single ones were minted after c. 1335. These facts point to significant chronological differences in the numismatic material collected.

The oldest coin is a Saxon cross penny with a crozier, widely dated to the years 1070-1100, being a coin often found in Poland. It was found alongside traces of the earliest settlement on the left bank of Wrocław. Similarly typical is the second coin (in chronological order), the Polish penny of Władysław II the Exile (1138-1146) from the beginning of his reign (cut half). The third coin is a bracteate similar to the type admittedly noted in 19th-century literature, but then lost. This anonymous coin comes from the first half of the 13th century, but we are not sure whether it is from Silesia.

The smaller hoard is in very poor condition, probably due to fire damage. It was presumably the contents of a purse composed of five so-called Rataje bracteates, which are Silesian coins dated to c. 1220-1240, from which only one can be identified. The second, larger hoard contains one Polish penny of Władysław II the Exile (1138-1146) and at least 56 coins of one type, i.e. Greater Poland pennies, minted by Przemysł I (1239-1257) and Bolesław the Piious (1239-1279) under the name of their father, Władysław Odonic (deceased 1239). Both hoards were found in layers dated to the first half of the 13th century, amongst numerous wooden dwellings and workshop structures. It is presumed that both were abandoned as a result of a fire and an escape during the Mongol invasion of 1241.

The next coins appeared after a long break, in a new archaeological context, which was the in the marketplace and amongst market apparatus. Admittedly, the earliest of the more accurately identified coins of this phase, the baudekin of the Countess of Hainaut Margaret of Constantinople, was minted as early as in 1275-1280, it was probably lost later because the Silesian coins from Nowy Targ Square were minted as late as at the very end of the 13th century. This is the first find of a baudekin in Poland, although it was expected, as amongst the Silesian kwartniks from the beginning of the 14th century borrowings of this type of coin was noted.

Amongst the coins from the period c. 1295 – c. 1335 Silesian coins dominate, but a significant number of them was not previously known or were poorly known. Anonymous bracteates are difficult to attribute to a particular duchy, but we believe that these coins, which are known only from Wrocław and appeared several stray specimens, were from the Duchy of Wrocław. In this way, it was possible to reconstruct a long Wrocław coin series, where the bracteate types occurred alternately with two-sided pennies, and to link them with rulers as well as with ducal mint operations known from written sources. The Wrocław mint in this period gradually passed into the hands of the city. With less certainty we identified bracteates of other Polish duchies, both from Silesia and from other parts of the country. Apart from pennies, three Silesian kwartniks were found, but not one of them came from Wrocław.

Other foreign coins from this time, except for the baudekin and one pfennig of Teutonic Prussia, are 13 Bohemian coins. They come exclusively from the period after the introduction of groschen by Wenceslas II in 1300 and, due to their considerable wear; it may be assumed that they landed in the ground after a dozen or so years. These are both groschen and pennies of Wenceslas II and John the Blind, but half of the ten groschen are forgeries. Bohemian groschen were already widely used in southern Poland several years after their issue, while Teutonic Prussian pfennigs occurred in the 14th century in north-eastern Poland only. The find of a pfennig in Wrocław is isolated.

The percentage of counterfeit coins amongst Prague groschen is extremely high. In addition, one false Wrocław penny was found, and one bracteate from central Poland. Counterfeit groschen were made by various techniques (struck and cast) and from various raw materials: copper alloys and grey metals (tin and lead). A particularly complex technique was used
in the counterfeiting of a King John groschen, where a copper core was covered with a brass sheet, which then was covered with a silver-like coating using an unidentified technique. In turn, particularly poorly forged was a Wroclaw penny made of a piece of soft metal, supposedly coming from table ware, which was squeezed between two real coins, and became imprinted with their negative images. Such a method of counterfeiting of coins had only been observed until this find in Gdansk.

The four coins minted after this period do not constitute any assemblage which can be characterized, but are completely detached from each other: a Prague groschen of Charles IV (1346-1378), a damaged coin, probably a false Polish half-groschen of Wladyslaw Jagiello and a Brandenburg groschen dated to 1782 (probably minted later) as well as a Polish 2 zloty coin from 1958. The sudden decline in the number of coins was probably due to the paving of the square, although the source information concerning the pavement we know dates from 1534.

The cognitive value of numismatic material from Nowy Targ Square in Wroclaw is difficult to overestimate. These are not only source data supplementing our knowledge of medieval Polish minting, but above all are a long-awaited coin series, allowing us to fill a large gap in the monetary history of Wroclaw in the 14th century. The role of Wroclaw in Silesia ensures that this reconstruction of the history process, concerns not only the city itself, but the entire land. The content of the types of the newly discovered Wroclaw coins will certainly also serve to benefit other specialists in reconstructing the city’s policy and its ideology. Further consideration should be given to the problem of the rapid disappearance of a previously intense accumulation of coins in the second half of the 1330s.

Pawel Duma & Borys Paszkiewicz

2. Leaden seals

During archaeological excavations conducted on Nowy Targ Square 12 leaden seals were found. Only half of them were correctly identified. The oldest of the preserved seals dates from the first half of the 14th century, while the youngest is from the 16th century. One of the oldest seals with a representation of the head of St John dates from the 14th century and was classified as a local product. An interesting artefact is a seal with two heraldic shields that reveal its origin. One of the coats of arms belonged to the dukes of Burgundy and was used in this form from 1430. The artefact itself was dated to 1430-1455. Two seals on which zoomorphic representations fragmentarily survived are interpreted as the lions of St Mark, and date from the 14th and the 15th century. The author suggests Venice as the place of their production. Two seals are dated to the 16th century and originated in Amsterdam. Both have the city’s coat of arms on the obverse. The remaining relatively well-preserved seals have geometric representations which are difficult to identify. They may have been individual (craft or merchant) seals, which, due to the lack of identification and the poor state of publications, are currently difficult to indicate a proper attribution for them.

Pawel Duma

3. Counters and tokens

During archaeological excavations conducted on Nowy Targ Square in Wroclaw four tokens of undetermined function were found. The artefacts do not have strict analogies and were found in layers dated from the 13th century to the 15th century. The tokens in question could have been used for counting on lines (as counters), but they were also used in various types of para currency transactions which took place in the medieval city. Two of the Nowy Targ Square tokens were cast of bronze in a similar style. On one of them on both sides there is a representation of an eagle. On the second token there is a six-petalled rose and on the other side a cross pattée. In both cases, the rim remained empty. Such a combination of symbolism on both tokens suggests their close chronology, but different issuers. In the author’s opinion the token with the eagle was issued by the duke, while the token with the rose was issued by the municipal authorities. In such a situation, the items could have been used for settlements conducted as part of the ‘licence’. The operating of the Licence Office in Wroclaw has been confirmed as early as the 13th century. The token with the rose was found in a Post-medieval layer, while the token with the eagle in a layer dated to the turn of the 14th/15th century. According to our findings, both artefacts should be dated to the beginning of the 14th century. The third token from the group in question was also cast, but less carefully. Here, also on the reverse there is a cross pattée and on the obverse there is a coat of arms with difficult to read content. There is a pseudo-legend on the rim. We assume that the patterns which were used to make the tokens in question came from Italy through Bohemia, where similar artefacts were discovered. Amongst the discussed tokens stands out, both in terms of appearance and production technique, a cast artefact with a one-sided representation of a cow’s head crowned with a star. A legend difficult to read was placed on the double rim. The object was made in the second half of the
15th century. The author suspects that it may be interpreted as an individual seal lost on the former market square, or another artefact with a function difficult to clearly identify. Similar seals were used in France and from the 13th century in England. On Nowy Targ Square since the Middle Ages cattle were traded, so the context of the find is very attractive.

Paweł Duma

Example of Wrocław

a. Introduction

The ‘commercial revolution of the 13th century’ was a process of rapid growth and strengthening of trade ties, first including the economic axis of Western Europe, from southern England to northern Italy, and then gradually expanding to the whole known world at that time. Its consequence was a fundamental change in social structures and hierarchies. It was accompanied by a rapid increase in the amount of metallic money and credit in circulation as well as an increase in the population. Economic, population and civilisation growth was halted and reversed only by the disasters of the first half of the 14th century - famine in 1317/18, and then the Black Death. The changes reached Central and Eastern Europe, only slightly delayed and weakened. Their traces in the commercial culture were found in the course of excavation work on Nowy Targ Square.

In the 14th century, Wrocław reached the position of a communications hub between the West and Bohemia, Hungary and Poland, and indirectly Old Prussia, northern and south Rus’ as well as North Pontic Byzantine establishments. During frequent conflicts in the Baltic in the 14th and 15th centuries, the land road through Wrocław was the main alternative to the northern road connecting the East and the West of Europe. Wrocław’s Market Square housed institutions appointed to service and control trade. In contrast, Nowy Targ Square provided the largest number of artefacts related to trade.

b. Place of trade

Wrocław had three large marketplaces. The Market Square, the largest and the oldest of them, was not only the place of the daily market, but also fairs, forum liberum and the place of realising the staple right, obtained in 1274. Here, next to objects related to the functioning of administration, were also concentrat-
ed legal devices and signs related to trade: the cloth hall (mentioned in 1242), rich stalls, wooden booths - cloth arcades, a hall with bread benches, and later footwear ones), saddlers’ booths, Piwnica Świdnica (Świdnica Cellar) in the Town Hall, the Hop Office and Licence Office. Archaeological excavations on the Market Square were carried out in linear and point trenches that did not allow a fuller insight into both the distribution of structures and the material culture. Plac Solny (Salt Square) was developed as a result of the royal privilege for the salt market from 1352. Very limited archaeological excavations have been carried out here, but amongst others, a barrel-shaped iron weight coated with bronze was found. Finally, Nowy Targ Square, as designed in the third quarter of the 13th century, served both for local and long-distance trade. Traces of wooden stalls were found there, however no mortared buildings were identified. The concentration of pilgrim badges and religious artefacts indicates that pilgrimages started here, organized by the Black Friars from the nearby church of St Adalbert.

c. Raw materials, blanks and finished products - control, packaging and marking methods

From the early and late Middle Ages we know of examples of iron transported in tied bars, but unfortunately outside of Wrocław. Late medieval Wrocław mediated in the trade of copper between Germany and Hungary and Old Prussia, however, for examples of the archaeological remains of such activities we must look to Krakow.

Both cities were also important centres of precious metaltrade in the late Middle Ages. In the early Middle Ages, commercial silver was usually in the form of bars and discs, frequently of irregular weight. After regression in the 12th century, bars appeared more and more frequently in Central and Western Europe in the 13th century, probably as a result of coinage regionalisation and remaining the only acceptable way of using imported coinage. They are often marked with a punch, which probably means a hallmark compatible with local custom. In 1506, the standard Wrocław silver had a quality of 969/1000. Some of this silver, circulating in great trade and political transactions, was sent to the mints as raw material. In the second half of the 14th century, the importance of silver bars quickly declined in favour of gold coinage as well as gold bars. In 1408, gold was sent from Wrocław in plates to be minted into coins in the Venice mint. The quality of metal was checked with needles and a touchstone.
Non-precious metal products were sometimes marked by manufacturers’ names or pictograms. In the late Middle Ages, marks on objects made of gold, silver and tin were subject to municipal and guild regulations, creating a complex system with a town’s mark, a master’s mark and later also a mark of quality. On the handle of a tin jug from Wrocław, from the 14th/15th century, there is a sign of Wrocław in the form of the letter ‘W’, and on the lid a simple master’s mark.

Cloth was marked with leaden seals. We know relatively few of them from Wrocław, but many sealing devices have been found. Sometimes bales of cloth or sacks were marked by attaching leaden ownership marks to them.

The common method of livestock marking was to brand animals with a branding iron. Such an artefact was discovered on Nowy Targ Square in Wrocław.

Wax seals, which are found extremely rarely, were used to mark documents and wrapped items. Burghers, mainly merchant seal matrices appear in Poland in the 15th century, although, mostly in Pomerania. We know of only one such artefact from Nowy Targ Square, quite primitive, but in 1906 a golden signet ring was found in Wrocław, of the otherwise unknown Abba Bar Abba, which is probably older. Barrels for transporting goods were marked with engraved or burnt marks - a fragment of such a marked barrel was found on Nowy Targ Square. Numerous traces of craft production carried out on the square were also found.

d. Weights and the money systems

In the late Middle Ages, the basic great weight unit was mark, with a regionally diversified weight. This unit was basically divided into 4 farthings, 8 ounces and 16 lots or 24 scots. From Poland, we know pound (two marks) weights as well as fractional ones. In Poland, a mark with a weight of approx. 197 g was used, which was also considered Wrocław's mark. Weights from Nowy Targ Square represent at least 8 different marks, and specimens belonging to the local system are in the minority. Most seem to belong to the system with a mark weight of 214 g. A mark of a similar size can be seen earlier in Poland and in Bohemia and in both countries the relict use of such a unit survived until the end of the 13th century. Lighter weights from Nowy Targ Square are associated only with the old ‘penny’ mark, while the heavier ones only with the new Polish mark. This may indicate that some goods were weighed with smaller ones and the other (probably coins) with larger ones. The almost complete lack of weights in Poland related to the heavy Prague mark can be explained by the fact that the groschen were weighted in the Polish mark system or counted in sexagenae.

Weights often have stamp impressions that are guarantee marks or allow a weight to be assigned to a specific weighing system. The exception is a weight found on Nowy Targ Square with the emblem of the Kingdom of Portugal (quinases), with a weight corresponding to the Polish mark’s lot. Similar signs were on a weight found in Drieberg (Mecklenburg-Vorpommern). The rose stamp, especially popular in Silesia, appears on weights from various systems as well as on bars, discs of silver, silver spoil and tokens, including those from Nowy Targ Square. As indicated by legal signs on the stairs of Wrocław City Hall, the rose can be a symbol (not an arms) of a municipal court or, more generally, a city, in opposition to the ruler, in the case of Silesia, the duke.

The sum of pennies minted originally from the weight mark of metal - in the case of Silesia 240 - remained a monetary (accounting) mark also when the coins constituting it were minted lighter. Likewise, weight-based fractional units have been perpetuated in the monetary system. Because the kwartinik - a type of Silesian coin of grosso type introduced at the end of the 13th century - did not fit into the 240-pennies mark system (being equal to the kwarta that constituted 2½ pennies), the mark had to be different then. Perhaps it was equal to 96 quarters for four pennies, i.e. 384 pennies. In the second and third decades of the 14th century, the Wrocław or Polish mark was perpetuated for two centuries as an equivalent of 48 groschen for 12 pennies, i.e. 576 pennies.

Coin as a trade tool

While the coin on the urban market in the Middle Ages was an obvious tool of trade, in the great trade it played only the role of an auxiliary equalisation of barter transactions. The great financiers in the late Middle Ages commonly used credit and in the 15th century bills of exchange. The shortage of precious metals led to widespread bills of exchange circulation at the end of this century, a trend which also reached Wrocław and Krakow.

Beginning of coinage in Silesia

After an ancient episode associated with the Celts, coinage in Silesia appeared late and its more numerous inflows were in the mid-10th century. The oldest local coins weighing less than 1 g of silver were minted at the end of the 11th century. A mint operated in Wrocław, and possibly also in Legnica. The local mintage disappeared with the centralisation and reorganisation of
the state by Bolesław Krzywousty (Boleslaw the Wry-mouth), maybe in the second decade of the 12th century.

Mints in Wrocław

In 1326, the Wrocław mint was situated on the Market Square. At the end of the 14th century, it was moved to a large plot at ul. Masztalska (Marstallgasse). In the time of Matthias Corvinus it operated briefly in the house of a Wrocław starosta, Heinz Dompnig, at the corner of św. Wojciecha and św. Wita streets. The material remains of minting activities in Wrocław have not been found to-date.

Regional mintage

Separation of the apanage in Wrocław in 1163-1178 for a dynastic line which was removed from power in Poland led to the reintroduction of local coinage by Duke Mieszko the Younger, probably in 1177 or 1178. The Silesian (Wrocław’s) dukes minted local bracteates subject to frequent recoinage and that had the same face value as double-sided pennies which were also coined in Wrocław and circulated also in other parts of Poland. The coins weighed about 0.2 g. Silesian bracteates were found on Nowy Targ Square, while double-sided pennies forming a homogeneous hoard came from Greater Poland. In the mid-13th century, a larger coin, a bracteate weighing 0.8 g, was introduced in Silesia, breaking the unity of the monetary system with the rest of Poland. There were no such coins found on Nowy Targ Square, although they occurred in other parts of the city.

Groschen period

In the last years of the 13th century, in Lower Silesia kwartniks - double-sided silver coins weighing c.1.7 g - were introduced, which were accompanied by smaller pennies (probably 1/4 of kwartnik) in double-sided or bracteate form. On Nowy Targ Square, the kwartniks came from southern Silesia, only pennies were made by the local mint. Minted from 1300, the Bohemian groschen became a coin of international trade, gradually replacing kwartniks and dominating the coin circulation in almost the entirety of Poland. Small Bohemian coins, the parvi, were much less expensive. On Nowy Targ Square we see much more of the former than the latter. In 1362, Emperor Charles IV granted the right of small coin minting – the heller – to the city, but coins from this period were not found on the square.

From the mid-14th century, great trade was increasingly willing to use gold coin. The status of international money gained three gold standards: Italian florin (3.54 g), English noble (8.97 g, and from 1351 7.78 g) and French écu (4.53 g). In the mid-14th century, the Silesian dukes of Legnica and Fürstenberg minted their own florins, and in 1360 the right to mint such coins was also granted to Wrocław, but it did not use it. The decline in silver supply in the last decades of the 14th century as well as the silver mining crisis in Bohemia at the beginning of the 15th century, raised the rank of gold coins, and for everyday use from the second decade of the 15th century, small hellers of base silver were minted in Silesian duchies and cities. The battles for the Bohemian throne and the Hussite Wars in the second quarter of the 15th century forced the Silesians to increase the emission of hellers to satisfy the needs of their armies and to purchase armaments. In 1448, due to the lack of silver, the minting of Silesian hellers was almost completely stopped. After the mid-15th century sporadically, and more frequently in the 1460s, the emission of hellers was resumed in Wrocław and other cities. From 1470, King Matthias Corvinus attempted to unify Silesian coinage and introduce Silesian groschen, but he ceased it before his death in 1490. The initiative to regulate monetary relations was undertaken in the following decades by the cities of Silesia, mainly by Wrocław, but ultimately it was King Ferdinand I who succeeded after 1526.

Receptacles for carrying and storing coins

Coin receptacles known from the High and Late Middle Ages are primarily leather purses attached to belts, occasionally cattle horns were used and, in the second half of the 13th century, wooden or metal containers for bracteates. Two small hoards from Nowy Targ Square were probably hidden in purses, which, however, did not survive. In turn, bronze containers for bracteates found there were empty, as were boxes of various metals. Pottery vessels were used to hide larger amounts of coins. Also metal vessels with legs (Grapen) - mainly in the Hanseatic zone - and wooden boxes, as in the case of hoard of Oleśnica were also used.

e. Forms of money thesaurization

Hoard of coins, silver and jewellery

In hoards of silver found in the land of present-day Poland, since the beginning of the 9th century, oriental coins dominate, mainly dirhams, jewellery and silver raw material. In the second half of the 10th century Western European coins, and later Polish ones occurred. All these components are often fragmented. Coins were not counted but weighed. This is confirmed by numerous finds of balances and weights, also of ori-
ental origin, representing the same weight and money system as dirhams found in hoards. In Silesia, the oldest silver hoards appeared as late as in the mid-10th century.

Later the coins are rarely fragmented, and this concerns above all regular fragments of large coins from the 13th century. The strangest is the series of cut halves of small coins from the early 14th century discovered on Nowy Targ Square, which has analogies only in Brandenburg. Jewellery was still found in hoards, or rather in pawn deposits, but in complete form, as a debtor’s pledge. Moreover, the distribution of hoards is completely different than in the early Middle Ages. In the second half of the 12th century and until 1300, the greatest concentration of them is observed in the areas where economic recovery was recorded, especially in Lower Silesia and Lusatia, further along the route from Lower Silesia to the Teutonic Order state and to the East. We find short-term bracteates in rural areas in large hoards, with a variety of coins, where they were probably treated as bullion. In cities - like on Nowy Targ Square and on Ostrów Tumski in Wroclaw - they appear in small assemblages, consisting of several to twenty odd coins of one type, most likely the contents of purses.

During the 14th and 15th centuries the number of hoards in Poland was clearly growing. Those from the 14th century primarily contained Prague groschen, sometimes gold coins. Almost no hoards with Silesian small coins have been recorded to-date. In the 15th century, the role of small coins in hoards significantly increased. The owners of hoards were rarely merchants who primarily invested their cash. Hoards are associated with affluent and middle-class inhabitants of villages: nobility, peasants and clergy as well as with the pioneers of banking.

Pawn deposits

These special hoards consisted of a part of the creditor and part of the debtor (pledge), which is difficult to distinguish today. Pledges could not only be valuables, but also better sorts of coins, such as gold ones. In turn, jewels may have been a means of payment in certain situations. Pawn deposits are usually the remains of anti-Jewish pogroms caused by pestilence, war or the excessive indebtedness of the population. Hoards containing jewellery in Polish territory are grouped (with exceptions) in Silesia in the mid-14th century - and here they have a clear connection with the Black Death - and with the Teutonic Order Prussia in the first half of the 15th century, where it is more difficult to interpret, in any case their relationship with the pogroms cannot be perceived.

Craftsmen’s hoards

Such hoards contain, apart from coins and jewellery, flawed products, semi-finished products and tools. One of the rare examples is the Austrian hoard from Fuchsenhof from the second half of the 13th century or the Polish hoard from Stare Drawsko, left by a coin forger.

Money boxes

A trace of money thesaurization, probably a small scale one, is clay spherical or zoomorphic money boxes.

Collective finds of coins in graves

These rare finds are probably the multiplied 'obol of the dead', not an economic phenomenon. In other cases, they were traces of hasty burials of corpses that were not robbed, gathered on battlefields or people dying en masse, e.g. due to plague.

Patterns of coins, weights and measures

Monetary weights

Weights used to check the weight of coins primarily accompany gold coin, but in the 14th century in Central Europe they appeared very rarely, and from Wroclaw they are not known even from the 15th century. As late as in the 16th century the Wroclaw mint itself produced such items for weighing local coins.

Tokens and counters

Since the end of the 13th century, jettons in the form of metal discs appeared in the West as accounting instruments, made mostly of bronze or tin-lead alloys. To-date we know only of a few medieval tokens from Wroclaw. Marked pieces of metal, not always round, were also used for settlements in closed money circulation (e.g. in poorhouses, in the collection of fees from urban monopolies). Similar objects were found on Nowy Targ Square (see Paweł Duma’s work in this volume).

Notes and commercial documents

Examples from the cities of the Hanseatic zone indicate that written traces of commercial activity discovered by archaeologists are mainly notes on wax tablets, often in the form of polyptychs, sometimes in leather cases. Such a polyptych was discovered on Nowy Targ Square, but on the cover a scene of adoration of Man of Sorrows by a monk was depicted. Due to the state of preservation it was not possible to read the content of the notes, but probably they were of a devotional na-
ture. Based on iconography, we know that small, handy bills were made on narrow wax tablets with handle on one side, and two such specimens were found on Nowy Targ Square (Fig.).

i. Conclusion

Not everything that constitutes a new form of trade can be read from the archaeological material of the city marketplace. Despite these deficiencies in the archaeological record, the results of excavations conducted on Nowy Targ Square provided not only confirmation of the earlier findings of historians about the Wrocław trade and the role of the city in the European economy, but above all new knowledge, unavailable in written sources. In the area of commercial activities, there is an extraordinary infrastructure for cattle trade and a branding iron, seals registering the origin of cloth sold on the square, and an unusual set of sealing devices. A set of weights greatly expanded knowledge about metrology systems and units used in Wrocław, as well as - due to the presence of new forms of these artefacts - about new trading techniques. The cognitive value of coins collected during the excavations, filling a serious gap in the history of the city, and in addition, encouraging the revision of previously obtained knowledge, cannot be overestimated. The assemblage of coins containers and balances, which although representing known forms, has grown considerably. In turn, there were unknown - and still puzzling – tokens and counters discovered in Wrocław, whose function in the city’s economy may explain their proper coupling with written sources.

The new form of trade, therefore, the traces of which we can observe on the auxiliary Wrocław market, was close-range and long-range trade, based on credit and the division of specialties, using new packaging, transport and billing techniques, implementing local and foreign measures and coins: a new market.

VII. Literacy

A large number of mainly metal objects with inscriptions and initials testify to widespread literacy in the late Middle Ages. Quite frequent pseudo-legends also prove that the characters were treated as a type of decoration. The most popular writing utensils - styluses and wax tablets - were also discovered on Nowy Targ Square. All the discovered styluses are made of metal and represent western forms (Fig.), apart from the bone ones that are typical of the Hanseatic zone. In addition, a polyptych in a leather case from the first half of the 14th century was found. On the covers was depicted a scene of the adoration of Man of Sorrows by a monk (Dominican?) painted on parchment. On the remaining tablets the wax survived in trace amounts (Fig.). The case is decorated rather modestly with a stylised floral ornament (). In addition, two tablets with handles for commercial notes were found, discussed in point h.

Notes and commercial documents.

Krzysztof Wachowski

VIII. Militaria

The presented research results seem to indicate that most of the militaria found on Nowy Targ Square ended up in the ground as a result of being lost or damaged by users of the square. The finds are grouped mainly in the western part, defined in medieval sources from the incorporation period as: pommerische Seite (Pomeranian side). This density of artefacts, however, was already evident in the pre-incorporation phase, when in place of the later Nowy Targ Square dwellings were built. We also noted the concentration of finds in a strip located on the southern part of the square. A lower intensity of the occurrence of artefacts was observed in the eastern part. The lack of such discoveries in the central and northern part of the square is striking. It seems that the street network established during the pre-incorporation period was also fixed after Nowy Targ Square was designed around 1266. It would, therefore, be appropriate to treat the militaria found on the site primarily as a result of the busy traffic along the street network and at the stalls.

Most of the discovered spurs, which are the largest group of items included in this chapter, are specimens heavily used and damaged. They represent functional forms devoid of luxury trim or decoration. The only specimens that I am inclined to consider as knightly ones are spurs made of copper alloy, represented by only several items in the whole collection. All this rather encourages us to treat these spurs as lost by visitors to this part of the city. The communication character of the described finds, if confirmed, could be the reason for revising the existing views on the elitist character of the spurs found in castles. Castles were not only places for the working and development of elite culture, but also important communication nodes.

The relatively numerous finds of spur blanks are unusual in a European context. They evidence the
existence on Nowy Targ Square of spur production workshops, operating from the pre-incorporation period until the 14th century. During the study of other categories of objects, artefacts evidencing the development of weaponry crafts in the area were also found. One of the more spectacular finds is a collection of chain mail links and their blanks prepared by an armorer, and they date from the pre-incorporation period. After the official formation of the city, a turning workshop making crossbow nuts, as evidenced by one unfinished specimen, began production. There were workshops producing scabbards of melee weapons and also using damaged specimens on Nowy Targ Square. The phenomenon of medieval recycling is securely identified here based on numerous finds of scabbards from which fittings were cut out and reused.

All categories of analysed objects can be used to illustrate the changes of settlement in the part of the city in question. Not many of them, however, are useful in establishing the beginnings of settlement of this area. Three finds of spurs that can be dated at the latest to the 11th century based on typological analysis leads to further discussion on the oldest settlement phases of Nowy Targ Square.

A separate category evidencing weaponry use in the city on Nowy Targ Square are the broken off points of swords and falchions. It is not known whether armed incidents were illegal, entertaining, related to skill demonstrations or whether they should be considered within the framework of city law allowing judicial duels in designated places.

The destruction of weaponry elements intended for trade and not meeting strict quality standards may have been practiced. The destruction of weapons could also have been associated with their confiscation and failure to meet legal requirements.

Based on our discussion of finds from Nowy Targ Square, there is also the issue of the elitist or plebeian character of weaponry as a dress accessory and part of the medieval 'dress code'. Personal items, such as spurs or daggers, or long melee weapons such as swords and falchions could have been an element of dress and, at the same time, a sign of social status. These categories of artefacts however, were not reserved exclusively for any social group. It seems that not so much the object as its decoration and material from which it was made may have been an indicator of social status. With ostentation and luxury is also associated the find of an aquamanile of an armed rider. It seems to be evidence of the reception of knightly cultural models in an urban environment. Moreover, in this case, not the object itself, but the medium used in its manufacturing, and the artistic level of its production, may indicate its elitist or ordinary character.

Lech Marek

Medieval production of weapons and weaponry elements in light of the metallographic examination of selected artefacts

Selected weaponry elements, acquired during the excavations on Nowy Targ Square in Wrocław, constitute good material for conducting technological research. As a result, it has been possible to identify the type of raw material and the techniques used to turn it into a finished item. Despite the quite large number of publications on weapons in Europe, there is still a need to continue study on newly discovered artefacts, especially those obtained on Polish territory, where the state of research is not yet sufficient.

Metallographic analysis was carried out in accordance with existing standards. On a small portion of the cross section or longitudinal section, microscopic observations and microhardness tests were conducted.

The results obtained for the two brigandine plates indicate different methods of production. Differences in both the microcrystalline structure and the level of hardness were determined. The raw materials were not characterized by particularly developed mechanical properties.

Swords and combat knives are examples of artefacts manufactured using varied techniques and raw materials of different quality. As a result, artefacts with interesting properties were produced that were hard in some places, and in other areas much softer, according to the function of the objects.

Chain mail is another example of an artefact of diverse construction. Based on the examination's results, several methods of manufacture were identified. Raw materials of various quality were also identified. The iron and steel raw materials were neither particularly hard nor pure, as evidenced by numerous non-metallic and slag inclusions that were found in the entire cross sections of the analysed links. The maximum hardness values obtained for the links and rivets do not exceed 300HV, hence they are not particularly hard.

The examined militaria from Wrocław’s Nowy Targ Square proved to be reasonable ones in the context of their production and function. Various materials were deliberately used for their production, and were subjected to intentional treatments, changing the material properties in order to achieve the finished product, i.e. a ready weapon or a weaponry element.

Beata Miazga

Summary
IX. The bulla of Pope Benedict XI

Amongst the finds from Nowy Targ Square, the bulla of Pope Benedict XI (1303-1304) is conspicuous. Below is a description of the artefact:

Obverse: Lombardic inscription BENE / DICTUS / PPXI (over the PP characters the contraction sign).
Reverse: inscription in capitals, SPASPE, below, separated by cross with a long staff, two medallions with ¾ bearded male heads facing each other: left with sleek hair and right with curly hair.

The bulla is in excellent condition, complete, with only two scratches on the obverse. In the channel the remnant of a string survived which had once attached it to the document.

Finds of medieval papal bulls in Poland have been very rare until recently, but as a result of recent discoveries their number has increased to 20 plus one council specimen in mid-2016. It is still much less than, for example, in England.

The interpretation of these finds is based on the premise that each such object came with a document to which it was affixed and which it authenticated. Very rarely have we managed to identify these documents. The known documents of Benedict XI concerning the diocese of Wrocław refer to ecclesial benefices or collects and there is no reason for abandoning such a document in the city’s marketplace. In Protestant countries - also, though rarely, in Silesia and Pomerania – bullae have been found, the abandonment of which might have been associated with an act of blasphemy during the Reformation. Wrocław belonged to Protestant cities, but the excellent condition of the Wrocław bulla and finding it in the layer contemporary with the artefact excludes its association with the Reformation. It is most likely that the bulla was attached to a document concerning spiritual matters, individually related to the recipient. Such documents were often not kept in archives, and the proper context of this find on the city’s square may be the numerous pilgrim badges.

Borys Paszkiewicz

X. Pilgrimage accessories and devotional articles

This collection of pilgrims’ badges from Wrocław contains in total 37 specimens, 32 of which were discovered during the excavations on Nowy Targ Square in 2010-2012. These objects are traditionally considered to be a testimony of a pilgrimage to a given place of worship represented on the badge.

When comparing the number of badges discovered in different chronological periods (stratigraphical units), some regularities were noticed. We can identify three phases which differ in the intensity of badges occurrence. The first of them includes the oldest layers (from the 12th century until the square was designed). By far the largest number of badges comes from layers dated after the creation of the square (the mid-13th century – mid-14th century) and it clearly identified as the second phase. The next - third phase, is associated with even younger layers (the 14th century – 15th century) and is characterised by a smaller number of badges. Seven badges date from the first phase. They concern the oldest pilgrimage centres, namely Santiago de Compostela, Rocamadou and Cologne. Surprisingly, in this assemblage is the appearance of a badge of St Judoc (Josse) from the pilgrimage centre in Saint-Josse-sur-Mer in northern France, which may indicate that newcomers from Flanders who settled in Silesia in the 13th century ‘brought’ this badge with them.

In layers dated to the time after the delimitation of the square, the largest number of badges was found, in total 16 specimens. Most of them come from the Rhineland, mainly from Aachen (six specimens). Four badges are associated with Maastricht, and one with Cologne. The area delineated by these three cities seems to be the most popular place of pilgrimage of the inhabitants of medieval Wrocław. Moreover, from this phase come badges from Rome and Lucca as well as Krakow and other unidentified ones.

Only seven pilgrims’ badges are associated with the third phase. These particular specimens come from Stromberg and Trzebnica, and one probably from Rome.

In addition, numerous pilgrimage accessories, such as flasks, water bottles, rattles and devotional articles, were discovered on the square.

It seems that the concentration of pilgrims’ badges, pilgrimage accessories and devotional articles almost exclusively in the area of Nowy Targ Square in Wrocław was caused by the manner of pilgrimages’ organisation. At a short distance from Nowy Targ Square the oldest parish church of St Adalbert is located, which was mentioned from 1148. Although in 1226, this church was taken over by the Dominicans and parish rights passed to the nearby church of St Mary Magdalene, but some powers, such as the burial right, the Dominicans managed to keep (Wojcieszak and Wachowski 2010). We think that the church of St Adalbert was the beginning and end point of pilgrimages. On nearby Nowy Targ
Summary

The earliest references concerning leather crafts in Wroclaw date back to the second half of the 13th century. In the oldest statutes of guild organizations, on a list dating from the turn of the 13th and the 14th centuries, tanners, furriers, shoemakers, saddlers, purse makers, needle case makers, glovers and belt makers are mentioned.

During the archaeological excavations conducted in the years 2010-2012 on Nowy Targ Square a very rich collection of leather artefacts was obtained, about 60,000 items. Amongst the products the most frequently represented are footwear and its components, knives’ sheaths, scabbards of melee weapons, gloves, purses, belts and straps serving various functions as well as appliqué and patches. Fragments of pouches, doublets, leather parts of flails, balls, circles, a studded dog collar and a leather case with wax tablets were also recorded. The largest group consisted of leather waste and fragments of unidentified objects. Knives, awls, shears, needles, thimbles and whetstones are all associated with tanning and shoemaking tools. The analysis of archaeological features enabled ones to be identified that, due to their form and the finds recovered from them, can be linked with leather processing.

The artefacts evidence the existence in the study area of places where the tanning of animal skins as well as the manufacture of leather goods from new skins, and the occasional repairs of damaged leather items took place. The main raw materials used by the New Square leather craftsmen were cow hide (41.46%), goat and sheep (32%) and deer (7.22%). Occasionally, skins from wild boar, beaver or fox were used. A few pits interpreted as tanning pits should be considered as places of secondary waste accumulation after a full cycle of tanning. Nevertheless, their presence confirms small-scale tanning activity. In the first two phases of the settlement’s existence, features in which a high frequency of leather waste was recorded were located in the western part of the settlement. In phase III, however, they did not form compact clusters and were located in different parts of the settlement. In phase I, the production of footwear and leather goods had a cottage industry character. The beginnings of craft production had already occurred in phase II, when a shoemaker’s workshop operated in the north-western part of the settlement (s. u. 141). The end of the settlement’s existence in the study area is dated to the second half of the 13th century. At that time, in its place one of the marketplaces of medieval and post-medieval Wroclaw developed.

The guild regulations from the turn of the 13th and the 14th centuries, and the statute from 1327, allowed

XI. Leatherwork and its products

1. Leatherwork

Leatherwork is one of the oldest branches of craftwork, dealing with both the tanning of animal skins as well as the manufacture of various products.

The aim of the study was an attempt to reconstruct the activity of leather craftsmen in Wroclaw in the 12th - the 15th centuries, using the example of artefacts discovered on Nowy Targ Square in Wroclaw, based on multifaceted analysis of historical, archaeological and natural sources. The work included archive sources related to leather crafts, where the location of tanners and shoemakers’ workshops in Wroclaw and their equipment as well as the techniques of tanning animal skins are described. Ethnographical and archaeozoological sources were used to reproduce the old tanning techniques, while iconography was helpful in reconstructing the appearance and equipment of leather workshops and the protective gear of craftsmen working in them.
poor vendors to trade on Nowy Targ Square for three days a week. Amongst the products they offered were probably leather goods. The largest amount of leather waste and leather items was discovered in the immediate vicinity of features interpreted as stalls.

Archaeological excavations on Nowy Targ Square showed that leather production and leather items trade played an important role in the economy of Wrocław.

Magdalena Konczewska

2. Leather attire - footwear, pattens, gloves and other dress elements

Leather artefacts discovered during archaeological excavations conducted in the years 2010-2012 on Nowy Targ Square are of great importance for the identification of the material culture of medieval Wrocław. In this collection leather dress elements such as shoes, gloves and doublets were noteworthy and are the subject of this study. They were found in contexts dated from the turn of the 11th and the 12th centuries to the beginning of the 15th century. Due to the structure and number of the collection, most attention was paid to footwear and footwear fashion. The design, types, models and decoration of footwear were discussed as well as issues concerning shoemaking and demography.

In the Middle Ages dress was treated as an external sign of belonging to a social group and was often a serious investment. In the footwear collection from Nowy Targ Square, specimens with low and high quarters as well as pattens were identified. The remaining dress elements were represented by leather gloves with one finger and fragments identified as the remains of doublets, cloaks and headdress. Some leather patches could have been included in military equipment and may have served as protective armour.

For cutting low shoes a single-piece of leather was used, while for high shoes single-piece and two-piece were used. Shoes with high full quarters were made in a two-piece cut technique. The quarters were supplemented with connectors and inserts. From the 13th century, heel stiffeners, lace hole bindings and top bands were commonly used for strengthening the uppers, while soles were sealed with rims. About the mid-13th century lining began to be used in the construction of the sole. The aforementioned components significantly enhanced the comfort and functionality of footwear and were a technological innovation. Adults mostly wore low shoes, while children wore high shoes. The large proportion of high shoes in small sizes can be explained by the fact that children wore them only in the autumn-winter season. Only the wealthier inhabitants could have afforded to wear shoes all year round. Almost 19% of footwear specimens were decorated with gilding, painting, openwork, embroidery or appliqué. Footwear decorated with gold or other metal flakes and paint are unique artefacts. The Nowy Targ Square collection (13 specimens), dated to the 12th and the first half of the 13th century, is one of the largest in Poland and Europe. In the second half of the 13th and 14th century, openwork footwear with linear, geometric and floral motifs was popular.

I think that exquisite footwear was associated with representation, ceremonial and festive costume, and to a lesser extent with everyday outfits. It was worn by state, church and city dignitaries. The recipients of more modest versions of decorated footwear were probably the patricians and wealthy craftsmen imitating the patterns of higher social classes.

In conclusion, we can say that the analysed footwear is characterized by a uniform system of cutting of individual components and adhering to specific rules in the manufacturing of different types of footwear, consisting in, amongst others, the proper choice of raw material and avoiding joining materials with different physical parameters. Most footwear of the 13th-15th centuries bears the mark of standard mass production. We may presume that some specimens of footwear, especially the decorated ones were made on the individual order of a customer. This is evidenced by the variety of ornamental techniques and decoration motifs as well as the uniqueness of the design. The basic raw material for the shoe uppers was cowhide and skins of small ruminants, i.e. goats and sheep, while for the soles cowhide was chosen almost exclusively because of its physical properties. Gloves were made from the skins of deer, calves, sheep and goats.

The characteristic feature of the Wroclaw centre as well as of Polish sites dated to the 13th and 14th centuries is a higher frequency of footwear made of skins of small ruminants than on European sites from the same period.

Magdalena Konczewska

3. Results of spectral examination of medieval decorated leather artefacts

Archaeological excavations on Nowy Targ Square in Wroclaw provided a large collection of leather artefacts. Amongst these objects were unique finds decorated with various metal accessories (amongst others mounts or paint). This collection of artefacts constitutes an interesting contribution to the study on technological aspects of leather production as well as jewellery (goldsmithing) in medieval Wroclaw.
The examination of decorated leather artefacts enabled a great deal of information to be gathered, not only for issues related to the production technology of decorated objects, but also about the raw materials used in the making of the decorations (e.g. textile or metal ones). This data may be helpful in determining the technological level and the degree of specialization of medieval craftsmen.

The analyses of decorated leather artefacts were carried out by microscopic and spectral methods. The most frequently used analytical instrument was X-ray fluorescence spectrometry (XRF), which, as a non-destructive and universal measuring technique, can be successfully used for the study of archaeological objects. An additional analytical instrument is FT-IR spectroscopy. For selected artefacts, microscopic studies were also carried out using optical microscopy and scanning electron microscope with X-ray microprobe.

The examination results confirm the considerable variety of applied decoration techniques on leather products. Amongst the identified techniques were metal mounts attached to objects, made of metal and alloys of gold and silvery colour (mainly brass, lead, tin). Apart from the mounts, leather was decorated with various mineral and metallic paints. An interesting group of artefacts are leather items painted with gold, which although not well preserved, may indicate the high economic status of medieval Wrocław inhabitants.

4. Result of species analysis of leather artefacts discovered on Nowy Targ Square in Wroclaw

Qualitative analysis and identification of leather species of fragments of objects and waste discovered in the area of stratification dated from the 12th century to the end of the Middle Ages and the Post-medieval period (phases: I, II, III, V, VI VII and VIII). The animal hides used in making the artefacts was determined using an SZX9 Olympus stereoscopic microscope (SZX-TR-30) with a magnification of 16-20x, based on three taxonomic features of tanned skins: face pattern, layout and arrangement on the face of the hairs as well as the thickness and structure of collagen fibre and bundles of the flesh on the skin's cross section and on the fleshy side of the skin. Out of a total of 1,136 remains, 926 specimens (81.51%) were identified in terms of animal species. They were mainly fragments of tanned cowhide (475 specimens - 41.82%), followed by goatskin (151 specimens 13.29%), sheepskin (112 specimens – 9.86%), and goat/sheep skins (102 specimens - 8.97%). The other identified artefacts were wild animal skins, mainly deer (85 specimens - 7.48%) as well as one fox skin fragment and one beaver skin fragment. The material also includes three fragments from domestic pig or wild boar.

The significantly advanced process of degradation of taxonomic features of the skin of 132 artefacts excluded the possibility of their species identification.

Significant differences in the frequency of occurrence of the aforementioned animal species amongst artefacts from particular chronological periods were noted. In layers dated to the 12th/13th centuries, to the 14th/15th centuries, and to the 15th century and later times, more than a half of the material consisted of the remains of cowhide. In turn, amongst the archaeologically artefacts from stratigraphical units dated to the 13th century and to the second half of the 13th/14th century, the percentage of skin fragments from small ruminants and deer was larger than of cowhide.

Teresa Radek

XII. Textiles

During archaeological excavations conducted on Nowy Targ Square in Wroclaw, a large collection of textiles was discovered. In total, 459 textile remains were found, sometimes preserved in a large number of fragments.

The settlement layers of the Square were divided into nine phases, however, the finds of textiles come only from phases II to VII, and thus they are dated for the period from the turn of the 12th/13th centuries to the end of the 14th century. Most, i.e. as many as 360 artefacts, are dated to the 14th century. From the turn of the 12th/13th century only two strings are dated. The chronology of two silk and two wool textiles was not established.

In total, 386 woollen textiles were found. They were classified according to the typology developed by J. Maik, based on their weave, direction of the twist of warp and weft as well as the textile's fulling or its absence. In this collection definitely type 4a and 4 textiles, i.e. the ones made in a 2/1 twill, both fullled and not fullled dominate.

The analysis showed that 84% of 13th-century textiles were woven in a 2/1 twill. In the collection from the 14th century, their share decreases to about 73%, and in exchange the share of products in plain weave increases. Analogies for this situation can be found in other Polish and European cities (e.g. in Opole, Gdańsk, Kolobrzeg, Schleswig and Lund).
The predominance of textiles in a 2/1 twill in the 13th century is explained by their origin from craft production, made using a treadle loom. Craft weaving in Wrocław and in general in Silesia took place at least since the 13th century. The increase in the popularity of the plain weave in the 14th century resulted from the need to simplify production methods and to make it cheaper and was associated with Western European influence in Central European cloth production.

The fact that the weavers reduced production costs is also demonstrated by the relatively poor, usually only one-sided fulling of about 78% of textiles in a 2/1 twill, and the filled side is the one on which two weft threads correspond to one warp thread. The craft character of weaving production in Silesia is also evidenced by attempts to standardise it - amongst the textiles from Nowy Targ Square, three quality groups of fabrics can be seen: the thickest ones have a warp and weft density of up to 10-11 threads per 1 cm, the second group has a density of up to 15-16 threads per 1 cm, and the third one, the most delicate, about 20 threads per 1 cm.

The vast majority of wool textiles found during the excavations on Nowy Targ Square in Wrocław are of local origin, by which we mean they were produced in Wrocław itself or in general in Silesia. The imported products are less numerous - high class, very delicate, in tabby and 2/1 and 2/2 twill, from yarn in a ZZ twist. The yarn is very even, thin and equally thin and delicate are the fabrics - their warp and weft density is about 20 threads per 1 cm. The imports are also the most delicate textiles in 2/1 and 2/2 twill, in a ZS twist as well as the thin and the very well fulled textiles in a 2/2 twill. They probably come from Western Europe, most likely from England or Flanders.

The imports (probably from Italy) are also a few silk textiles. Only four such textiles were found, all made in a tabby.

Five decorative ribbons were made of silk. Four of them were made on tablets and one on a rigid heddle or box loom. Two of them stand out especially as they are made with the use of metal threads, probably gold-plated or silver-plated.

An exceptional artefact is a woollen-silk textile (No. 315) dated to the 14th century, in which - apart from the woolen warp - a woollen and silk weft was used. This product was made using a tabby and repp. As a result of the use of different coloured wool and silk threads as well as weave variation, a striped textile was created, in which the red background is in tabby and the repp strips have a golden (silk) or brown (wool) colour.

From the 14th century comes a semi-woollen textile, i.e. the one made of a linen warp and a woollen weft. Such a selection of raw materials was aimed at reducing production costs, and at the same time the fulling of the textile resulted in its functional values being no poorer than of woollen fabrics.

Two textiles were made of horsehair, in a tabby. Both textiles are black, but one of them has a strip of rust-coloured fibres. Based on ethnographic analogies, one suspects that we are dealing with parts of sieves.

Two charred textiles dated to the 13th century were made from an unidentified plant raw material. Their relatively high density indicates that they are probably linen fabrics.

In addition, noteworthy is also a high-quality imported cotton fabric woven in a tabby (second quarter of the 13th century).

An interesting find are two woollen bands with one edge provided with protrusions. Analogies from Gdańsk and London indicate that these are the remains of garters.

The catalogue of textile finds from Nowy Targ Square also includes five woollen ribbons, 39 felt remains, a woollen tassel, three woollen threads or strings, one string of hair, five threads or strings of plant raw material, (including one phloem string) and three silk strings.

The collection of textiles from Nowy Targ Square in Wrocław is one of the most interesting in Poland and evidences well-developed textile production in Silesia, including Wrocław, but also the import of more luxurious textiles - both made of wool and silk.

Łukasz Antosik, Jerzy Maik, Anna Rybarczyk, Joanna Slomska & Emilia Wtorkiewicz-Marosik

XIII. Dress accessories

In the course of excavations carried out on Nowy Targ Square 515 artefacts made of both non-ferrous metals as well as iron, which can be attributed to dress accessories, were discovered. It is a large and heterogeneous collection, which is difficult to summarise. It is worth, however, examining the trends and more unusual elements of this collection.

A lot of tin and lead alloy items (especially hooked clasps and open anthropomorphic buckle) are imitations of almost identical objects which we know from late medieval hoards.

A large part of the collection, especially hooked clasps and mounts, is repoussé items, or simply cut from sheet metal, and then decorated. This type of production does not require a specially prepared work-
shop. The simplest items could have been made in home workshops or even directly at the stall. The quality of repoussé artefacts from Nowy Targ Square greatly varies from very simple specimens to ones demanding skill and a well-made soft mould.

It is difficult to designate areas as potential production sites on the square itself, based on the dress accessories found on the marketplace, both during the ‘market’ and pre-market periods. The greater density of artefacts in some areas (especially in the ‘western zone’) may indicate the presence in this area of workshops or stalls, but it can also only evidence that this part of the square was more crowded and it was easier to lose some dress accessories. Most probably, most of the finds from the period of settlement evidence the course of paths and location of squares.

Jakub Sawicki

XIV. Finger rings

Taking into account the form of plate (or its lack), the type and the technique of stone mounts, 5 groups of finger rings were identified: I - rings with the same band width (Fig. 1); II - rings with a gentle extension, forming a kind of plate (Fig. 2); III - rings with a flat plate (Figs. 3 and 4); IV - rings with stones in a case mount; V - rings with a stone in a mount with claws (Fig. 5).

The ornamentation of the few specimens of groups I and II is limited to engraved or cast geometric motifs. In the most numerous group III, the plates are usually round, less often in the shape of heraldic shield, and there was a greater variation of raw materials. Apart from tin and lead alloys and bronze, there are also specimens of silver and gold. The ornamentation is geometric and floral. Most interesting is the representation of the head of Christ (Fig. 4i), and an eagle on a plate in the shape of a heraldic shield (Fig. 3b). On plates also appear single letters, such as ‘M’ - Mary or Minne (Fig. 3c). The bands were sometimes decorated with a geometrical ornament. Occasionally the band at the plate is extended to form a stirrup (Fig. 4j). Intermittently, there are inscriptions on the rings, such as ... E? HTIV.N on the band of the aforementioned ring with the image of Christ on the plate (Fig. 4i), I? HEVN. on the heraldic shield (Fig. 4d) or VI_IAX_E? IV on the band (Fig. 3p). The Bohemian lion in the rim with the inscription + AEW? NLASUNh (Fig. 4m) is also a rare representation. A unique find in this group is a gold ring with the image of an eagle in the niello technique on the plate (Fig. 4e). Rings of group IV (13) represent nearly 25% of the collection in question. This group is dominated by specimens made of copper and zinc alloys (6), followed by tin and lead (4), and by one specimen each of gold, copper and silver-tin alloy. The mounts are polygons, squares and circles in shape. A ruby cabochon was embedded in a gold ring, in other cases stones (glass?): whitish, blackish, reddish and yellow in colour were recorded. Decoration is generally modest and rare. Apart from geometric motifs, there is one decorated with the shape of a flower. Sometimes on tin specimens pseudo-granulation was used, and once on the plate the inscription: + A I <> I • I • • h (Fig. 5b) appeared. The band is rarely decorated with geometric ornamentation, sometimes also with pseudo-granulation. From the total number (6) of the V group, two specimens are made of tin and lead, another two of copper and zinc, and one of copper and tin. The mount is usually round, occasionally rhomboid. The stones usually have fallen out, and only the remains of a whitish stone and once of a blackish glass are preserved. The band usually has the same width along the whole circumference. In one case wide stirrups decorated by pseudo-granulation, are separated. Dating is in the range from the second half of the 12th to the first half of the 14th century (phases II-VI).

The finger rings were found on Nowy Targ Square in all the settlement phases identified here. However, the determination of the dynamics of occurrence was possible only for the two most numerous groups of rings: III (with a flat plate) and IV (with a case mount). Both graphs (see Graph 1) are almost identical and reflect the same trends as other products of material culture on this site, in particular lead-tin products (badges). In phase I, the number of discovered finger rings is negligible. It slightly increases in phase II and clearly increases in phase III. In phase IV, i.e. during the delimitation of the market square, we do not observe any finds. In turn, in times of the market operating in phases V-VII, we recorded more or less a double increase in finds compared to phase III. In phase VIII, the finds disappear, which is not due to a change in the market function, but results from the laying of the cobbled surface. The trends presented here result only partly from the passage of time, but they are also the effect of different patterns of losing objects in buildings (phases I-III) and on the market square.

The proof of the existence of local finger rings production on Nowy Targ Square is the stone mould (see Lisowska in this volume).

Most often the symbolism of rings from Nowy Targ Square is of heraldic or paraheraldic character. Three plates of rings had the shape of Gothic heraldic shields.
Of the second one eagle (Fig. 3h), and on the third in an oblique strip inscription IHEVN or IHDVN (reading by Professor B. Paszkiewicz) and lime tree leaves (Fig. 4d). The eagle also appears on the round plate of the golden finger ring (Fig. 4m). In turn, on the round plate of tin (?) specimen the Bohemian lion with the inscription in the rim + AEW?NLASUNh (Fig. 4m) was presented. On the band of a finger ring with a geometric pattern on the plate there is the inscription VI IAX E? IV (Fig. 4p). On the plate of the only one ring in group IV there is the inscription + A I <> I · I · h (Fig. 5b).

The representations and inscriptions on the rings in question are probably associated with the sphere of the profanum. Probably there are also specimens with popular geometric and floral decoration. While the interpretation of geometric decoration is still a mystery to us, some floral representations probably have a connection with courtly love (Fig. 3o). Similarly, plates in the shape of a heraldic shield with a flower (Fig. 3b) or with an oblique strip and lime tree leaves (Fig. 4d) do not present actual coats of arms, but love crests known, for example, from the Codex Manesse.

In turn, on the plate of another finger ring, only the letter 'M' appears (Fig. 3c). Unfortunately, in the Middle Ages, the letter M has many meanings. The main ones are on the one hand Minne, i.e. courtly love, on the other hand Mary, definitely the sphere of the sacram.

There are numerous plates with different types of crosses, however, it is difficult to classify all of them into the sphere of sacram. We have no such reservations, however, in the case of the finger ring with the representation of the head of Christ (God’s Face) in a flame-shaped nimbus and the inscription on the band E? HTIV N (Fig. 4i).

A separate challenge is the inscriptions on finger rings. Formerly, it was believed that if we could not read the meaning (despite the legibility of the text); it was a craftsman’s mistake or a pseudo-legend. Today, it seems that they are often abbreviations, spells or encrypted texts. Krzysztof Wachowski

XV. Horseshoes

During archaeological excavations carried out in 2011-2012, 238 specimens of iron horseshoes were found on Nowy Targ Square in Wroclaw (229 artefacts preserved in whole or in part, and 9 semi-finished or unfinished horseshoes). It is a very numerous and typologically diverse collection, which in terms of its size as well as the variety does not have published analogies from the area of present-day Polish territory. It significantly exceeds the largest to-date, published, 52-specimen collection of horseshoes from ul. Szewska in Wroclaw. The comparative background for the presented collection were also published (about 50 specimens) horseshoes from older excavations conducted in the 1960s by J. Kaźmierczyk in the area of Nowy Targ Square (both on the square itself and on the adjacent Drewniana and Św. Katarzyny streets).

Based on the classification of late medieval horseshoes proposed by J. Kaźmierczyk, the collection of artefacts from the recent excavations on Nowy Targ Square represents 13 varieties belonging to 5 types. The most numerous were horseshoes of type VI, with a so-called heel, which appeared in Wroclaw in the second half of the 13th century and were used - along with slightly less popular horseshoes of various varieties of types III and IV - practically until the end of the Middle Ages.

Observations and hypotheses obtained during the analysis may be much more reliable than previous views of various researchers, based on studies of less numerous collections of artefacts. The theory formulated by the authors of the study on horseshoes from ul. Szewska was that materials from research on late-medieval urban complexes should be compared with horseshoes discovered on other types of archaeological sites, especially on castles. Mutual verification of observations made on different types of sites will allow for a more precise determination of the chronology of particular types and varieties of medieval horseshoes.

Krzysztof Jaworski & Sylwia Rodak

XVI. Hygiene

The total number of objects related to hygiene discovered in all layers on Nowy Targ Square is extremely small. And this applies especially to permanent structures, but also to smaller artefacts. The functioning of barely three water wells and the same number of water pipe ones was confirmed. The situation with cesspits is even worse: only one such feature with boarding and two pits without it were found (see in general Cembrzyński 2011). The presence of gutters was also recorded. There is no evident better sanitation with hygiene-related items. The most common bone and horn combs and their production waste (see for Wroclaw: Jaworski 1995; 1999; 2002; Wiśniewski 1995; Jastrzębski 2004) are quite poorly represented on Nowy Targ Square.
The situation outlined here should be considered separately for the period when today’s Nowy Targ Square had regular residential buildings and separately for the time when the market square was arranged. In the face of the discovery of only one cesspit, it can be assumed that in the first of these periods, the residents settled their needs in the back parts of parcels, perhaps also in waste pits without wooden constructions.

The only direct proof that the cleanliness of floors and streets was taken care of were brooms made of twigs, probably birch ones found on Nowy Targ Square.

The maintenance of everyday cleanliness, especially of hands, is usually associated with a lavabo, of which special zoomorphic forms are known as aquamaniles. Their relation with hygiene, however, is problematic, because this vessel served mainly to symbolically wet ones hands in a gesture of greeting. One clay glazed aquamanile in the shape of a horse with a rider, dated to the 13th century was found on Nowy Targ Square. This artefact with unusually rich military symbolism was discussed together with militaria (see L. Marek in this volume). For washing and laundry numerous stave vessels found on Nowy Targ Square (Wieczorek, in this volume) probably served, but it is usually impossible to distinguish specimens used to prepare food, carry water etc. from those intended for washing and laundry. There is no certainty whether such a division even existed at that time.

The most commonly found artefacts associated with daily hygiene are combs. They are made mainly of bone, horn and wood.

Foldable medieval iron razors are known in Silesia in the second half of the 9th?10th centuries, where they arrived along with Great Moravian influence. After a longer break, we record them again in this province as late as in the 13th century. Three razors were identified in materials from excavations on Nowy Targ Square in Wrocław (Fig. 1). Two specimens are associated with the pre-market phase (Figs. 1a & b). There were probably more of them, but from a huge number of blades, most often knives’ ones, were selected specimens which had at least one diagnostic feature.

**XVII. Games and play**

During excavations on Nowy Targ Square in Wrocław a diverse assemblage of game accessories and toys was discovered. These represent the majority of play items used in the Middle Ages.

The most numerous finds were dice and various board games pieces, mostly for adults. Children’s toys were dominated by clay figurines of horses and riders, the finds characteristic of the area of Silesia. Other play items such as balls or animal bones (phalanx) used in games were also popular. There were also toys in the form of miniaturized copies of objects used by adults. Several types of simple musical instruments and money boxes were also found, which could also have been used by children. The assemblage of games and plays accessories should be considered as the richest amongst all the known collections of this type of finds from medieval Wrocław. Both items of simple construction made from commonly available raw materials and specimens made from more valuable raw materials and imports were found. Many of the children’s toys were probably created as side products of craft workshops, suggesting that they could have been traded since the late phases of the Middle Ages. The rich assemblage of artefacts discovered on Nowy Targ Square constitutes evidence that it was a place of entertainment and games for the whole community.

**XVIII. Stone artefacts**

Functions of stone products - trade and crafts

Excavations conducted on Nowy Targ Square yielded more than 200 stone products that can be dated from the younger phases of the early Middle Ages until the Post-medieval period. Most of the products were recorded in the layers dated to the 13th - the 15th centuries. Amongst them the most numerous were whetstones, followed by quern stones, game balls, spindle whorls, casting moulds, architectural details and others of unknown function. The stone products described in this paper are associated with both the economic and commercial activity on Nowy Targ Square.

Rotational quern stones are mainly represented by forms made of granite that was mined in the Mount Ślęża Massif. They evidence a number of activities related to the processing of agricultural crops. Whetstones manufactured from quartz-sericite slates and other raw materials of the Sudetes and erratic origins, as is the case of finds from Nowy Targ Square, evidence both trade (a high share of unused specimens) as well as their use in numerous craft workshops in the Middle Ages.

Another interesting large collection is that of casting moulds, some of which were discovered in one of the houses. The context of their discovery indicates the
XIX. The burial of a child in dwelling space.
The problem of presence of human remains in settlement features.

This article concerns an unusual archaeological find from the Nowy Targ Square in Wroclaw. In 2010-2011, important excavations were carried out there within reach of the pre-incorporation medieval settlement and the later marketplace created after the incorporation of Wroclaw in German law. In one of the features dated to the mid-13th century a human hand and a foot in a leather shoe were discovered. The limbs were not cut off, but as the anthropological analysis showed broken off post mortem. This prompted the author to put forward a hypothesis that the remains may be the remains of the judicial custom referred to as Leibzeichen operating in German law. It is possible, however, that these are traces of unspecified magical activities as there are several similar finds from Europe (mainly Germany).

The second issue analysed by the author was the complete burial of a newborn child deposited in a pottery vessel dated to the mid-13th century found during the excavations. It is also the first find of this kind discovered during archaeological excavations in Lower Silesia. In the author’s opinion, the burial could have been that of a child who died before baptism and thus could not be placed in sacred ground according to the Christian rite. The phenomenon of children’s burial in pottery vessels has been known in Europe for a long time. Recently, this topic has been frequently examined. This author also points out that, apart from the wide geographical extent, such burials also span a wide time range. The oldest of them are dated to the 13th century and the youngest ones to the 19th century. During the anthropological analysis it was established that at the time of death the child was at perinatal age - very late foetus (8-9 months) - or a newborn baby.

Pawel Duma

XX. Animals in medieval Wroclaw. Meat consumption structure problem

Archaeozoological studies were conducted on bone material from the archaeological site located on Nowy Targ Square in Wroclaw. In total 8,181 bone fragments were examined, which are dated to the end of the 15th century. The species and anatomical affiliation were determined for 72.04% of the collection (NISP). During the visual-comparative analysis several traces of intentional human activity (butchery marks) were identified, which allowed the examined bone material to be classified as typical post-consumption remains. It was also evident that the butchering process of cutting up the essential elements and smaller culinary parts was no different from contemporary ones. The overwhelming majority of identified bone fragments came from domestic animals, mainly mammals. The majority of slaughtered animals were domestic cattle (51% NISP), pigs (21.3% NISP) and sheep and goats (17.3% NISP). Comparing the results obtained with the work of other authors dealing with the bone remains of domestic animals from the area of medieval Silesia, the trend of a gradual increase in the percentage of cattle at the expense of pigs was observed, which is probably related to ethnic and legal changes that occurred in cities (Wroclaw and Opole). The trend of a decrease in share of skeletal remains of pigs in relation to cattle is very clearly evident on the Opole site (Ostrówek) and it is possible to record in comparison with the results of work on sites located within medieval Wroclaw with different dating. This phenomenon demonstrates the decline in the importance of pork in favour of beef. Probably the reason for the change in dietary preference that occurred in both cities is the so-called revolution of the 13th century, i.e. the cities’ incorporation and the associated inflow of colonists, mainly from German states. The development of the post-incorporation city of Wroclaw was more complex and of longer duration than elsewhere and the Magdeburg law itself was granted several times. Therefore, the ethnic, cultural, social and legal changes took place over a significantly longer period of time than elsewhere. The age profile of the slaughtered cattle demonstrates the importation of animals from more distant areas to meet the demand and
Summary

XXI. Dynamics of settlement and cultural transformation. Conclusions

The purpose of the research carried out by the authors of this book was to reconstruct the process of creating a city - the Silesian metropolis on a cultural borderland, in the sphere of influence from the East and the West. Our intention was to trace as wide a range of subjects as possible. Materials from archaeological excavations in Wrocław were mainly used as the source database, with particular emphasis on excavations carried out on Nowy Targ Square. We wanted to gain a reflection of the medieval image of the city in its then reality. Our intention is to engage in scientific discussion, while simultaneously providing valuable reading for a non-expert.

Wrocław belongs to the centres formed by a long and complicated development. In modern research thesis of forming the city at a certain point on the timeline is not presented. This does not mean, however, that this development was uniform. On the contrary, it was marked by events and decisions as well as legal and spatial regulations that changed the structure of the city, often in a fundamental manner. In the case of Wrocław, the implementation of spatial changes was conditioned by a compromise between the needs of the duke and the municipality and the specific natural conditions. The decisions and solutions adopted earlier were also important. We can only speculate that the location of the stronghold on the river's island was due to its natural defensive elements, perhaps a need to protect the crossing of the Odra River. The unintended consequence of the decision taken in the mid-10th century was that a large city developed in the later Middle Ages in this location. Therefore, the possibilities of siting buildings in the natural environment that would have been important for the city and its inhabitants were limited. The polycentric, proto-urban settlement complex developed in the 12th century around the central stronghold - on the islands and on both banks of the river. A new element of this structure, decisive for the future shape of the city, was a legally separate burgher municipality, constituted in Wrocław before the mid-13th century. The settlers from the Empire who formed this municipality occupied an area free of buildings, located to the west of the existing pre-incorporation craft and trade settlement. The appearance of this new settlement was a sign of the coming times. It reflected a change in economic and legal conditions, ending the possibility of the further development of the proto-urban settlement and marking a new stage of Central Europe urbanization.

The development of the communal city took place in several stages involving the absorption of the old settlement, the occupation of the land to the south and west of the original range, and the rise of the New Town, incorporated later into a common structure. There is a specific relationship in Wrocław of the old settlement to the newly organized city. Excavations on Nowy Targ Square showed that both settlements functioned in parallel for several decades. Both areas were surrounded by a common strip of fortifications, later referred to as the inner one. The old settlement had an irregular network of streets and its axis was a street stretching between the crossing to Sand Island and St Adalbert's Church. The centre of the new, regularly planned settlement was a large rectangular marketplace. They differed in their separate legal and fiscal solutions and were linked by strong ducal power.

Commercialization of the economy was an essential part of the transformation of Central and Eastern European cities during the high Middle Ages. It seems...
that the legal changes that took place then were directed at the regulation and fiscal control of economic processes taking place quite independently, in line with the booming economy at that time throughout West Christian Europe. The regulations provided a large range of economic and personal freedoms while safeguarding the interests of the city lord. It is precisely this, and not the intention of ‘founding the city’, that was the essence and the main function of municipal law, as defined in the incorporation act. The history of Wrocław - a city created through multi-stage development - seems to prove this sufficiently. They also convince that the general trend of commercialization of the economy in cities of broadly understood region did not exclude individual solutions. The commercialization was shaped by the legal regulations imposed by the ruler, the economic situation, the financial potential and skills of local merchants as well as the quality of craft production. The archaeological artefacts obtained in Wrocław, mostly from Nowy Targ Square, illustrate the minutiae of these phenomena.

One of the criteria defining a city of the European Middle Ages is the specific lifestyle of its inhabitants, different from that of the surrounding villages. It was characterized by the relative prosperity of the members of the burgher community, and yet associated with high living costs and did not exclude economic stratification. In the case of Wrocław and other large centres of Central and Eastern Europe, the shaping of a new lifestyle was one of the main elements of the Middle Ages transformation. It was not available to inhabitants of proto-urban settlements. The social structure that prevailed before the introduction of urban law envisaged a division into the secular and ecclesiastical elite as well as the dependent population, with little personal and economic freedom. Consequently, there were two models of consumption - the first of which concerned the elite and its entourage focused on luxury and the second one concerning the modestly living servant population. The legal transformation of the 13th century brought changes in this area, which are perceptible in the archaeological material.

The analysis leads to the conclusion that local occurrences were not significant for shaping the lifestyle of late medieval city inhabitants. The new models that came from the West proved to be decisive for everyday life, based on a new model of economics and implemented in legally regulated, communal city. The ‘native’ element in the city of the 13th century was primarily the duke and his entourage. The city was his investment realized through the use of new organizational patterns - the new law and the commercialization of the economy. The demographic base constituted German-speaking settlers from the West. We should regard the lifestyle as a result of the adaptation of newcomers to the local environment, local needs and conditions as well as the result of the economic prosperity of the city in the 13th-14th centuries. Jerzy Piekalski & Krzysztof Wachowski