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# The treasure of Środa as a source for research on medieval symbols and migrations

*Abstract.* Analysis of the symbolism of engagements, wedding ceremonies and wedding celebrations does not allow us to strictly define the symbols associated with these occasions. It is also difficult to determine the variation in symbolism in time and space. Nevertheless, a list of certain symbols has been established: the hand-in-hand gesture, the ring and the garland. This last seems to be particularly important during the wedding feast. The crown and the garland are, first of all, specifically bridal headgear; the crown is also worn during the wedding ceremony but is not a symbol of the ceremony. In the Kingdom of Poland, and perhaps also in other areas, if a coronation and wedding took place simultaneously, a garland was marked on the bride's crown. Meanwhile, an eagle on the crown or on other dress accessories probably only elevated the status of these artefacts and cannot be heraldic. Archaeological discoveries also allow to state that diadems with eagles holding rings in their beaks – like a specimen from Środa Śląska – were also made of tin-lead alloys.

Despite the incredible abundance of silver treasures in the early Middle Ages on Polish lands, which largely resulted from the migration of Scandinavians, it is hard to talk about the emergence of new financial market instruments at that time, although some effects are visible in the commercial culture. Only in the late Middle Ages, thanks to the German, Teutonic and Hansa colonisation, and the migration of Jews, credit appears, the material effect of which is bond hoards, and in the 15<sup>th</sup> century, commercial paper – a modern financial market tool. All this evidences that medieval hoards are also a source of research on migration.

*Keywords*: late Middle Ages, hoard, crown, symbolism, population migrations, diffusion of knowledge, financial innovations.

## Introduction

The Treasure of Środa Śląska is primarily treated in the literature as a collection of high-class gems. Research on the symbolism of the unique crown was limited to considering it as a wedding diadem, though it was not possible to prove that the eagles placed on it are a symbol of a wedding. In our considerations, we wish to trace the medieval symbolism of engagement and marriage and to place the Środa diadem in this context. We intend to consider the collection of jewels and two hoards of coins from Środa Śląska as an indirect result of population migration, one of the effects of which was the emergence of new financial market instruments in the late Middle Ages.

I

It is difficult for researchers to accept the fact that the Sroda crown, which is treated as a wedding crown, has no material equivalents in Europe to date, and the only approximate analogue is the diadem being presented by Konrad von Soest in a 1394 altar painting in the St Nicholas chapel in Soest (Pietrusiński 1996, Fig. 41). This work, however, is at least half a century younger than the artefact from Sroda. In the aforementioned painting, the artist is not portraying a wedding, but ladies kneeling and being presented, by St Nicholas, with golden balls that are to be their dowry, which may be an announcement of a marriage. Above all, however, the eagles in the Soest crown are not holding rings in their beaks as they are in the Środa diadem, and are also separated by peaks shaped like arrows - probably of Cupid. Meanwhile, regarding the diadem on a dedication miniature in the Bible of Duke Manfred from around 1258, which is also cited by Jerzy Pietrusiński, aside from also featuring eagles, the diadem does not resemble the Środa monument in any way (Pietrusiński 1996, Fig. 35). Although there was a tradition of crowns with eagles at European courts in the 14<sup>th</sup> and 15<sup>th</sup> centuries (it is not known whether they had rings!), they are unfortunately known only from descriptions (Pietrusiński 1996, pp. 30-31, footnotes 68-70; see also Witecki 2011, p. 57). In a 1996 study on the treasure of Sroda Slaska, Jerzy Pietrusiński carried out a formal and stylistic analysis of the Środa crown, including decorative techniques, and Michał Sachanbiński analysed the precious stones (Pietrusiński 1996; Sachanbiński 1996). However, opinions as to the identity of the diadem's owner remain divided (Pietrusiński 1996, p. 50). One might have thought that the jubilee publication of 2011 (Katalog Środa 2011) would bring some new findings, but apart from discussing the enamel in the crown (Gajewska-Prorok 2011) it contained nothing significantly new. We were eagerly awaiting the next jubilee publication on

149

the hoard that was released at the end of 2018, i.e. 30 years after the find (*Katalog Środa* 2018). Unfortunately, the royal jewels were discussed somewhat briefly (Witecki 2018), focusing on the admittedly valuable analyses of the stones (Girulski, Sachanbiński 2018) and metals (Łydźba-Kopczyńska 2018a; 2018b; 2018c), but with no attempt to summarise the results of these studies. Meanwhile, the silver coins are discussed in more detail, but only those from the so-called second treasure of Środa Śląska (Karnicka 2018).

Wedding diadems were, in a way, single-use items. Depending on the tradition, in the Middle Ages they were treated according to local custom. In England, and German-speaking and Scandinavian countries, a diadem, most often of silver and decorated with crystals, was borrowed from the church for the wedding ceremony (Letkiewicz 2006, p. 216). The same was true in Hanseatic cities in the early modern period (Kizik 2001, p. 89). In the Kingdom of Poland, meanwhile, wedding diadems, as well as other ones, whether of gold or silver, were donated to churches, where they were used to decorate monstrances (as in the case of Queen Bona's 'wedding garland') or for crowning images or dresses of the Madonna, but most often to cover the costs of restoring liturgical paraments (Letkiewicz 2006, pp. 63, 216). Sometimes crowns donated to churches adorned the tops of reliquaries, like the crown with an 'Erec cycle' on the herma of St Henryk in Płock cathedral or, as in the case of two other crowns with an Erec cycle that were converted into coronation crosses now in Wawel cathedral (Nowacki, Piwocka 2011; Mühlemann 2013). The situation was similar in other regions. For example, the Angevin crown from the third quarter of the 14th century was converted into a reliquary of St Simeon in Zadar, Croatia (Pietrusiński 1966, p. 24, Fig. 31). It is therefore not surprising that original medieval wedding crowns are today rareties.

The search for analogues to the Środa crown with eagles was, understandably, limited to works of gold. Recently, however, artefacts have been found in the course of archaeological research (including in Poland) that Western science describes as 'badges'. This very broad term includes both civilian badges (see recently Sawicki 2014) and devotional badges, including pilgrim badges. These very often have a mainly symbolic function and the vast majority are made of tin-lead alloys. The largest corpus of such finds, to be found in the Dutch search engine www.kunera. nl, contains many garlands, diadems and crowns, which appear there under the umbrella term 'crown'. Finally, it is worth mentioning the recent research in Nowy Targ in Wrocław, where 10 fragments of tin-lead diadems were discovered, including two with eagles (Fig. 1: a, b), and one of brass (Sawicki 2014, Fig. 40; b), as well as such artefacts from archaeological studies in Gdańsk that have already been partly published (Fig. 1: c).

It is very difficult to determine criteria for specifying the functions of individual diadems, as their formal features proved to be of little use. In our opinion, it is more helpful to analyse the conceptual content of crowns. The written sources on



Fig. 1. Eagle on tin diadems: a, b – Wrocław, Plac Nowy Targ (after Sawicki 2014); c – Gdańsk (after Katalog Gdańsk, no. 247)

our issues of interest are quite abundant, but the variation in terminology, both for describing a ceremony and for naming symbolic objects (especially ring/band, garland/crown) are an impediment (Kizik 2001, p. 41). Meanwhile, when analysing iconographic sources, many misunderstandings probably stem from the fact that different paintings may illustrate different stages of the same ceremony – the engagement or the wedding – or merely reflect the imagination of contemporary artists.

In the literature, the course of the ceremony and the symbolism of engagement and marriage are viewed quite inconsistently. Polish researchers dealing with the history of clothing generally suggest that at some unspecified time the wedding garland was replaced by a ring/band (e.g. Turska 1987, p. 28). In turn, for example, authors analysing iconographic sources claim that, according to medieval painters, the symbol of the engagement was a actual gesture, while the wedding was represented by the exchange of rings (e.g. Zuffi 2007, p. 48). Although the notion of exchanging rings during the wedding ceremony is quite popular (e.g. Pastoureau 1983, p. 15) it is a scene presented only very rarely in iconography. The opinions cited above are generally not supported by a more detailed analysis of the sources, and are usually repetitions of various earlier suggestions. They are also vague, especially when trying to define when changes occurred; terms such as 'previously' and 'later' are often used. Even when, as in the case of Silesia, we have the document *Ordo benedictionis sponsum et sponsa* from the ritual of Wrocław Bishop Henry of 1302–1319, which describes the sequence of a priest's actions during the wedding ceremony, the case is not entirely unambiguous. According to this source, the priest is to bless the rings first. By contrast, the Wrocław ritual of 1496 mentions the dedication of rings, but liturgical historians suggest that the newlyweds exchanged garlands rather than bands, and only in later years were both rings and garlands exchanged. The most important moment in the wedding ceremony was the tying of the joined hands of the newlyweds and their taking of oaths (Drabina 1998, pp. 111–112, footnotes 139–140).

In order to obtain a fairly complete picture of the symbolism of engagement and marriage, this article refers to the descriptions of 13<sup>th</sup>-century ceremonies from Champagne, Germany, as well as from Hanseatic cities in the early modern period. Then an attempt was made to compare the result against iconography and archaeological sources.

A fairly extensive description of 13th-century engagement and wedding ceremonies in Troyes, Champagne was presented by Frances Gies and Joseph Gies in the book 'Life in a medieval city', in the chapter devoted to weddings and funerals (Gies, Gies 2018, pp. 119-133, especially 123-127). The authors point out that due to engagement vows' similarity to wedding vows, and that they were taken in the presence of a priest in a church, couples often saw themselves as husband and wife even when they were only engaged. In our analysis, we include those stages of the ceremony in which the symbolism of engagement and marriage appears. In the engagement ceremony, after the priest takes the engagement oath from the couple, the bride and groom exchange bands. In turn, at the beginning of the wedding ceremony, a priest with an open book and a wedding ring exits the vestibule in front of the church. No iconography presenting this stage of the ceremony has been found, however. Then the priest receives the young couple's wedding vows, and the bride and groom shake right hands, after which the newlyweds repeat their vows. After the exchange of oaths, the young couple were officially recognised as husband and wife. After the homily, the priest blesses the wedding band; then the groom places it in turn on each of the three main fingers of his bride's left hand and finally places it on the bride's ring finger and adds 'With this ring, I thee wed'.

In Germany, until the 13<sup>th</sup> century, only the fiancé handed the fiancée a ring and bound her to fidelity as a fiancée, while he himself was not bound to either fidelity or marriage (Blaschütz, Krabath 2004, p. 763, footnote 373). However, under the influence of the Church, in the 13<sup>th</sup> century, the oath of fidelity during the wedding began to apply to both sexes and the two-way exchange of rings or wedding bands was introduced (Blaschitz, Krabath 2004, p. 763, footnote 374). However, in the early representations of the wedding ceremony, there is only one ring as the central symbolic motif, which the groom gives to the bride (Blaschitz, Krabath 2004, p. 764 – including references to iconography).

A lot of space was devoted to engagement and wedding ceremonies in the Hanseatic city in the 16th–18th centuries in a separate chapter by Edmund Kizik (2001, especially p. 49-138). It contains several statements that are relevant to our considerations. The engagement was an act of civil law intended to secure any future claims. Ideally, the ceremony was to take place in a church, and should be publicised (Kizik 2001, p. 42). In the late Middle Ages and early modern times, the crown garland symbolised virginity while also being the most characteristic decoration for virgins and brides (Kizik 2001, p. 78). Garlands were exchanged between the betrothed during the engagement feast and the wedding ceremony (Kizik 2001, p. 79, footnote 193). Wedding rings or bands – symbolic gifts, were exchanged at the end of the ceremony (Kizik 2001, p. 94). The Rostock ordinance of 1619 states 'Ringe bey der Verlobniß, und einem Trawring bey Einsegnung', while the Greifswald ordinance of 1592 likewise states 'vor der vortuwringe und daran den Truwrinck', i.e. one jewel (a ring or band) was offered on the occasion of the engagement, and a second at the wedding (Kizik 2001, p. 94). In Szczecin, aside from the wedding band and engagement ring, patricians could also wear a third item of jewellery – one with a precious stone (Kizik 2001, p. 94).

We shall therefore try to reconstruct the engagement and wedding ceremonies and the feasts that followed them, but limiting ourselves to those scenes that are fairly consistent with written, iconographic and archaeological sources, and that deal with the symbolism of objects and gestures. It was not always possible to compare the situations in France and Germany, but there is a clear difference in the number of rings required for engagement and wedding ceremonies: in 13<sup>th</sup>-century France the couple exchanged rings during the engagement, while there was no talk of rings in Germany during the engagement. Meanwhile, during the wedding, only the groom gave a ring in France, while in Germany the couple exchanged rings.

Although the crown is a symbol neither of engagement nor of marriage, it was often used as a festive headdress during these ceremonies. Few crowns were specially made for the occasion, while some items served as headgear during a coronation and a wedding alike. This can only be established through analysis of the symbols of engagement and marriage, which include the hand-in-hand gesture, a ring and a garland.

## The symbol of holding hands

This gesture, known since antiquity, is described in English as 'hand in hand', which corresponds to the Latin *dextrarum iunctio*, Polish *ręka w rękę*, German *hant-trouwe* and Italian *mani in fede*. It is sometimes accompanied by inscriptions which, like *fede* on an Italian 15<sup>th</sup>-century plate (Fig. 2: a), indicate that it represents marital fidelity (*Katalog Renaissance* 2008, no. 17). At other times, however, inscriptions

153

testifying to courtly love were used (Blaschütz, Krabath 2004, pp. 764–765). We do not know of a crown with the hand-in-hand symbol, but a diadem from around 1450 from the collection of the Germanisches Nationalmuseum Nürnberg includes the inscription *trewelich* (Fig. 2: b), clearly indicating that the diadem was used during a wedding ceremony. The German term *hanttrouwebratzen* was used to describe circular clasps with this symbol that were popular in the late Middle Ages (*Katalog Fuchsenhof* 2004, pp. 753–754), and also suggests that they are related to fidelity (Ger. *Treue*).

Very often, especially in the Hanseatic zone, the hand-in-hand symbol appears on such circular clasps known to be from, for example, Wrocław (Wachowski, Witkowski 2003, Fig. 6), Kołobrzeg (Fig. 3: a) and Szczecin (Frankowska-Makała 2004, Fig. 1). Items are known of that feature no inscription, and if there is an inscription it is usually 'AVE MARIA', but never a term indicating fidelity. Rings with the hand-in-hand symbol are somewhat rarer, such as those from the Opole hoard (Fig. 3: b), and Kraków (*Katalog Kraków* 2007, no. VI 195). Belt buckles are rarer, and in the 16<sup>th</sup> century the hand-in-hand symbol also appears on silk belts and on chains (*Inwentarze* 1961, no. 152; Fingerlin 1971, Figs. 375, 376).

The hand-in-hand symbol is known in the late Middle Ages from almost all over Europe and appears quite often in miniatures (and to a lesser extent woodcuts) depicting the wedding ceremony. A miniature from the Legend of St Jadwiga (the codex of 1353) presents a scene from the wedding of Henryk the Bearded and St Jadwiga centred on the clasping of their right hands. The ceremony takes place inside a castle with the participation of a bishop and both families (Fig. 4).

In the wedding ceremony, this symbol was the most important, because only after swearing the oath and shaking right hands did the betrothed become spouses, and today in the Catholic Church the 'hand in hand' is a symbol of the sacrament of marriage (Tylor 2006, p. 230). However, the description of the wedding ceremony in Hanseatic cities cited by Edmund Kizik does not mention this symbol; this seems understandable on the one hand, because Protestants did not recognise the sacrament of marriage, whereas, on the other hand, the symbol appears in the pre-Protestant period, and particularly often on the circular clasps referred to as *Hanttrouwebratzen* that are concentrated in the Hanseatic zone, in northern Europe (Kizik 2001; *Katalog Pritzwalk* 2006, Karte 2). Although they did not include finds from the area of Poland – from Gdańsk, Wrocław and Kraków – all these cities also periodically belonged to the Hanseatic League. This is probably the result of a time difference: the appearance of these clasps peaked in the 14<sup>th</sup> century, and the Reformation in the 1520s.

The special significance of the hand-in-hand symbol and of the ring is also mentioned in the Wismar clothing ordinance of 1339, which limits the exchange of ornaments during a wedding to one ring and one hand-in-hand symbol (*hand-trouwe*) (Blaschütz, Krabath 2004, p. 765, footnote 389).



Fig. 2. Meaning of the hand-in-hand symbol: a – plate with inscription *fede* (after *Katalog Renaissance* 2008, no. 17); b – crown with inscription *trewelich* (ca 1450, from the collection of the Germanisches Nationalmuseum, according to objektkatalog.gnm.de)



Fig. 3. The hand-in-hand symbol on dress accessories: a – Kołobrzeg clasp (after Rębkowski 1988); b – ring, Opole bond hoard (after Masner 1904)

Although the hand-in-hand symbol certainly signifies fidelity, it does not always relate only to fidelity in betrothal or in marriage. In the convention of courtly love, the knight also swore fidelity (in love) to his lover, who agreed to take him into her service (Rougemont 1999, p. 24). This penetration of the symbolism of the engagement or marriage ceremony into the rituals of courtly love can also be seen in some products of material culture. A badge found in Hungary depicting a pair of lovers also includes a buckle imprinted with the hand-in-hand symbol and the circumferential inscription 'AMOR VINCIT OMNIA' (*Katalog Fuchsenhof* 2004, Fig. 58). This motto was used both in the secular sphere and – in reference to love for God – in the sacred sphere. Meanwhile, a 16<sup>th</sup>-century bracelet from the Promnitz family crypt in Pszczyna features, above a hand-in-hand symbol, the addition of a red heart (Fig. 5: a) (Wachowski 2013, Fig. 20). Sometimes, heart-shaped clasps also bear the hand-in-hand symbol (dailymail.co.uk). The tombstone of Duke Henry I of Jawor and his wife, from around 1337–1440, is also interesting.



Fig. 4. Presentation of the hand-in-hand symbol. Wedding ceremony(?) Henryk the Bearded and St Jadwiga. Miniature from the Legend of St Jadwiga (codex of 1353; after Wąsowicz 1967)

The spouses have their hands clasped in a symbol of marital fidelity (Fig. 5: b), and during conservation work on the tombstone, a ring with a heart was discovered on the finger of the duchess's hand, which has a clear relationship with fidelity in the convention of courtly love.

### Ring symbolism

Like other ring-shaped objects (clasps, belts, crowns) symbolising permanence and inseparability, rings were popular as an engagement or wedding gift, but also as a token of love in the convention of courtly love (e.g. de Rougemont 1999, p. 25). Rings and bands often have inscriptions, such as the band from Muszyna castle: 'HILF GOTT MARIA' (Fig. 6: a), and those featuring the aforementioned hand-in-hand symbol (Fig. 6: b). These latter are referred to as *fede ring*. Rare, but very important finds are circular clasps with the hand-in-hand symbol (*handtrouwebratze*) in which rings are placed (Fig. 6: c). These ornaments had a symbolic, non-functional use, because the circular shield permanently attached to a spike made it impossible to fasten the clasp. However, the addition of chains allowed the clasp to be hung on an outfit.

In Europe, customs differed as to the number of rings that the bride and groom gave during the engagement, marriage ceremony and wedding celebration, but the ring appears at each stage, proving how important an object it was as a symbolic gift. In the better known German territories, the situation has changed over time.



Fig. 5. Entry of hand-in-hand symbolism into courtly love: a – bracelet, Pszczyna, Promnitz family crypt, 16<sup>th</sup> century (after Wachowski 2013); b – tombstone of Henryk I Jaworski and his wife, from ca 1337–1440, now Lwówek Śląski (after Witkowski 2002)



Until the 13<sup>th</sup> century, only the groom gave the bride a ring during the wedding (Fig. 7). Under the influence of the Church betrothed couples exchanged rings during the wedding in the 13<sup>th</sup> century (Fig. 8). The same held in the next century, although it is not known whether rings were given during the engagement, but according to the aforementioned Wismar ordinance, a couple could exchange rings during the wedding celebration. Meanwhile, in wedding portraits from the first half of the 15<sup>th</sup> century, the groom hands a ring to his spouse, as shown in the 1475 wedding portrait of Bertold and Christine Tucher<sup>1</sup>.

For the modern era, we have some information on the nomenclature of engagement and wedding rings. The Greifswald ordinance of 1592 mentions 'der vortruwringe' and 'Truwrinc', respectively, and the Rostock ordinance of 1619 mentions 'ringe bey der Verlobniß und einen Truwring bey Einsegnung', though this does not indicate their form (Kizik 2001, p. 94).

Rings were also placed on elements of wedding attire as a symbol of the wedding ceremony, including the Środa crown that is of greatest interest to us (Fig. 9: a), and on the fragmentary tin-lead diadems from Gdańsk (Fig. 9: b–d) and the Netherlands (Fig. 9: e). Moreover, on stylistically matched accessories, such as two-piece hook-and-eye clasps from Pritzwalk (Fig. 10: a) and Erfurt (Fig. 10: b). In addition, the circular "clasps" from Münster (Tegetfoff 2002, cat. 3) and from Pritzwalk (*Katalog Pritzwalk*, cat. 1) with the hand-in-hand symbol also feature rings, although, due

<sup>&</sup>lt;sup>1</sup> https://pl.pinterest.com/pin/542472717614620494 (dostęp: 05.02.2020)

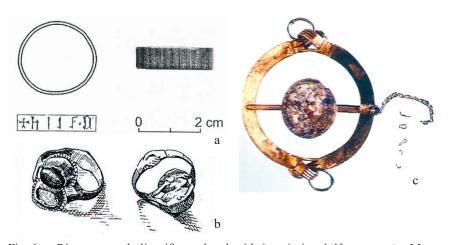


Fig. 6. Ring – a symbolic gift: a – band with inscription *hilf gott maria*, Muszyna, 2<sup>nd</sup> half of the 15<sup>th</sup> century (after Chudzińska 2004); b – ring – *fede ring*, Opole, bond hoard, 1<sup>st</sup> half of the 14<sup>th</sup> century (after Masner 1904); c – clasp – *handtrouwebratze* with rings in hands, Pritzwalk, bond hoard 1392 (after *Katalog Pritzwalk* 2006)



Fig. 7. Handing over of ring. Emperor Frederick II presents a ring to Isabella (Plantagenet) of England, manuscript from ca mid 13<sup>th</sup> century (after Piwowarczyk 2009)

to their construction (the shield attached to the spike), these could not be used to fasten anything and were hung on a chain.

Authors writing about costumes agree that the bride and groom went to the wedding in a festive outfit, but not one specially made for the occasion, instead following the principle that one wore one's best outfit. We have indicated that crowns were sometimes made specially for the occasion of a wedding (as symbolism) – after all, it is part of the outfit. However, there is further evidence provided by archaeology that sometimes an outfit was designed for a wedding ceremony. Here we are referring to

157



Fig. 8. Exchange of rings. Miniature from Sachsenspiegel, 1<sup>st</sup> half of 14<sup>th</sup> century (after Duby 1993)

the aforementioned dress accessories, which constitute a stylistic set with a crown with eagles and rings (Fig. 10).

### Garland and crown symbolism

In the late Middle Ages and early modern period, a garland or crown symbolising virginity was one of the most characteristic decorations for virgins and brides (Kizik 2001, p. 78). The crown is in fact ceremonial headgear, but absent any context it symbolises neither an engagement nor a wedding. Only marking it with a garland or placing a ring on it makes it a wedding headdress.

There are no known depictions of a garland as a symbol of a wedding ceremony. Interpretation is further hampered by terminology, which is often identical for a garland and a crown. In the miniature from the Dresden edition of the *Sachsenspiegel* from around 1350, we see an exchange or presentation of a garland (Fig. 11), but it is not known whether the scene concerns a bride before or during the wedding ceremony. Often, in the 14<sup>th</sup> to 16<sup>th</sup> centuries, a pair with a garland was also represented on tiles, which was a fairly lasting communique for the community. In an era (the Middle Ages) when public, declarative gestures played the role of an official document (Flori 1999, p. 108), the couple presented a garland without a priest or accompanying persons and without any scenery. We know such tiles from, for example, Slovakia (Fig. 12: a), Greater Poland (Wielkopolska) (Fig. 12: b), Śląsk (Silesia) (Fig. 12: c) and Switzerland (Fig. 12: d). However, it is difficult to judge whether these relate to a garland from the engagement period, the engagement ceremony, the engagement feast, or the wedding celebration. In the 16<sup>th</sup> to 17<sup>th</sup>



Fig. 9. Rings in the beaks of eagles on a crown: a – gold diadem, Środa Śląska, bond hoard, 1<sup>st</sup> quarter of the 14<sup>th</sup> century (after *Katalog Środa* 1996); b – Gdańsk (after *Katalog Gdańsk*, no. 4150); c, d – Gdańsk, Gdańsk Museum; e – Netherlands, from the collection (after HP 2 2001)

centuries, in Hanseatic cities, garlands that sometimes closely resembled crowns were used as bridal headgear (Fig. 13: a, b).

There are no known original medieval garlands made of organic materials that could be unambiguously associated with an engagement or wedding. A garland can also be found on circular tin-lead clasps from, for example, Wrocław, Plac Nowy Targ (Fig. 14: a, b) (Sawicki 2017, cat. 427, 28) There are also luxurious specimens in which flowers were sometimes accompanied by an eagle, such as from the Swedish Frö on the island of Oland (*Katalog Pritzwalk* 2006, Fig. 56).



Fig. 10. Rings in eagles' beaks on two-piece clasps: a – Pritzwalk, bond hoard, 1392 (after Katalog Pritzwalk 2006); b – Erfurt, bond hoard 1328 (after Katalog Erfurt 2010)

When trying to interpret a symbolic garland, scenes referred to as 'Coronation with a garland', in which a lady place a garland on her beloved's head, may be somewhat misleading. Such a scene has nothing to do with marriage or engagement, but is typical of scenes of courtly love.

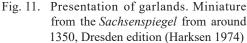
A festive headdress already owned by the engaged couple was usually used for weddings. When the ceremony was combined with the marking of other occasions, special diadems were prepared for the ladies or the groom. The analysis of the symbolism of crowns allows us to attempt to assign crowns with specific symbols to various ceremonies.

From the Kingdom of Poland, we know of at least two diadems used during wedding and coronation ceremonies, and in both cases, iconographic sources allow us to identify the people for whom the items were made. They were Elźbieta Rakuszanka (Fig. 15: a), wife of Kazimierz Jagiellończyk, wedded and crowned in 1454, and Barbara Zapolya (Fig. 15: b), first wife of Sigismund the Old, wedded and crowned in 1512. In both cases the crowns were clearly marked with a garland.

## Eagle symbolism

Iconographic and archaeological sources lead us to conclude that representatives of even the not very wealthy middle classes sometimes wore crowns during the wedding ceremony. They were, in reality, items of tin-lead alloy, and probably for this





reason efforts were made to lend them greater gravitas with the addition of eagles as peaks, though the birds themselves do not fit into the symbolism of the wedding ceremony. We know this phenomenon also from crowns made of ores. In both cases, it was probably a way to 'ennoble' the crowns. Such tin-lead specimens are not known from the Kingdom of Poland, but appear in Silesia (Śląsk) (Fig. 1: a, b) and Pomerania (Pomorze) (Fig. 1: c).

Heraldic signs barely appear at the wedding ceremony in Europe, with the exception of the French court, where the lily was commonly used<sup>2</sup>. For Śląsk, on the one hand, we have an example of a duke's coat of arms not being used during a wedding ceremony, and on the other hand, of a coat of arms being destroyed on failed products. The first situation is well illustrated by three scenes from

<sup>&</sup>lt;sup>2</sup> http://expositions.bnf.fr/fouquet/grand/f036.htm (dostep: 05.02.2020)

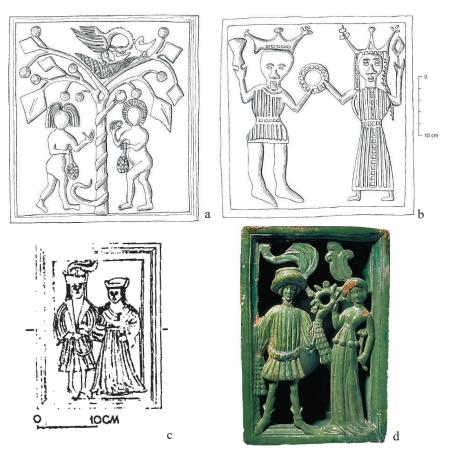


Fig. 12. Presentation of garland, presentations on tiles: a – Nitra (after Samuel 2004); b – Jankowo Dolne (after Janiak 2003); c – Rogów Opolski (after Dymek 1995); d – Switzerland, according to Nationalmuseum.ch

The Legend of St Jadwiga (the Lubin codex of 1353). The first shows the family of Prince Bertold (father of Jadwiga) and his wife, Princess Anna, with a clearly visible ancestral heraldic mark placed on the two-piece clasps of the duke and duchess's cloaks. The second scene shows the marriage act of Henryk the Bearded and St Jadwiga: both Duke Bertold and Henryk the Bearded have flower-shaped clasps. In the third scene (after the wedding), Henryk the Bearded and St Jadwiga are sitting together on a dais and Henryk the Bearded again has clasps with an eagle – Lower Silesia (Dolny Śląsk) coat of arms, with which we see him in all subsequent scenes of the codex (Wąsowicz 1967, Figs. 1, 2, 4). It is significant that a hoard from Opole included one part of a two-piece clasp with an eagle (Fig. 16: a) that looked like that shown in the Legend of St Jadwiga. Meanwhile, a failed leather

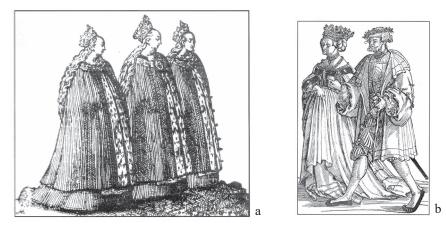
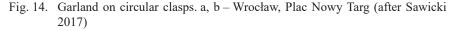


Fig. 13. Garland – crown as brides' headgear: a – brides, Gdańsk, 1601 (according to Bertling 1886; after Kizik 2001); b – young couple, Göttingen, 1532 (according to Geisberg 1974, after Kizik 2001)





identification-apotropaic mark from a workshop in Nysa has the coats of arms of Przemyślids and the Dukes of Opole incised into it (Fig. 16: b).

Crowns on the occasion of a coronation or wedding celebrated with a tournament

In the Kingdom of Poland, the three aforementioned exceptionally impressive crowns depicting the Arthurian cycle of Erec the knight were donated to churches. We should remember that, on the one hand, the presentation of the Erec cycle on the crown prompts some researchers to treat this artefact as a tournament crown, whereas we note that the Erec cycle begins with the knight's marriage, which



Fig. 15. Garland on crown – coronation and wedding ceremony: a – Elżbieta Rakuszanka, wedded and crowned in 1454 (after en.wikipedia.org); b – Barbara Zapolya, wedded and crowned in 1512 (after Commons.wikimedia.org)

may prompt us to regards the crown not only as a tournament crown, but also as a wedding crown: '[...] the diadem appears to be a wedding or engagement gift that is also presented during courtly ceremonies' (Nowacki, Piwocka 2011, p. 53). However, it is hard to entirely agree with this claim, because there are no marriage or engagement symbols on diadems featuring the Ereca cycle. Instead, they were 'universal= crowns used in all court ceremonies.

Such impressive crowns also had their more modest counterparts made of tin-lead alloy. The rim was so narrow here that these artefacts are referred to in German as *Zinnfigurenstreife*. There are artefacts depicting chivalrous adventures: Gahmuret can be identified on the Magdeburg specimen, and the Lund specimen is similar but not identical (Berger 2006, Fig. 1–1).

Π

#### Migrations – hoards – financial market instruments

Modern countries vie for the best-qualified employees from all over the world in the hope that they will bring new ideas, knowledge or research perspectives to the economy, and thereby strengthen the country's innovative potential. The United States of America and some Western European countries have for years been

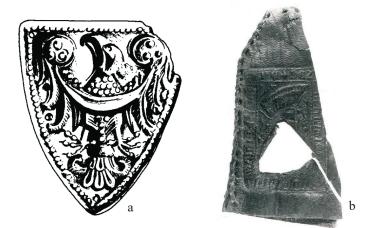


Fig. 16. Heraldic eagles: a – two-piece clasp, Opole, bond hoard, 1<sup>st</sup> half of the 14<sup>th</sup> century (Masner 1904); b – leather identification-apotropaic mark, Nysa, 14<sup>th</sup> century (after Wachowski, Jaroch 2009)

winning this talent race, which does not mean that other countries cannot benefit from the influx of migrants.

The literature suggests that one of the key factors determining how innovation develops (Fleming 2001; Nathan 2014) and accelerating the diffusion of know-how (Saxenian 2005; Kerr 2008) is cultural diversity, which results not so much from the influx of high-class specialists from abroad, but more from the presence of immigrants from foreign cultures. These people, who differ from the rest of the population in, for example, skills, points of view, customs, traditions and experiences, can enrich existing knowledge resources with elements specific to their own cultural environments. Consequently, a culturally diverse population can recombine previously unrelated knowledge from around the world, and while this mix will not always bring breakthrough ideas, collectively, synergies will be achieved.

Although there has been a lively discussion on the role of migrants in transferring knowledge between countries barely since the 1970s, this does not mean that the migrant population was not a carrier of valuable know-how in the earlier periods. On the contrary, the lack of modern technology enabling quick and easy access to international information resources meant that migrants were sometimes the only 'window to the world' or the only bridge between the knowledge of management systems, or legal and organisational solutions that were in practice in their old and new locations.

The effects of migration in Europe in the years 950–1350 were best presented, based on the written sources, by Robert Bartlett in his work 'The Making of Europe. Conquest, colonization and Cultural Change 950–1350' (1993). In our study,

however, we mainly use archaeological sources, such as hoards, only occasionally referring to historical studies.

Throughout the history of mankind, the mechanism by which hoards have been created has changed both in time and in space. At the end of the 8<sup>th</sup> century, an economic structure known as the subcontinental economic zone developed in Northern and Central and Eastern Europe. Through the mediation mainly of Vikings, Eastern commodity money begins to flow from Byzantium along routes through Ruthenia to Scandinavia (the 'route from the Varangians to the Greek') and then to the southern coast of the Baltic Sea and further inland. The numerous deposits found in this zone are usually referred to as 'hoards' because they often contained disparate components (coins, ornaments, unworked silver). There were as yet no mints in operation across the entire zone, so there are numerous finds of scales and weights, from which we can deduce that the money was weighed. So far, the literature presents no uniform view on why these hoards were deposited (see recently Suchodolski 2013). Nevertheless, sometimes it is supposed that they were payment for slaves exported to Muslim countries. In such case, they would constitute the excess currency of long-distance merchants. In turn, the concentration of hoards in Greater Poland is explained by the formation of a new political entity in this area - the Polanie state. Although domestic coinage was minted in Poland and many neighbouring countries only in the times of Bolesław the Brave, domestic coinage still percolated little into society, and coins themselves were more of a token presence than an economic currency, and oriental coin thus dominates in the first half of the 12th century, to be gradually enriched by Western European and domestic currency. Despite the flood of 'Viking' literature, there is no synthetic study of Scandinavian influences on Polish soil. Nevertheless, we must point to the numerous products imported from Scandinavia that were sometimes later imitated locally, the comprehensive influence of the Viking trading emporia (Wolin and Truso), and also, presumably, the impact of the funeral rite. In the past, the thesis about the participation of the Vikings in the creation of the Polanie state was also popular. The archaeological sources nonetheless provide no basis to state whether any new financial market instruments appeared at that time.

From around the middle of the 12<sup>th</sup> century to around 1300 we see the appearance of hoards of coins and ornaments in areas where colonisation brought an economic revival. These deposits exhibit a distinction between the part belonging to a creditor (usually coins) and the part belonging to a debtor, i.e. a hoard (usually ornaments that have not been broken down). We refer to such hoards as 'bond hoards'. This phenomenon is a forebear of modern, credit-based trade. One cannot forget about those immigrants, mainly from Germany, who created the State of the Teutonic Order. The more important achievements of the Teutonic Knights include efficient economic and administrative management (Ganczewski 2012), the erection of massive castles of various forms, the chartering of cities, the creation of a courier

166

postal service (Wachowski, Krawczyk 2019), and the codification of law – the 'Księga Elbląska' ('The Book of Elbląg') (*Najstarszy zwód* 1959). In Silesia, after the period of 'bad money', as a result of the weights and moneys reform of 1250, *nota bene* imitating the actions of German cities, a heavier money, the so-called wide bracteate. However, even in the 13<sup>th</sup> century this coin was sometimes cut in half, sometimes into smaller parts, and so must have been weighed. For larger sums, coins were also weighed.

The 14<sup>th</sup> century is a period of unprecedented saturation with hoards of ornaments and coins (Krabath 2006, map 1). They are concentrated most heavily between the Rhine and Oder rivers, in southern Scandinavia, and on the south-eastern coast of the Baltic Sea, where the Hanseatic League reached. The Treasure of Środa Śląska dates from this period; it is known mainly for its jewels, but most likely its owner also owned two hoards of coins, containing mainly Prague groschen – heavy coins intended to meet the increasing demand for gold coins and money. Even then, the principle of not idly storing wealth, but of investing it, was already known. The next century will show that the Prague groschen, as well as gold coins, did not fully meet the hopes placed in them, especially in long-distance trade, because the transport of large amounts of cash is always impractical. It is significant that large payments had to be made not only in coins, but also in jewels (Paszkiewicz 2000, p. 51, footnote 157).

From 1335, the Duchy of Wrocław, and thus also Sroda, lay within the Kingdom of Bohemia, under the sceptre of John of Luxembourg (1310-1346). Researchers rightly suggest that it was this ruler or his successor who made a hoard of (pawned) the jewels discovered in Sroda. After the pogroms of 1345 and 1349, few Jews remained in this city. In return for large donations, two individuals received letters of safety from the king, being named as: Merkel (Mordechai) and Muszo (Moses). The first paid the municipal rent to the ruler's chamber, while the second received a letter of safe conduct from King Charles IV in 1348, because he paid a large sum to the royal agent, John of Prague. As early as 1351, Charles IV guaranteed the repayment of loans taken in Wrocław and Środa (Pietrusiński 1996, p. 48). All this seems to indicate that it was Muszo who accepted the jewels as a pledge. The jewels included a gold ring with a star and a crescent moon on the shield (Wachowski 2013, Fig. LI). A similar symbol can be found on a 14<sup>th</sup>-century ring discovered in the Jewish municipality in Regensburg and on the municipality's seal (Codrenau-Windauer, Harek 1999; Krabath 2006, Fig. 22). Moreover, a Jewish wedding ring with an image of a Jerusalem temple was discovered in a 14th-century hoard in Erfurt (Katalog Erfurt 2010, Figs. 16-18). All this seems to clearly indicate that in the 14<sup>th</sup> century, large loans were usually provided by Jewish financiers.

This changes in the 15<sup>th</sup> century. The number of hoards decreases and their composition also changes; ornaments are certainly rarer. This is the result of the entry into use of new, previously unknown financial market instruments – commercial paper – which completely changed the organisation and method of settlements between creditor and debtor. In return for granting a loan or credit, the debtor issued a handwritten document – a promissory note – in which he undertook to repay the debt within a specified period of time. This modern and very practical solution, probably taken from Italy, was associated with a huge risk to the lender. The financiers who could grant huge loans were mostly Jews, and the debtors were rulers and persons of power who, unable or unwilling to repay their loans, resorted to a method that had always 'paid off'. They accused the Jews of dishonesty of all kinds, leading to a pogrom (e.g. Schulz 2013). In this way, the promissory notes disappeared and the debtors rid themselves of their liabilities, prompting Mateusz Goliński to conclude: 'In the mid-15<sup>th</sup> century, the essence of contacts between the two communities, Jewish and Christian, was credit [...]' Goliński 2006, p. 23).

## Conclusion

The Środa crown undoubtedly requires further research. Especially important are such areas of research as the symbolism and context of wedding attire, in particular two-piece clasps with rings in eagles' beaks. These artefacts are the only ones so far to be symbolically analogous to the Środa crown, and at the same time indicate that in Central and Eastern Europe there were more diadems like the Środa artefact. At the same time, the discoveries in Wrocław and Gdańsk of tin-lead diadems with rings in the beaks of eagles prove that crowns featuring such symbolism were also popular in middle-class circles. Our investigation also shows that the eagle was not a symbol of marriage. Despite a thorough search, the eagle could not be unambiguously linked to the engagement or wedding ceremony (Pietrusiński 1996, pp. 29-34). Indeed, Pietrusiński cites the meaning of the eagle with a ring in its beak as being a general, good omen (Pietrusiński 1996, p. 34); this meaning comes from Byzantium but is not very convincing. The basic meanin 2001, g of the eagle is power and strength (as it is the king of birds). In the symbolism of the sacred, too, Dorothea Forstner was unable to find a connection between the eagle and the wedding (Forstner 2001, pp. 240-243). Although Juan Eduardo Cirlot states in his entry on 'Eagle' that 'Since it is identified with the sun and with the idea of male activity which fertilises female nature, the eagle also symbolises the fathe', this is an isolated interpretation. It seems that the representation of the eagle was used in crowns as a means of ennoblement (Cirlot 2007, p. 293).

In turn, searching for the owner of the Środa diadem on the basis of the allegedly heraldic eagle is doomed to failure, because outside France, the heraldic emblem was afforded special protection and was not used in wedding ceremonies even by dukes. Finally, the crown with eagles only – without rings – was not a symbol of the wedding, but merely a ceremonial headdress, including for the urban middle classes, as evidenced by medieval iconographic sources and tin-lead diadems.

It is hard to say without in-depth research whether crowns containing a garland are characteristic of women being crowned and wedded at the same time in the Kingdom of Poland. It is also impossible to determine today whether this is the result of the garland having a different legal meaning than in Western Europe.

The literature often repeats the view that the hand-in-hand symbol was replaced with a ring over time, or that these symbols refer to two different ceremonies – the engagement or the wedding. It is worth emphasising here that in symbolism and symbolic gifts it is hard to clearly distinguish between the engagement and wedding ceremonies and the feasts marking these occasions. The differences in symbols may result from, for example, different stages of the wedding ceremony being presented. At the same time, other patterns were also noted: in scenes with the hand-in-hand symbol a priest usually appears, often even the pope, and in scenes depicting the exchange of rings, a priest never appears.

Scenes showing the exchange or presentation of garlands are never accompanied by priests, and these presentations are by no means limited to Central and Eastern Europe. It seems, however, that the garland was not a ceremonial wedding headdress, but was worn during the engagement and wedding celebrations. During the latter, however, the most important symbols, according to the aforementioned anti-luxury clothing ordinance of Wismar of 1339, were the ring and the hand-inhand symbol, which were placed on many costume accessories, though usually on clasps and rings.

Medieval migrations, though they varied in nature, did not always bring purely beneficial effects. There were also negative effects, though these were often felt only much later. The strongest and most diverse impacts came from colonisation, i.e. the influx of permanent settlers, mainly from Germany. Colonisation can be thought of as having 'ploughed through' almost every feature of the existing cultural landscape. The early side effects were Germanisation, and the later ones were Poland's loss of part of its territory The impact of the particular type of Teutonic colonisation was equally strong, but in addition to the above-mentioned side effects, one should also include the physical extermination of the population – the Baltic Prussians and, to a lesser extent, the peoples of the south-eastern Baltic coast.

The migration associated with the Hanseatic League was different. Here, settlement was limited to the southern Baltic coast, and the Hanseatic trading posts where merchants and financiers settled. Nevertheless, long-distance sea trade in this zone resulted in a specific Hanseatic culture with its own architecture, material culture and the creation of sometimes impressive seats of various brotherhoods (Artus and St George's Courts) and, of course, a high commercial culture.

Jewish migrations were so specific that they were later accorded a special term – diaspora. Where they settled, they often lived in isolated districts, later

referred to as ghettos, and particularly upheld their characteristic rituals and, in this field, had practically no influence on their surroundings. However, due to their professions – trade, finance, services, medicine – they were always in close contact with the local population. During frequent migrations, they put into practice the achievements of the very high level of contemporary Arab culture, and novelties in trade and finance born mainly in Italy and Western Europe.

In the Middle Ages there were two more examples of migration that nonetheless did not have a significant impact on the financial culture. These were the crusades and pilgrimages.

Summing up, and simplifying somewhat, it can be said that the Middle Ages are associated with three types of hoards. Typical of the early Middle Ages are hoards of often fragmented oriental, mainly silver coins and ornaments, which were commodity money and were not counted but weighed. They were used to make not loans, but payments. In the earlier phases of the late Middle Ages, when credit appears, hoards usually include whole silver coins, and later, increasingly, also gold and unbroken-down gold ornaments constituting a hoard. Treasures from the last stage, aside from their coins, contain only occasional ornaments. This is because a new instrument appears on the financial market – the promissory note.

#### References

- Bartlett R., 1993, *The Making of Europe: conquest, colonization and cultural change,* 950–1350, Princeton.
- Berger D., 2006, Steingussformen aus dem spätromanischen-frühgotischen Magdeburg. Archäometrische und experimentalarchäologische Untersuchungen zum mittelalterlichen Zinnguss an ausgewählten Fundstücken, Freiberg.
- Bertling A., 1886, Anton Moelers Danziger Frauentrachtenbuch aus dem Jahre 1601, Danzig.
- Blaschütz G., Krabath S., 2004, Schmuck im mittelalterlichen Alltag unter besonderer Berücksichtung des Schatzfundes von Fuchsenhof, [in:] Katalog Fuchsenhof, pp. 735–774.
- Chudzińska B., 2004, *Obrączka z napisem z muszyńskiego zamku, czyli kogo i o co proszono – inskrypcja typu HILF GOTT MARIA*, Sprawozdania Archeologiczne, vol. 56, p. 197–221.
- Cirlot J.E., 2007, Słownik symboli, Kraków.
- Codreanu-Windauer S., Harck O., 1999, *Ein jüdischer Goldring aus Regensburg*, Archäologisches Korrespondenzblatt, 29, pp. 583–591.
- Drabina J., 1998, Życie codzienne w miastach śląskich XIV i XV w., Wrocław.
- Duby G., 1993, Geschichte der Frauen, Frankfurt am Main.
- Dymek K., 1995, Średniowieczne i renesansowe kafle śląskie, Wrocław.
- Fingerlin I., 1971, Gürtel des hohen und späten Mittelalter, München.

170

- Fleming L. 2001, *Recombinant uncertainty in technological search*, Management Science, vol. 47, no. 1, pp. 117–132.
- Flori J., 1999, Rycerstwo w średniowiecznej Francji, Warszawa.
- Forstner D., 2001, Świat symboliki chrześcijańskiej, Warszawa.
- Frankowska-Makała M., 2004, Srebrne ozdoby ze skarbu z Podzamcza w Szczecinie, [in:] Biblioteka Archeologii Środkowego Nadodrza, 2, Zielona Góra, pp. 317–331.
- Gajewska-Prorok E., 2011, De electro. O średniowiecznej emalii komórkowej i o emaliach na koronie średzkiej, [in:] Katalog Środa, pp. 31–52.
- Ganczewski J., 2012, Folwark państwa Zakonu Krzyżackiego w Prusach, Olsztyn.
- Geisberg M., 1974, *The German single-leaf woodcut 1550–1550*, vol. 3, ed. W.L. Strauss, New York.
- Gies F., Gies J., 2018, Życie w średniowiecznym mieście, Kraków.
- Girulski R., Sachanbiński M., 2018, Ekspertyza gemmologiczna kamieni szlachetnych z korony i zapony. Raport z badan i opracowanie wyników, [in:] Katalog Środa, pp. 251–303.
- Goliński M., 2006, Wrocławskie spisy zastawów, długów i mienia żydowskiego z 1453 roku. Studium z historii kredytu i kultury materialnej, Historia 173, Wrocław.
- HP 2, 2001, Heilig en Profaan 2. 1200 Laatmiddeleeuwse Insignes uit openbare en particuliere collecties, eds. A.M. Koldeweij, H.J.E. van Beuningen, D. Kicken, Roterdam Papers 12, Cothen.
- Harksen S., 1974, Die Frau im Mittelalter, Leipzig.
- Inwentarze, 1961, Inwentarze mieszczańskie z lat 1528–1635 z ksiąg miejskich Poznania, ed. S. Nowicki, J. Wisłocki, Poznań.
- Janiak T., 2003, Kafle gotyckie w zbiorach Muzeum Początków Państwa Polskiego w Gnieźnie, Gniezno.
- Karnicka M., 2018, Monety z tzw. drugiego skarbu średzkiego w zbiorze Muzeum Narodowego we Wrocławiu, [in:] Katalog Środa, pp. 76–133.
- Katalog Erfurt, 2010, Die mittelalterliche jüdische Kultur in Erfurt, vol. 1: Der Schatzfund. Archäologie – Kunstgeschichte – Siedlungsgeschichte, eds. K. Opitz, E. Speitel, Weimar.
- Katalog Fuchsenhof, 2004, Der Schatzfund von Fuchsenhof, eds. B. Prokisch, T. Kühtreiber, Linz.
- Katalog Gdańsk, Katalog zabytków online Muzeum Archeologicznego w Gdańsku, www. archeoportal.pl (dostęp: 18.01.2020)
- Katalog Kraków, 2007, Kraków europejskie miasto prawa magdeburskiego 1257–1791, Kraków.
- Katalog Pritzwalk, 2006, Der Pritzwalker Silberfund. Schmuck des späten Mikttelalters, ed. L. Lambacher, Pritzwalk.
- Katalog Renaissance, 2008, Art and Love in Renaissance Italy, ed. A. Bayer, New York.
- Katalog Środa, 1996, Klejnoty monarsze. Skarb ze Środy Śląskiej, eds. J. Pietrusiński, J. Witkowski, Wrocław.

Katalog Środa, 2011, Skarb średzki. 20 lat później, eds. G. Borowski, A. Błażejewski, Wrocław. Katalog Środa, 2018, Skarb średzki. Trzydziestolecie odkrycia, ed. J. Witecki, Wrocław.

- Kerr W., 2008, *Ethnic scientific communities and international technology diffusion*, Review of Economics and Statistics, vol. 90, no. 3, pp. 518–537.
- Kizik E., 2001, Wesele, kilka chrztów pogrzebów. Uroczystości rodzinne w mieście hanzeatyckim od XVI do XVIII wieku, Gdańsk.
- Krabath S., 2006, Der Pritzwalker Silberfund im Vergleich zu ausgewählten Schatzfunden des späten Mittelalters, [in:] Katalog Pritzwalk, pp. 24–51.

Letkiewicz E., 2006, Klejnoty w Polsce. Czasy ostatnich Jagiellonów, Lublin.

- Łydżba-Kopczyńska B., 2018a, Nieinwazyjne badania z zastosowaniem spektroskopii Ramana, [in:] Katalog Środa, pp. 146–238.
- Łydżba-Kopczyńska B., 2018b, Nieinwazyjne badania z zastosowaniem fluorescencji rentgenowskiej XRF, [in:] Katalog Środa, pp. 238–248.

Łydżba-Kopczyńska B., 2018c, Podsumowanie projektu, [in:] Katalog Środa, pp. 249-251.

- Masner K., 1904, *Ein Schmuckfund aus dem Mittelalter*, Schlesiens Vorzeit in Bild und Schrift (NF), 3, pp. 72–83.
- Mühlemann J., 2013, Artus in Gold. Der Erec-Zyklus auf dem Krakauer Kronenkreuz, Petersberg.
- Najstarszy zwód, 1959, Najstarszy zwód prawa polskiego, ed., transl. and introduction by J. Matuszewski, Warszawa.
- Nathan M., 2014, Same difference? Minority ethnic inventors, diversity and innovation in the UK, Journal of Economic Geography, vol. 15, no. 1, pp. 129–168.
- Nowacki D., Piwocka M., 2011, Klejnoty w dawnej Polsce, Warszawa.
- Pastoureau M., 1983, Życie codzienne we Francji i Anglii w czasach rycerzy Okrągłego Stołu (XII–XIII wiek), Warszawa.
- Paszkiewicz B., 2000 Pieniądz górnośląski w średniowieczu, Lublin.
- Pietrusiński J., 1996, Średniowieczne klejnoty monarsze z złotym skarbie ze Środy Śląskiej, [in:] Katalog Środa, pp. 9–63.
- Piwowarczyk D., 2009, Słynni rycerze Europy. Rycerze w służbie dam i dworu, Warszawa.
- Rębkowski M., 1988, Kołobrzeska zapinka zdobiona motywem złączonych dłoni, na tle podobnych znalezisk z północno-zachodniej Europy, Historii Kultury Materialnej, 36(3), pp. 515–526.
- Rougemont de D., 1999, Miłość a świat kultury zachodniej, Warszawa.
- Sachanbiński M., 1996, Kamienie szlachetne w klejnotach monarszych ze Środy Śląskiej, [in:] Katalog Środa, pp. 64–73.
- Samuel M., 2004, *Zahranný výskum Mostnej ulici v Nitre*, Archeologické výskumy a nálezy na Slovensku v roku 2003, Nitra, pp. 164–165.
- Sawicki J., 2014, Średniowieczne świeckie odznaki w Polsce na tle europejskim, Wratislavia Antiqua 20, Wrocław.
- Sawicki J., 2017, Medieval dress accessories from Nowy Targ Square in Wrocław. Catalog of finds, Wrocław.

- Saxenian A., 2005, From Brain Drain to Brain Circulation: Transnational Communities and Regional Upgrading in India and China, Studies in Comparative International Development, vol. 40, no. 2, p. 35–61.
- Suchodolski S., 2013, Warum hat man im frühen Mittelalter Schätze deponiert?, [in:] Economies Monetisation and Society in the West Slavic Lands 800–1200, eds. M. Bogucki, M. Rębkowski, Wolińskie Spotkania Mediewistyczne 2, Szczecin, pp. 89–107.
- Taylor R., 2006, Przewodnik po symbolice kościoła, Warszawa.
- Tegetfoff R., 2002, Der Schatzfund aus dem Stadtweinhaus in Münster. Vergleichende Untersuchung der Schmuchstücke aus dem Schatzfund in der Judengasse hinsichtlich Herstellungstechnik und Gestaltung, Zeitschrift für Archäologie des Mittelalters, vol. 30, pp. 3–32.
- Turska K., 1987, Ubiór dworski w Polsce w dobie pierwszych Jagiellonów, Wrocław.
- Wachowski K., 2013, Emblemata mediaevalia profana. Przykład Polski, Wrocław.
- Wachowski K., Jaroch E., 2009, Artystyczne wyroby skórzane w późnym średniowieczu. Problem wytwórczości w Europie Środkowo-Wschodniej, Archaeologia Historica Polona, vol. 18, pp. 97–119.
- Wachowski K., Krawczyk M., 2019, Nyski warsztat artystycznych wyrobów skórzanych w XIV–XV wieku, Nyskie Szkice Muzealne, vol. 12, pp. 67–97.
- Wachowski K., Witkowski J., 2003, Wrocław wobec Hanzy, Archeologia Polski 48, pp. 201– 221.
- Wąsowicz T., 1967, Legenda Śląska, Wrocław.
- Witecki J., 2011, Skarb średzki na wystawach międzynarodowych w latach 2002–2010, [in:] Katalog Środa, pp. 53–61.
- Witecki J., 2018, Średzkie klejnoty po trzydziestu latach, [in:] Katalog Środa, pp. 48-75.
- Witkowski J., 2002, Szlachetna a wielce żałosna opowieść o Panu Lancelocie z Jeziora, Wrocław.
- Zuffi S., 2007, Nowy Testament. Postacie i epizody, Warszawa.