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FASCICULI ARCHAEOLOGIAE HISTORICAE

Fasciculus 37

The Archaeology
of Medieval and Post-Medieval
Kitchen and Cuisine:
Food - Utensils - Space



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Fasciculus 37

**THE ARCHAEOLOGY OF MEDIEVAL AND POST-MEDIEVAL KITCHEN
AND CUISINE: FOOD - UTENSILS - SPACE**

ŁÓDŹ 2024

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TOMASZ KURASIŃSKI*

TO THE KITCHEN, ON THE TABLES AND... TO THE AFTERLIFE. REMAINS OF EGGS IN EARLY MEDIEVAL GRAVES FROM POLAND

Abstract

In the early Middle Ages, birds were the source of meat, fat, feathers, and eggs. Their main supplier was domestic poultry, especially chickens. Eggs were an important and widely available component of the diet, but also played a role, among other things, in the funeral rituals of that time. In the cemeteries of the early Piast period, their remains in the form of shells are a rarely recorded element of grave furnishings (33 graves from thirteen cemeteries). These finds occur mainly in burials of children (*infans*) and adolescents (*iuvenis*). There are various meanings, content, and connotations associated with depositing eggs as grave goods, relating to both pagan and Christian religious worldviews. The key issues seem to be those related to fertility, stimulation of life forces, regeneration, and transformation. The magical and protective significance of the egg is also revealed.

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INTRODUCTION

It is obvious to say that animals have largely decided (and still decide) about the quality of human life. As an indispensable food base and source of raw materials, they satisfied the most elementary human needs. They constituted an element affecting the shape of a social organisation, management method, economic foundations, and diet preferences. At the same time, the world of fauna was present in the spiritual sphere as a multifaceted object of beliefs and sacred rituals. As emphasised by D. Makowiecki, *Animals, and how they were dealt with, they became means with which man expressed or manifested his ideas resulting from magical or religious beliefs. In this regard, animals can be given the status of something central, necessary*


*for the functioning of man to create new variants of cultural behaviour constantly.*¹

Cemeteries are a particularly valuable source of archaeological materials. Firstly, faunal grave deposits could be associated with sacrificial destiny or conviction about the need to supply and secure the deceased with certain items in the afterlife (animals as living companions or food). At the same time, they were a reflection of eschatological and religious-magical ideas.²

However, we should start our discussion by briefly outlining the role that birds played in the early Middle Ages in terms of their consumptive and

¹ Makowiecki 2016a, 73.

² See e.g., Kajkowski and Kuczkowski 2011; Kajkowski 2024; Bojarski 2024. We omit here the so-called animal burials, which are another kind of ritual manifestation of beliefs, although sometimes the boundary between them and the deposits indicated here is quite ambiguous, especially in the case of joint burial of human and animal bodies.

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KEYWORDS

- early Middle Ages
- territory of Poland
- funeral rituals
- grave goods
- remains of eggs
- egg symbolism
- cult of the dead
- consumption of poultry
- meaning of birds



non-consumptive use. This will allow us to present the background for other issues related to the role of birds in the lives of the communities of that time. The ‘grave’ use of eggs and their remains falls into this broadly drawn perspective defining the interactions between humans and the avifauna.

THE CONSUMPTION AND NON-CONSUMPTION IMPORTANCE OF BIRDS – SELECTED ISSUES

As demonstrated by zooarchaeological research, birds had a small but constant share in the economic structure related to animal breeding and use in early medieval Poland. Mammals dominated breeding and hunting, but avifauna was characterised by a much greater diversity of species.³ Poultry, in particular, draws attention. Quantitative data obtained from collected bone remains prove that domestic chickens (*Gallus gallus* f. *domesticus*) were the most consumed species. In the early Middle Ages, it was the only fully domesticated bird.⁴ Another important species, although used to a much lesser extent, was the domestic and/or wild goose. In this case, due to the great morphological similarity, it is generally impossible to determine whether the remains came from a wild goose (greylag goose – *Anser anser*) or a domesticated one (*Anser anser* f. *domesticus*).⁵ Duck could also have had some consumption value, although, given the current state of knowledge, it should be ruled out that the custom of keeping breeding forms became widespread in the early Middle Ages (*Anas platyrhynchos*

f. *domestica*).⁶ The date of domestication of this bird has not been precisely determined, mainly due to the difficulties in macroscopically distinguishing the bones of wild individuals (mallard – *Anas platyrhynchos*) from farmed individuals.⁷ It seems that in Europe, ducks could only be convincingly classified as poultry in the late Middle Ages or early modern period, although in the light of the few written sources, some forms of primitive breeding may have existed even earlier.⁸ In Poland, proper duck breeding probably began only in the 15th century.⁹

Other birds played only a marginal economic role in the Polish lands at that time.¹⁰ Hence, further considerations will be limited to the three bird species mentioned above.

The exploitation of birds primarily had two goals – obtaining meat and fat. Their main supplier was domestic poultry, especially chickens. Usually, the whole carcass was consumed, with no clear preference for any part of it,¹¹ although the collected bones sometimes allow us to see, as in the case of Kalisz Zawodzie, the prevalence of consumption of selected anatomical parts of the chicken in the form of thighs and wings.¹² It is estimated that the actual share of chicken meat ranged from a few to a dozen or so per cent (maximum 20%) of the total meat consumption.¹³ What is important from the point of view of this paper, however, is that these birds were also used as a source of eggs, which

³ Bocheński 1993; Lasota-Moskalewska 2005, 237-238. In reality, the share of birds in farming was probably higher, and the underestimation of their skeletal remains could have had various reasons. For example, bird bones could have been thrown away or taken outside the inhabited area or eaten by other animals such as dogs or pigs, Gilbert et al. 1996, 2; Kozłowski 2004, 14; Ehrlich et al. 2023, 112. In the case of poultry in the Middle Ages, they were probably kept more often and in larger numbers than indicated by skeletal remains, but they were sold or exchanged, or left the farm as tribute, Schulz 2011, 434. The herds, however, were not very numerous, Trawkowski 1985, 38.

⁴ Their breeding was probably much less complex and expensive than that of geese. It is likely that chicken breeding was much less complex and expensive than geese. It is assumed that this dominance was mainly due to the ease of keeping this bird in conditions of limited space and the fact that it did not require much care in feeding. Chickens are omnivores and can feed on kitchen scraps and grain chaff. Natural food also included larvae, insects and snails. Capons need about half as many calories as geese to fatten up, Kozłowski 2004, 28; Slavin 2009, 37-38; Slavin 2010, 4; Makowiecki 2016b, 157; Wiejacka and Makowiecki 2018, 80.

⁵ Bocheński et al. 2000, 114; Piątkowska-Małecka 2023, 277. Although it cannot be ruled out that domestic geese were bred in the early Middle Ages, cf. Lewicki 1954, 467; Lewicka-Rajewska 2004, 77, their breeding form in Poland began to play a more important role only in modern times, Makowiecki 2008, 65-66; Makowiecki 2016b, 211.

⁶ Archeozoological data on chickens, geese and ducks from early medieval sites in Poland, see e.g., Bocheński et al. 2000, 113-114; Makowiecki 2001, 40, 49, 57, 60, 89, 100; Kozłowski 2004, 20-25; Makowiecki 2006, 132-134; Makowiecki 2008, 64-66; Makowiecki 2010, passim; Makowiecki 2016b, 157-159; Makowiecki and Gotfredsen 2002, 74-77; Makowiecki and Gotfredsen 2007, 290-292; Makowiecki and Makowiecka 2023, 362; Makowiecki et al. 2014, 361; Piątkowska-Małecka and Tomek 2013-2014, 216, 218; Wiejacka and Makowiecki 2018, 80-82; Pankiewicz 2023, 164; Piątkowska-Małecka 2023, 257, 277-278. Cf. mentions from early medieval Arabic sources, Lewicka-Rajewska 2004, 75-76.

⁷ Bocheński et al. 2000, 29, 114; Luff 2012, 518, 522.

⁸ Benecke 1994a, 187; Benecke 1994b, 382; Albarella 2005, 255-256; Cherry and Morris 2008, 2-3; Luff 2012, 519-522. According to A. Lasota-Moskalewska, *it can be assumed that the process of duck breeding, which led to their domestication, began at the turn of the eras*, Lasota-Moskalewska 2005, 254. There is a mention of stuffing ducks with flour dumplings in Arabic sources (al-Bīrūnī), cf. Lewicki 1954, 467-468, although this may refer to the fattening of geese, Lewicka-Rajewska 2004, 77.

⁹ Makowiecki and Gotfredsen 2002, 75; Makowiecki 2016b, 159.

¹⁰ It was probably different in the East Slavic areas, where the role of poultry in the diet was not so strong, although there was a noticeably high share of wild birds, Gorobets and Kovalchuk 2017, 160, 164.

¹¹ Makowiecki 2016b, 210-211.

¹² Piątkowska-Małecka 2023, 277.

¹³ Kozłowski 2004, 26.

were an important supplement to the diet of that time as a seasonal animal-based additions.¹⁴ In the early Middle Ages, eggs were a product generally available to all social classes.¹⁵ In light of historical evidence, they were an extremely important ingredient in medieval cuisine. Eggs were used to prepare cakes and various meat dishes as an addition to thick sauces.¹⁶

According to zooarchaeological findings, the indirect confirmation of the importance of the hen as a bird providing eggs is the discovery of bones belonging to females with special endosteal tissue (medullar bone) filling the marrow spaces at some medieval sites in Poland (e.g., Kałdus, Kołobrzeg, Kalisz-Zawodzie, Poznań, Łęczycza, Żerniki). It accumulates in the bones between laying cycles, serving as a vital reservoir of calcium for building the eggshell.¹⁷ The presence of laying hens within the groups is, therefore, evidence of a well-established tradition of egg-breeding. They may have been so numerous that their killing was not considered uneconomical.¹⁸

In the discussed period, eggs from other birds were used for consumption purposes to a negligible extent. In the case of geese, it should be assumed that this was mainly due to their low egg production. Keeping them mainly for the purpose of obtaining eggs would, therefore, be economically unjustified.¹⁹ Medical contraindications were also important. As Hildegard of Bingen stated,

¹⁴ Chicken eggs are a nutrient-rich and versatile food source. Their main nutritional value comes from their high protein content. For comparison, in chicken eggs, protein constitutes 12.6% of the total mass, which is equivalent to the protein content in red meat (e.g., beef – 14% protein). Egg whites also contain all the essential amino acids (not synthesized in the body), a number of vitamins and minerals, and important trace elements. Stadelman 2000, 501, 505; Stewart 2013, 26.

¹⁵ Kozłowski 2004, 26.

¹⁶ Dembińska 1963, 123; Beranová 2007, 110-111; Schubert 2019, 185-186.

¹⁷ Makowiecki 2008, 65; Makowiecki 2010, 195-196; Makowiecki 2014, 377; Makowiecki 2016b, 75, 108, 211; Piątkowska-Małecka 2023, 277-278; see also Serjeantson 1998, 26-27; Van Neer et al. 2002; 129-133; Gál 2006, 53; Sykes 2007, 28; Serjeantson and Crabtree 2018, 126. The biological mechanism is discussed in detail in Dacke et al. 1993; Kerschitzki et al. 2014.

¹⁸ Wiejacka et al. 2022, 137, see also Toussaint-Samat 2002, 320.

¹⁹ Serjeantson 2002, 44, 53; Wiejacka and Makowiecki 2018, 84. Starting in February, domestic geese laid one egg per day, or one on alternate days. Eggs were available for sale or consumption from February onwards, for 2-3 months. A peak of fertility in the fifth year of age, so for egg production, female geese should be kept to about five years of age. Unlike hens, geese mate for life and it is impossible to pair one gander with more than 3-4 geese. By comparison, there can be a rooster for every 20 hens. Hence, to ensure steady reproduction, the ratio of females to males must not exceed 4:1, Serjeantson 2002, 41, 42; Slavin 2010, 4, 15, 19.

goose eggs were unhealthy for humans, regardless of how they were prepared, as they caused scrofula and other ailments.²⁰ This was not a rule for all of Europe. However, as in early medieval Ireland, goose eggs were valued more highly than chicken eggs.²¹ On the other hand, duck eggs have never enjoyed great demand in Europe due to their worse taste than chicken eggs, even though ducks are naturally prolific layers and their eggs are highly nutritious.²² We can, therefore, be certain that in the Middle Ages, only chicken eggs were important in the diet.

The consumption of bird eggs is undoubtedly evidenced by their remains in the form of shells discovered in settlement contexts. They are waste from food preparation, although they are not very common finds.²³ Their species classification is also difficult, especially without the possibility of using more advanced research techniques.²⁴ In light of what has been said above, it should be expected that these will mainly be the remains of chicken eggs, although goose, duck or other species cannot be ruled out.²⁵

Eggshells, including fully dyed and ornamented ones, were found in early medieval features and layers of the hillfort in Opole-Ostrówek (Fig. 1).²⁶

²⁰ Kobielius 2002, 102.

²¹ Kelly 2000, 105.

²² Luff 2012, 522.

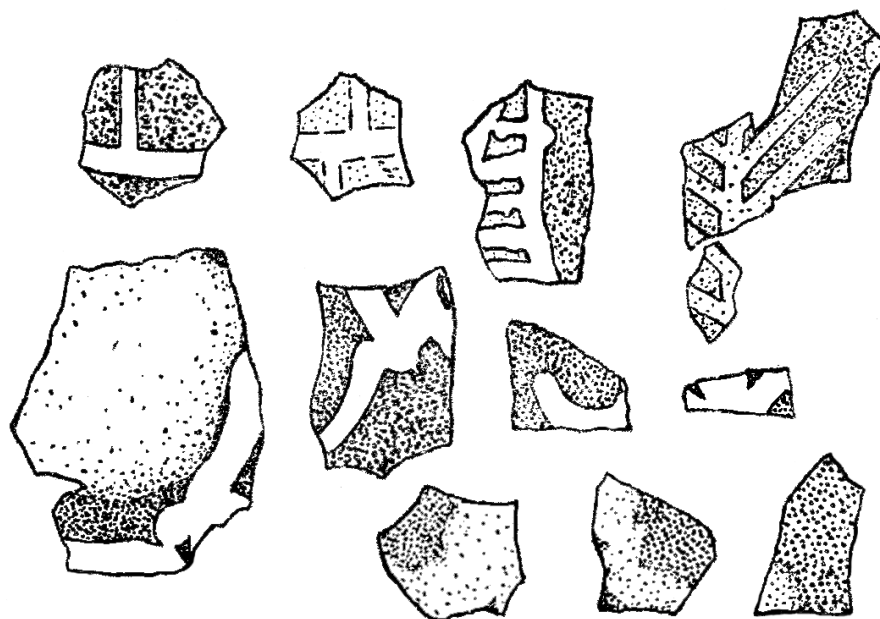
²³ The literature on the subject indicates that: *The discovery of fragile eggshells requires adequate contexts (usually graves), good circumstances for fossilization as well as cautious methods used during excavations*, Gál 2006, 52.

²⁴ Serjeantson 2006, 137.

²⁵ See Jakab 1979, 148-149, 162; Trotzig 1991, 167; Stewart et al. 2013; Dobney et al. 2007, 180-181; Banham and Faith 2014, 117.

²⁶ Hołubowicz 1956, 234, 296; Bukowska 1958; Bukowska-Gedigowa and Gediga 1986; Egg remains are sometimes considered to be building sacrifice, Hołubowicz 1956, 296; Bukowska 1958, 47; cf. Večerková 2007, 8; Reed 2019, 3, 8; Špehar and Zorić 2022, 1007. This thesis may be supported in particular by the fact that a whole egg was deposited, but it is difficult to assess this conclusively based on the state of preservation of the remains in question. Usually, we deal with more or less numerous clusters of shells. In some cases, however, this cannot be ruled out. In Opole-Ostrówek, a single whole egg was probably placed under the shoulder blade of a shovel-shaped share located within one of the houses (near the threshold) – *a melted mass that had deeply eaten through the metal*, Hołubowicz 1956, 294-295. According to J. Wawrzyniuk, this find rather indicates *leaving food for demons*, cf. Wawrzyniuk 2016, 60, in tables no. 1 and 19 it was defined as a building sacrifice – Wawrzyniuk 2016, 311, 352. We are probably also dealing with such a find at the stronghold in Gdańsk, where it is believed that a whole egg was deposited under a log beam in one of the corners of the house (years 1180-1205), Kamińska 1952, 95; Lepówna 1981, 179. This was a construction level originally dated to the years 1180-1205, and after conducting verification studies, to the 2nd quarter of the 12th century, Kościński and Paner 2005, 37, Tab. 3. The circumstances of the discovery allowed it to be treated as a foundation offering, Bukowska 1958, 47; Lepówna 1981, 179, 194; Wawrzyniuk 2016, 61, 351, but it is not excluded that we are

Fig. 1. Eggshells from Opole-Ostrówek. Source: Hołubowicz 1956, fig. 131. Fig. unscaled.



In Poland, they were also recorded in a pit interpreted as the remains of a hearth or furnace, which was discovered at the site of a 13th-century settlement in Grójec.²⁷ Such remains were also found at sites younger than the early Middle Ages, for instance, in Poznań (13/14 Żydowska Street)²⁸ or Unisław (Teutonic Knights' castle).²⁹ Eggshells are discovered in archaeological contexts and also in other European regions, e.g., at 9th-11th-century sites in the British Isles. For example, considerable quantities were recovered from York, St Martin-at Palace Plain, Flixborough and from the deposits laid up on the kitchen floor at Eynsham.³⁰ Furthermore, egg remains were discovered in medieval contexts in Estonia, e.g., in Tartu,³¹ in Hungary, e.g., in Vésztő-Mágor³² or the Czech Republic, e.g., Libice nad Cidlinou.³³

Let us just mention the various ways of using bird bones – due to their specific shape and structure (thin cortical wall), they were often used to make special tools, ornaments and, in particular, instruments, while the claws were usually perforated and served as amulets.³⁴ For example, needles made of bird bones come from Czersk

(graves no. 669, 767 and 776).³⁵ A separate category of the discussed organic products is flutes and whistles-fifes, which we know from, among others, the cemeteries in Dziekanowice, site 22, graves no. 45/92, 30/95, 9/97 and 50/01³⁶ and Giecz, site 4, grave no. B23.³⁷ We also have artefacts of this type from other European regions, and in the Middle Ages, the bones of larger birds were chosen for their production, especially geese, swans, eagles, vultures, and cranes.³⁸ In Kaldus, site 1 (grave no. 163), a woman (*adultus*) was buried with an animal tusk and a bird claw, which were part of a necklace additionally composed of beads.³⁹

Another form of cultural and spiritual significance of birds was expressed in funeral rituals. This was manifested not only by burying the dead with objects made of bird bones and placing the corpses on quilts and pillows stuffed with feathers⁴⁰ but also

dealing with food leftovers resulting from the *utilitarian sphere of human activity*, cf. Kajkowski 2019, 227.

²⁷ Suchodolski 1979, 213.

²⁸ Makowiecki 2016b, 78, 211.

²⁹ Wiejacka et al. 2022, 135, 137.

³⁰ Dobney et al. 2007, 52, 180-181; Sykes 2007, 28; Stewart et al. 2013; Serjeantson and Crabtree 2018, 126.

³¹ Ehrlich et al. 2023, 114, 118.

³² Jakab 1979, 149.

³³ Krumphanzlová 1986, 519.

³⁴ See Bocheński et al. 2000, 117-118; Gál 2006, 56.

³⁵ Bronicka-Rauhut 1998, 41, 103, 113, 114.

³⁶ Wrzesińska and Wrzesiński 2003, 243, 248; Wrzesiński 2022a, 220.

³⁷ Indycka 2021, 166-168.

³⁸ E.g., Kozák 1997; Moreno-García et al. 2005; Leaf 2007; Biermann 2008, 252-253; Küchelmann 2010.

³⁹ Bojarski 2020, 387.

⁴⁰ This is confirmed by the results of specialist analyses of feathers used to stuff bedclothes on which the deceased were buried in two boat graves from Valsgårde (7th century). Feathers from geese and other bird species were used. Presumably, this raw material had a deeper meaning than simply filling pillowcases, Berglund and Rosvold 2021. The presence of feathers and down from birds of the order *Anseriformes* (ducks, geese, swans), sometimes in combination with other taxa, as a stuffing of pillows and quilts has also been found in other early medieval graves from northern Europe, Berglund 2009; Dove and Wickler 2016; Kirkinen et al. 2020. Such finds are generally considered to be indicators

by placing whole birds or their smaller or larger parts in graves. Bird bones, similarly to those of other animals, discovered in such contexts are most often considered to be remnants of sacrificial practices, a funeral feast or food intended for the last journey, although this does not exhaust all possible interpretations (e.g., a sign of status and identity, the role of a psychopomp, a manifestation of the bond between an animal and a human, hunting trophies).⁴¹ Unfortunately, we have very few such deposits from early medieval cemeteries in Polish lands. Limiting ourselves to classified species, we can only mention chicken and goose bones found in isolated graves from Ciepłe⁴² and Kałdus, site 2.⁴³ However, it is possible that these may be accidental finds. More frequent bird remains (almost exclusively chicken) are recorded in other Slavic areas, especially in Bohemia and Moravia.⁴⁴

Eggshells, which are the main subject of this discussion, are also among the grave finds related to avifauna ends with eggshells, which also carry content that goes beyond being treated as ordinary post-consumer remains.

EGGSHELLS IN GRAVES – A REVIEW OF MATERIALS FROM THE AREA OF PRESENT-DAY POLAND

So far, egg remains have been found in 32 graves from thirteen cemeteries⁴⁵ (see Tab. 1, Figs. 2-4). The largest number of them was recorded in Czekanów, where seven graves (graves no. 24, 42, 83, 87, 98, 150 and 188) and in Giecz, site 10 – six graves (graves no. 3/14, 20/16, 15/17, 8/19, 17/19 and 20/19). In turn, in each of the cemeteries in Brześć Kujawski and Giecz, site 4, there were four burials with eggshells (graves no. 23, 32, 59 and 73 and no. C67, C86, C87 and B150, respectively). Three such features were discovered in Złota Pińczowska (no. 78, 85 and 91), and two in Góra (no. 7

of wealth and high status, not only posthumously. As B. Berglund noted: *Pillows and quilts were used to make the dead comfortable in the grave, but such bedclothes were probably also used by living people, not just as special equipment for burials*, Berglund 2009, 132. Similar finds have not been found in early medieval cemeteries in Poland. Feathers identified as chicken feathers were discovered only in grave no. 5 from Lutomiensk, but they were used in a different capacity, Nadolski et al. 1959, 58.

⁴¹ See Becker 2002; Kroll 2013; Sykes 2014, 119, 134-135; Karpińska 2018; 2023.

⁴² Makowiecki 2019, 289.

⁴³ Makowiecki 2010, 131.

⁴⁴ Eisner 1966, 447-448; Mlíkovský 2003, 241-242, 244; Kysely 2010, 25; Janowski 2015, 50; Tomková 2020, 307, 309; further literature in these works.

⁴⁵ J. Kalaga also mentions cemeteries in Krapiewo, Puszczykowo and Uścicie, but without citing sources, Kalaga 2006, 151, hence we were unable to verify this information.

and 11). In the remaining cemeteries, there were single burials: in Końskie (a human skeleton under hearth II), Sandomierz-Kamień Plebański (no. 12), Płock-Podolszyce (no. 25), Prząsław (no. 39), Rogów (barrow 24), and Wolin-Młynówka (no. 115 [252]).

In most cases, we are dealing with inhumation burials. Only in Rogów, the eggshells were discovered in a barrow (no. 24) containing cremated human remains, in the external basset part of the mound. The eggshells themselves were found in a layer of burnt material with individual small fragments of completely burnt wood, lying directly on the natural ground.⁴⁶ Remains of eggs were also discovered in Czekanów (grave no. 150) among burnt human bones (mainly skulls and long limbs). It should be noted that the same feature contained unburnt skeletons of two individuals – an adult man and a child.⁴⁷

The above list shows that more than half of the graves (17) contained bones of children buried at different ages (Table 1). Based on a more precise age assessment, it can be observed that the youngest was 6-9 months old (Czekanów, grave no. 87) and the oldest died after reaching the age of 6 years at most (Giecz, site 10, grave no. 15/17). Eggshells also appeared in the graves of juveniles (*iuvenis*). They come from Giecz, site 10 (no. 20/19), Góra (no. 11), Płock-Podolszyce (no. 25), and Wolin-Młynówka (no. 115 [252]). They were also present in burials of people representing the age ranges *adultus/maturus* (Prząsław, grave no. 39), *maturus* (Giecz, site 10, grave no. 17/19), *maturus/senilis* (Giecz, site 10, grave no. 3/14) and *senilis* (Czekanów, graves no. 42 and 83; Giecz, site 10, grave no. 20/16). Interestingly, human remains defined as *adultus* were identified only in two sites – in Góra, grave no. 7, and Giecz, site 4, grave no. C87.⁴⁸

Due to the significant share of children's burials, only in a few cases, it was possible to determine the sex of the deceased. It was established that in three graves, the remains belonged to men (Brześć Kujawski, grave no. 32; Czekanów, grave no. 42 and Giecz site 4 grave C87). Eggshells were also placed in women's graves. This was ascertained for Czekanów (no. 83), Giecz, site 10 (nos. 20/16 and 17/19) and Prząsław. Two skeletons from cemeteries in Góra, grave no. 7 and Wolin-Młynówka were also determined to be

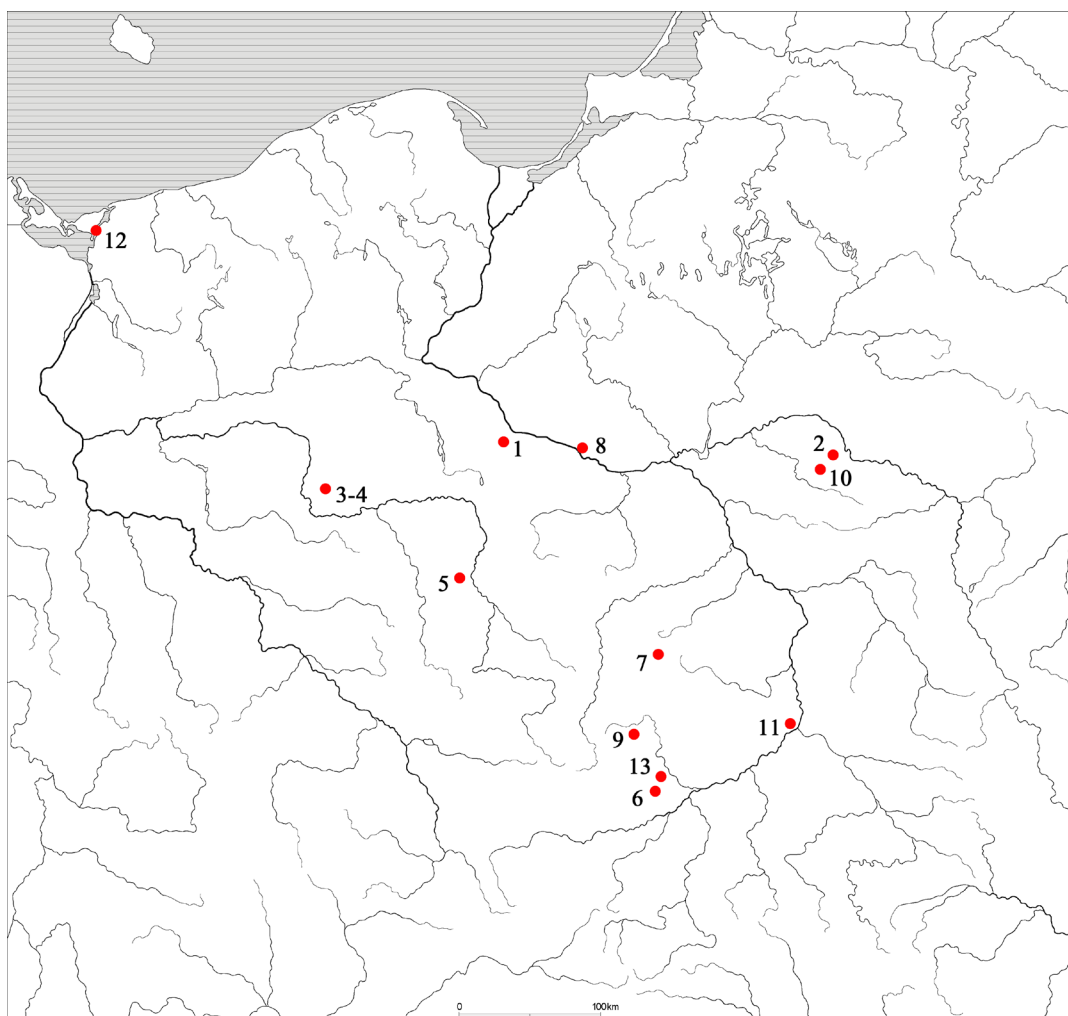
⁴⁶ Kalaga 2006, 74.

⁴⁷ Kalaga 2006, 23.

⁴⁸ We omit here grave no. 32 from Brześć Kujawski, in which the skeleton has generally been attributed to an adult.

Fig. 2. Map of the distribution of early medieval cemeteries with graves containing remains of eggs in Poland:

1 – Brześć Kujawski;
 2 – Czekanów;
 3-4 – Giecz, site 4 and 10;
 5 – Góra; 6 – Jaksice;
 7 – Końskie; 8 – Płock-Podolszyce; 9 – Przasław;
 10 – Rogów;
 11 – Sandomierz-Kamień Plebański; 12 – Wolin-Młynówka; 13 – Złota Pińczowska.
 Graphic design:
 T. Kurasiński.



female. It should be noted, however, that in the last case, these were people from the *iuvenis* age category, for whom the assessment of gender may raise doubts.⁴⁹

The analysis of the source database should also include the location of the discussed finds in relation to human remains. In the case of the aforementioned cremation and bi-ritual burials, the way the bodies were treated, it is not possible to draw conclusions in this regard. However, we have this type of information for inhumation burials. Eggshells were found in various parts of graves, although there is a clear trend indicating that eggs were being deposited near the feet of the buried people. Thirteen such cases were recorded (Brześć Kujawski, graves no. 23 and 32; Czekanów, graves no. 24, 98 and 188; Jaksice, grave no. 4/61; Góra, graves no. 7 and 11; Giecz, site 10, graves no. 20/16, 20/19 and 3/14; Płock-Podolszyce, grave no. 25, and Złota Pińczowska,

grave no. 85, probably also no. 78) (Figs. 3:1-2, 4:1-5). This also occurred in Wolin-Młynówka, grave no. 115 (252), where the shells were placed in a wooden vessel located under a bronze bowl (Fig. 4:7). If we add to this the discovery of the discussed remains between the shin bones, albeit in the basset part of grave no. 17/19 in Giecz, site 10, and at the right knee in Sandomierz-Kamień Plebański (Fig. 4:6), we can speak of a quite significant preference for the lower limbs in egg deposition. Eggshells were found much less frequently in the pelvis or hands of the deceased. This was confirmed in Brześć Kujawski (grave no. 59), Giecz, site 4 (graves no. B150 and C67) and site 10 (grave no. 8/19)⁵⁰ (Figs. 3:3, 7). They were also placed at the head of the deceased. This is how the child from grave no. 73 in Brześć Kujawski (Fig. 3:4) and the man from grave no. C87 in Giecz, site 4, were buried, as well as the child from grave no. 15/17 in Giecz, site 10, where the egg fragments were placed in a clay vessel. In other

⁴⁹ Determining the sex of individuals who died before reaching juvenile age based on macroscopic examination of bones is difficult, Malinowski and Bożilow 1997, 323, although attempts are being made in this direction, e.g., Coussens et al. 2002; Pacocha 2007, 128-136.

⁵⁰ In this case, the child was buried on the right side, and the shells were placed at the level of the abdomen (they were located between the lumbar vertebrae, ribs, bones of the forearm and hip, on the right side of the skeleton).

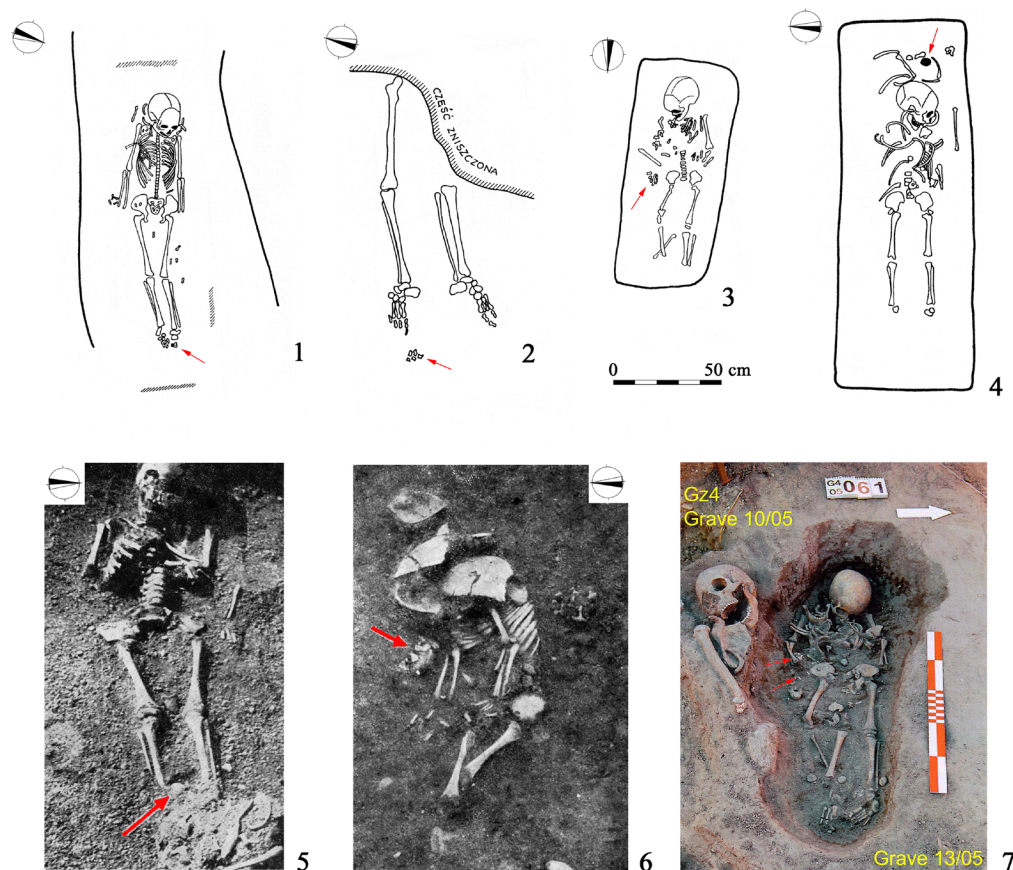


Fig. 3. Graves containing remains of eggs from Poland: 1 – Brześć Kujawski, grave no. 23; 2 – Brześć Kujawski, grave no. 32; 3 – Brześć Kujawski, grave no. 59; 4 – Brześć Kujawski, grave no. 73. Source: Kaszewscy 1971, figs. 23, 32, 51, 61; 5 – Czekanów, grave no. 24; 6 – Czekanów, grave no. 87. Source: Zawadzka-Antosik 1982, figs. 6, 15; 7 – Giecz, site 4, grave no. B150. Source: Indycka 2021, fig. 9:1.

cases, the data on the location is less precise, and sometimes the exact location was impossible to determine because the remains in question were found in the filling of the grave pit (Czekanów, grave no. 87; Złota Pińczowska, grave no. 91).

A review of the contents of the burial pits leads to the conclusion that, in most cases, eggshells were either the only elements of grave furnishings or the grave goods assemblage was very poor. In some burials, there were only single objects – knives in graves no. 20/19 from Giecz, site 10, no. 25 from Płock-Podolszyce and no. 12 from Sandomierz-Kamień Plebański, a clay vessel in grave no. 15/17 from Giecz, site 10, a fragment of a bone needle in grave no. C67 from Giecz, site 4 and a bronze plate in grave no. 4/61 from Jaksice. Some burials, however, were distinguished by the qualitative and quantitative abundance of posthumous equipment. Temple rings were discovered in several graves, sometimes accompanied by other finds, such as a bronze bowl (Wolin-Młynówka, grave no. 115 [252]), coins (Giecz, site 10, grave no. 20/16),⁵¹ or a bucket (Giecz, site 10, grave no. 3/14). Graves no. C86 from Giecz, site 4, no. 83 from Czekanów and no. 78 from Złota Pińczowska, in which the

deceased were buried with necklaces made of glass beads, and in the latter also of fluorite beads, are also worth mentioning. The detailed composition of the contents of the burial pits is presented in the table below.

DISCUSSION

A wide range of ideas, meanings and beliefs revolved around the egg (and its replica in the form of an Easter egg) as a personified form of condensed life energy, with numerous examples provided by Slavic (and other) ethnographic and folkloric accounts. The egg was, among other things, a sacrifice made at crossroads as part of annual rituals.⁵² Its role is particularly noticeable in ritual activities related to birth and death. Already in the 13th-century Rudolf's *Catalogue of Magic* we can read that *An egg was put in the first bath of a child, which is given to the father to eat, and in another place: When carrying a child [from church] home, they trample an egg on the threshold under a broom.*⁵³ According to J. Wawrzoniuk, in such a case, it was supposed to *accumulate all the negative powers, at the same time being a neutraliser of the human environment.*⁵⁴ Hence, the egg was treated as a means

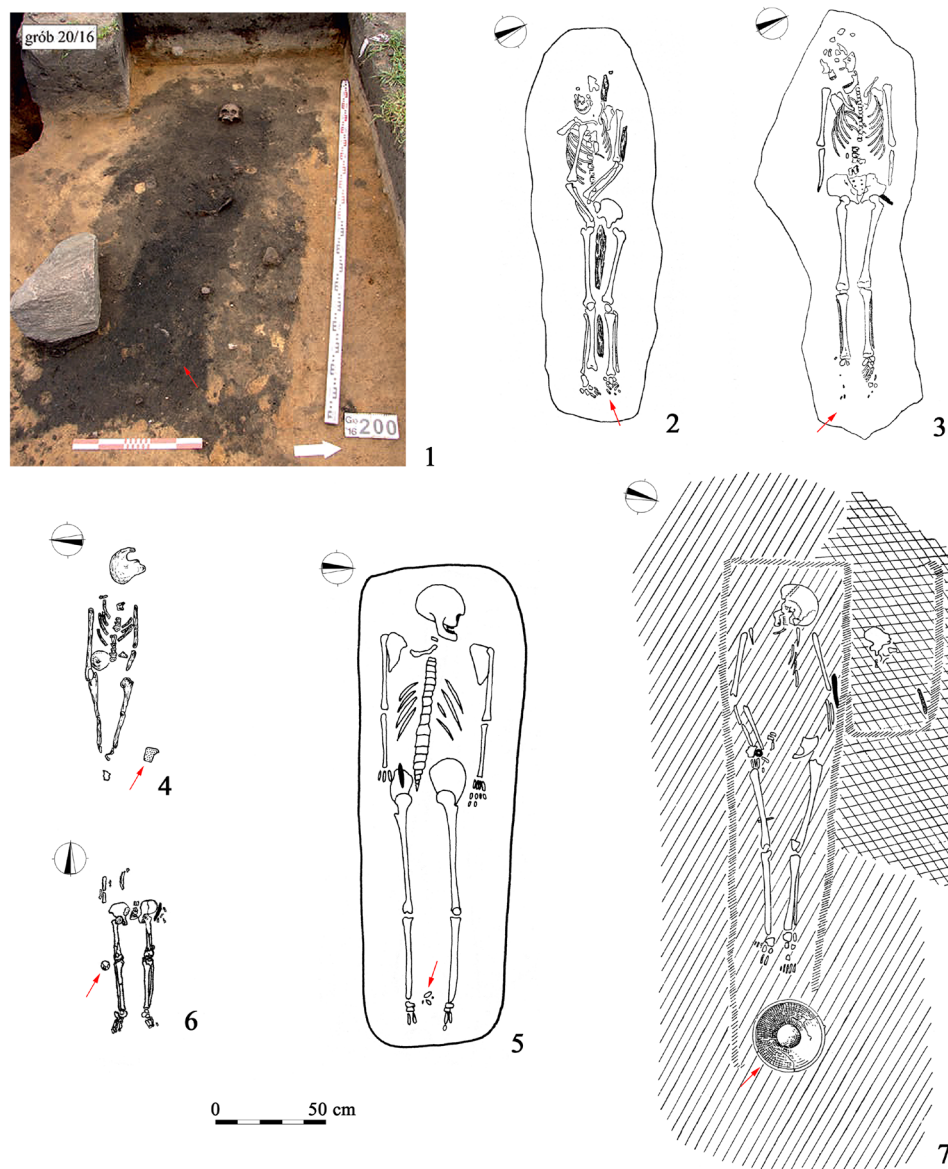
⁵¹ German specimens from the years 995-1002 and 1002-1024, Pisula 2021, 202, 205, 206-207.

⁵² Biegeleisen 1929, 174.

⁵³ Karwot 1955, 21, 22.

⁵⁴ Wawrzoniuk 2004, 144.

Fig. 4. Graves containing remains of eggs from Poland: 1 – Giecz, site 10, grave no. 20/16. Source: Miciak and Agnew 2021, fig. 4; 2 – Góra, grave no. 7; 3 – Góra, grave no. 11. Source: Kowiańska-Piaszykowa 1960, figs. 14, 20; 4 – Jaksice, grave no. 4. Source: Miśkiewicz 1968, fig. 5; 5 – Płock-Podolszyce, grave no. 25. Source: Kordala 1992, pl. IV:25; 6 – Sandomierz-Kamień Plebański, grave no. 12. Source: Florek 2016, fig. 3:12; 7 – Wolin, grave no. 115 (252). Source: Cnotliwy and Wojtasik 1959, fig. 1.



of protection against demons, spells, atmospheric cataclysms and all evil. As already mentioned, for protection, they were buried under the corners and placed in the foundations of houses under construction, hung in gardens, thrown into flames or thrown over the roof during a fire.⁵⁵

Eggs (and Easter eggs) were considered to be symbols of perfect wholeness. Hence, on the mythical plane, they evoked rebirth and reintegration with the cyclically reborn cosmos.⁵⁶ The cosmogonic revitalisation of the world found its ritual realisation in Easter eggs, as well as in bringing them to graves, boundary lines, and other border places during All Souls' Day.⁵⁷ The initiatory nature of eggs encouraged their use to awaken fertility

and vitality, revive the vegetative phase and ensure prosperity. Such procedures include, for example, rolling eggs on the backs of animals so that they become as round and full as the egg (and therefore plump and fat), burying shells or whole eggs in the furrows of the soil beds and scattering them around the field before starting fieldwork, which was supposed to bring a harvest. For the same reasons, eggs were placed under fruit trees, added to animal food or thrown into seed.⁵⁸ As M.P. Nilsson stated, *Everything that has a special life force must also be able to influence the life force of another and promote growth. That is why the egg appears in many agricultural customs.*⁵⁹

⁵⁵ Klinger 1909, 177; Kowalski 1998, 177; Rosiński et al. 2002, 133; Pluta et al. 2019, 63, 64, 65.

⁵⁶ Tomicczy 1975, 138.

⁵⁷ Wawrzyniak 2004, 144.

⁵⁸ Klinger 1909, 178-181; Biegeleisen 1929, 173; Nevall 1984, 21, 24; Niewiadomski 1989; Kowalski 1998, 174-176; Rosiński et al. 2002, 133, 143; Miancki 2011, 133-134; Niebrzegowska-Bartmińska 2016, 217-218, 222.

⁵⁹ Nilsson 1908, 545.

Eggs were used to treat, among others, lumbago, fever, fear, colds and jaundice. It was believed that an egg could transmit a disease if the sick person held it in their hand for a certain amount of time and looked at it carefully. For this purpose, they were also rolled over the sick person's body. Then, they had to be taken out of the house and out of the yard, preferably to a crossroads and disposed of there. Therefore, one should never pick up eggs found in the field or on the road, so as not to bring the disease upon oneself.⁶⁰

In relation to Easter eggs, the type of decoration was of great importance. Old ways of decorating eggs included symbolism referring to the power of nature and cosmic forces, aimed at conjuring reality with direct references to the cult of deities and heaven's decrees, and were considered to be healing. The components of the motifs that refer to the forces of nature are solar and cosmic symbols and symbols personifying the laws of nature and its attributes.⁶¹ The colours used were also semantically important. For example, the often-applied red colour represented the biological dimension of existence and vital and reproductive forces.⁶²

It can be assumed that the great magical-religious significance of the egg was founded on a widely spread, exemplary cosmogonic myth with the overarching motif of the cosmic primordial egg,⁶³ reminiscences of which in the Slavic culture were preserved in folk tales, fables and songs.⁶⁴ According to A. Mianiecki, *the egg is always associated with life, rebirth, vital forces, prosperity, fertility, with the beginning, initiation of some qualitatively new state or a return to the original state, i.e., also the initial one, which in traditional cultures means – sacred, perfect. The common denominator for these beliefs, customs, and ritual actions seems to be the cosmogonic dimension of the symbolism or meanings of the egg in Polish and Slavic traditional culture.*⁶⁵

In light of the above, it is not surprising that the egg was also widely present in funeral rituals, which

can be very clearly observed in Slavic culture. There is an enormous amount of material documenting the use of eggs in rituals and customs related to the dead: from accounts of eating eggs in cemeteries at the graves of ancestors (commonly encountered to this day in the case of Orthodox Christians, especially during spring rituals), through offering eggs for the souls of the deceased, rolling eggs on graves (which was supposed to give the souls of the deceased a part of the life inherent in the egg), to burying them in graves and placing them next to the deceased.⁶⁶ All of this was part of the broadly understood cult of the dead. Of course, we will be most interested in the presence of eggs in graves, or more precisely, their deposits being 'natural' (meaning not made of stone or clay) remains in the form of shells.

When interpreting this custom, one should take into account the context in which the discussed artefacts were discovered, especially their location in relation to human remains and the accompanying grave goods and the anthropological characteristics of the deceased (sex, age). The possible decorative treatments that the eggs intended for the grave were subjected to (dyeing, ornamentation), the way they were prepared (boiled, raw, blown egg) and placed in the grave (whole, cracked, crushed), as well as the species of bird and the stage of development of the embryo, were certainly also important. Of course, based on the post-depositional state, we often cannot determine with certainty how and in what form the egg was placed in the grave.⁶⁷

It should be emphasised that eggshells are a rarely recorded find in early medieval cemeteries in present-day Poland. It can be assumed that this is largely due to the difficulty of distinguishing them during excavations. Even when such remains were properly identified, they may have been treated as worthless or at most, their presence was noted without further reflection.⁶⁸ This mainly concerns older studies, when the artefacts under consideration could have been underestimated, although recently, the source base has been significantly expanded to include burials from Giecz, sites 4 and 10. Nevertheless, in none of the cases were the remains discussed subjected to specialist analyses conducted to determine the bird species or the existence of traces of decorations, let alone observations concerning the developmental state of the egg.⁶⁹ This is important

⁶⁰ Klinger 1909, 168-170; Adamowski 1992, 40; Kowalski 1998, 177-178; Walerczuk 2007, 49-50; Gumułka 2019, 113; Pluta et al. 2019, 65.

⁶¹ Gumułka 2019, 111; Pluta et al. 2019, 63-64.

⁶² Niewiadomski 1989, 63; Kowalski 1998, 178; Večerková 2007, 9. Many beliefs and rituals mentioned in ethnographic records are associated with red-dyed eggs and shells. For example, in Bulgaria, such an egg is placed in the coffin of a deceased person during the Easter period, Nevall 1984, 24. A similar custom was recorded in the Western Russian territories, Klinger 1909, 170; Walerczuk 2007, 50.

⁶³ See Nevall 1967, 3-8; Kowalski 1998, 172-173; Rosiński et al. 2002, 131-132; Toporow 2003; Alcock 2007, 21-22; Gumułka 2019, 109-110.

⁶⁴ E.g., Toporow 1977; Lewicka-Kowalska 1981; Mianiecki 2011.

⁶⁵ Mianiecki 2011, 134.

⁶⁶ Klinger 1909, 170-171; Biegeleisen 1929, 174; Niewiadomski 1989, 66; Rosiński et al. 2002, 133, 135-136; Walerczuk 2007, 50-52; Mianiecki 2011, 134; Gumułka 2019, 114.

⁶⁷ Smetánka 2014, 119.

⁶⁸ See Roth 1986, 514; Sidell 1993, 5.

⁶⁹ The eggshell can be taxonomically identified by scanning electron micrographs, Keepax 1981; Sidell 1993, although this has significant limitations. It is also useful for determining

Fig. 5. Giecz, site 4.
Remains of an egg from
grave no. C67.
Source: Indycka 2021,
fig. 30.



because obtaining this type of data can be an important clue in the interpretation of the finds that interest us, which we will return to later in this work.

It can be assumed that, similarly to settlement finds, chicken eggs were placed in the graves. This is confirmed by comparative material from cemeteries outside Poland, supported by reliable taxonomic designations, although it is also possible that eggs of other bird species, especially geese, were used.⁷⁰ We do not know how many eggs were found in individual burials – they were probably single ones (Fig. 5). Only in grave no. B150 from Giecz, site 4, we can assume that there were two eggs.⁷¹

The literature on the subject outlines several possible interpretations explaining the presence of eggs in early medieval cemeteries. According to one of them, the shells (eggs) laid with the deceased should be seen as food intended for the deceased going to the afterlife or serving them in the

the stage of development of the chick within the egg, since the developing chick takes calcium from the eggshell to aid bone formation, causing changes to the interior surface of the eggshell, Jakab 1979. However, changes in the microstructure of shells were not necessarily related to incubation, as is assumed, but could also be caused by taphonomic processes. This may make it difficult to identify the developmental state of eggs from archaeological sites, Sichert et al. 2019. In turn, studies conducted on chicken eggs using a scanning electron microscope (SEM) show that regardless of the method of preparation of the meal (hard-boiled, soft-boiled and oven-baked eggs), no or only minimal damage to the shells was observed. Greater damage was observed only in the case of eggs baked directly in the fire, which, however, did not rule out the possibility of determining the taxon (if less damaged shell fragments are taken for the study), Taivalkoski and Holt 2016. Zooarchaeology by Mass Spectrometry (ZooMS) analysis is more reliable for species identification of eggs. It identifies taxa-specific peptide mass markers, Stewart et al. 2013; Presslee et al. 2017. Obviously, the best results are obtained by integrating all available research techniques, see Jonuks et al. 2018.

⁷⁰ E.g., Jakab 1979, 149; Smetánka 1998, 9; Smetánka 2014, 117; Jonuks et al. 2018, 113; Kyselý 2020; Kovačiková 2023; Kovács 2023, 292, 308.

⁷¹ Indycka 2021, 177. In cemeteries outside the territory of Poland, there are known cases of placing more than one egg in a grave, see Kovács 2023, 292, 308.

other world. This is highly probable in a situation where they were found in the burial pit together with other types of food or there were indications for this (presence in pots).⁷² However, as it is rightly emphasised, these are not numerous cases.⁷³ In the case of the material presented in this paper, we can point to two such graves – at the cemeteries in Wolin-Młynówka and Giecz, site 10 (no. 15/17)⁷⁴. Reference can also be made to grave no. 1 in Bienendorf (Germany), where eggshells and remains of fish were discovered in one of two clay vessels placed near the head of the deceased.⁷⁵ It should be added that egg remains were also found in stave buckets, as in the early Avar cemetery in Oroszlány-Borbála⁷⁶, and in copper alloy bowls, as in the case of the cemetery in Barshalder on Gotland (1000-1100).⁷⁷ The discussed explanation may also be suggested by the most frequently recorded location of eggs near the feet or heads of buried people, i.e., where vessels, presumably containing food, were usually placed.⁷⁸

The above picture becomes more complicated, however, when we take into account the burial pits in which both clay vessels and eggshells were found lying separately, close to each other, or at a certain distance.⁷⁹ This was the case of a burial from Giecz, site 10 in feature no. 3/14, where the egg remains lay between foot bones next to a stave bucket and a wooden bowl (?).⁸⁰ A similar situation occurred in grave no. 83 in Czekanów, in which a small clay vessel was discovered.⁸¹ Although this does not completely rule out the possibility that these eggs were placed in the grave as posthumous food, the fact that they were not placed in a vessel is intriguing. According to some researchers, the described circumstance excludes the recognition of the egg (eggs) as ‘grave’ food, which was probably already present in the vessel.⁸² However,

⁷² This belief is not fully accepted in science. According to some researchers, the co-occurrence of eggs with other organic remains (seeds, hazelnuts, animal bones) indicates their magical role as a symbol of fertility, life, health and renewal, Krumphanzlová 1986, 516; Jelčić 2017, 68.

⁷³ Kajkowski 2020, 34-35, 45-46; see also Roth 1985, 514; Nowotny 2022, 227-228; Karpieńska 2023, 70; Kovács 2023, 298, 308.

⁷⁴ The remains of the egg were in a miniature vessel, almost entirely covered with a crude ornament, Miciak and Agnew 2021, 166, 168.

⁷⁵ Pollex 2010, 393-394.

⁷⁶ Szatmári 1979, 809.

⁷⁷ Trotzig 1991, 167; Jelčić 2017, 38, 41.

⁷⁸ Smetanká 2014, 126-127; Kajkowski 2020, 35.

⁷⁹ E.g., Müller 2013, 144; Jonuks et al. 2018, 111; Dragotā and Blājan 2019; Frolíková-Kaliszová 2021; Kovács 2023, 294, 308.

⁸⁰ Miciak and Agnew 2021, 168.

⁸¹ Zawadzka-Antosik 1975, 158.

⁸² Frolíková-Kaliszová 2021, 342.

it is possible that a container filled with water or another drink was placed in the grave. At the current stage of knowledge, it is difficult to determine the reason for the separate deposition of these elements of grave equipment. In any case, it encourages further searches for an explanation of the analysed phenomenon.

Another aspect of the presence of eggs and their remains in graves was raised by K. Kajkowski, according to whom: *the most convincing interpretation can be considered the resurrection interpretation, in which the discussed objects could have served as mediators to establish contact between the dead and the afterlife. The matter becomes even more intriguing if we realise that – assuming that the Slavs knew some form of representing the soul and the available sources allow us to state this – they imagined it in a zoomorphic form, mainly in the form of cattle, a bird or a snake. What is important for us is that the latter two come into the world by hatching from an egg, and during the winter, they go away to an unknown place – to the ‘other world’.*⁸³ The act of placing the egg in the grave was, in this context, subordinated to the belief in metempsychosis and the incarnation of the soul into an animal form.

The use of ‘grave’ eggs as a kind of vehicle enabling or facilitating a journey to the afterlife could be connected with eschatological ideas. This assumption is justified by the ideas appearing in ethnographic sources about souls going on eggshells to the land of the dead via water or appearing on them at specific times.⁸⁴ It is worth mentioning here the belief existing in Galician folklore that eggshells floated on the water served as miniature boats that carried souls along the river to the land of happy *Rachmans*, i.e., the world identified with the Slavic concept of ‘paradise’ (*wyraj*). These mythical *Rachmans* were considered sacred beings of a serpentine nature. The journey of the soul was to last about 20 days and end with a great celebration. This allegorical journey to the afterlife can be seen as a state of temporary death followed by rebirth. In the same way, the world and nature are cyclically reborn, the universal symbol of which is the egg.⁸⁵

It is, therefore, possible that the egg found in the grave was ultimately associated with the belief in rebirth. This may be suggested by specialist analyses

of eggshells from two graves from the cemetery in Kukruse (Estonia). They indicate that chicken eggs⁸⁶ that were fertilised and incubated at a stage close to hatching were selected for sepulchral purposes.⁸⁷

Tests also revealed the presence of red dye (ochre) on one of the eggs.⁸⁸ Red staining was also observed on eggshells found in one of the graves at the cemetery in Velké Hostěradky.⁸⁹ As mentioned, this colour symbolised vital and reproductive forces, although it is not known whether the eggs were decorated earlier or only for funerary purposes.

Placing the remains of eggs collected after the chicks had hatched in the grave probably also had an unspecified symbolic and/or cultic meaning.⁹⁰ According to I. Vörös, a connection with fertility, should be excluded because, after hatching, such eggs had already fulfilled their economic and religious procreative role. Consequently, the shells in the grave could have had an apotropaic function against evil powers.⁹¹ B. Tugya sets a different interpretive direction by asking the question, *Can the deceased rise again and be reborn in the same way as the chicken breaks through the shell of the egg and comes to life?*⁹² However, all of these are just guesses based on a small number of research results known to date confirming the custom of placing hatched eggs in graves.⁹³

The egg, as a symbol of rebirth, takes on a special meaning in the context of the age of the deceased. Let us recall that the majority of the graves collected for the purposes of this paper were found to contain the remains of children (and also young people).⁹⁴ Here, we can see a direct connection between birth and the cycle of constant change, which

⁸⁶ Jonuks et al. 2018, 113.

⁸⁷ Jonuks et al. 2018, 114. The chicken egg from the grave discovered in Prague-Vinoř was also in a similar stage of development, and it is likely that, unlike the specimens from Kukruse, which were deposited in their entirety, in this case only a fragment of the egg was placed with the deceased, Kysely 2020, 212. This would therefore mean that the embryo had been destroyed and disposed of earlier. However, it is difficult to explain what significance such a procedure could have in the context of funeral rituals.

⁸⁸ Jonuks et al. 2018, 113-115.

⁸⁹ Ludikovský and Snášil 1974, 46; with further examples Kovács 2023, 298.

⁹⁰ This fact is confirmed by oological research, Jakab 1979; Tugya 2012; Tugya 2016; Tugya and Stewart 2022.

⁹¹ Vörös 2015, 113. As ethnographic accounts show, the eggshell itself, being devoid of life-giving content, may symbolize flatness and emptiness, which carries negative connotations, Smetánka 1998, 9; Smetánka 2014, 125, 126; on the connections between eggs, and especially their shells, and evil, see also Klinger 1909, 190; Nevall 1967, 9-10.

⁹² Tugya 2016, 96; see also Kovács 2023, 308.

⁹³ See Kovács 2023, 304.

⁹⁴ This pattern is often repeated in cemeteries from other regions of the European continent, see e.g., Hanuliak 2004, 194; Dragotá 2014, 183; Tomková 2020, 306, 308; Kovács 2023, 292, 308, 309.

⁸³ Kajkowski 2020, 33, 46.

⁸⁴ Bylina 1992, 16.

⁸⁵ Stawarz 2022. Easter egg shells were also thrown into rivers so that after reaching the afterlife the dead could also celebrate Easter, Klinger 1909, 188; Biegeleisen 1929, 175; Masłowska and Niebrzegowska 1999, 329.

references the creation of the world and new life. The motif of the cosmic egg appears here, representing the cyclical beginning and end of the universe.⁹⁵

It is possible, however, that eggs were placed in graves as apotropaions. Due to its spherical shape, which contained positive energy, the egg was able to catch evil and protect against the threatening influence of the afterlife. In this way, the world personifying good was isolated from the element of evil.⁹⁶ Thus, the apotropaic property of the egg may have been made effective in the graves of the youngest members of the communities of the time.

The effectiveness of the child's introduction to the area of socio-cultural relations depended on the presence of the *sacrum*.⁹⁷ Referring to A. van Gennep's concept of rites of passage (*rites de passage*)⁹⁸ and the situation of a neophyte overcoming a dangerous state of suspension between two worlds,⁹⁹ it can be stated that childhood, especially early childhood, was the period particularly vulnerable to disruptions in the individual's achievement of a full social dimension. The numerous dangers coming from the demonic world and the ideas associated with it have led to the development of a number of prohibitions and protective orders relating to newborn children.¹⁰⁰ Two main reasons are cited for this type of behaviour: *The first is the risk of inappropriate gestures made in the initial situation, when the characteristics of the new person are just emerging, and the second is the particular virulence in the amorphous state, when they are in the process of achieving status.*¹⁰¹ Amulets were of great importance,¹⁰² so it is possible that a bird egg was also included in the group of magical and protective accessories. It could ensure that a deceased child would safely reach the afterlife, without exposing the living to the consequences of a failure in this process.¹⁰³

However, the use of the egg as a *stricta* 'anti-vampiric' measure should be quite clearly ruled

⁹⁵ Wawrzyniuk 2004, 146.

⁹⁶ Wawrzyniuk 2004, 151; see also Stawarz 2022.

⁹⁷ Buliński 1997, 81.

⁹⁸ Van Gennep 2006.

⁹⁹ See Czerwińska-Burszta 1986; Brenz 1987; Wiński and Szafranski 1998.

¹⁰⁰ E.g., Bystron 1916; Biegeleisen 1927, *passim*; Kowalski 1996, 24-27; Kowalski 1998, 114-117; Lehr 2003a.

¹⁰¹ Kowalski 1996, 25.

¹⁰² Cf. Dübner-Manthey 1990; Chorvátová 1998; Ungerman 2007.

¹⁰³ A. Jelčić also refers to van Gennep's model in her analysis of the presence of egg remains in cemeteries from Uppland and Gotland. According to her, the use of eggshells was carried out within the third (and last) stage of the burial process, i.e., inclusion, with the main emphasis being placed on restoring the balance disturbed by the intrusion of death and the regeneration and reintegration of the surviving community, and thus ensuring prosperity and security.

out, not only in relation to children's burials, which is sometimes put forward in the literature on the subject. In this concept, the egg's dormant powers are indicated, such as being capable of guarding peace or allowing the deceased to be enclosed in a grave.¹⁰⁴ Apart from generalised associations, however, there is a lack of broadly substantiated archaeological evidence for this.¹⁰⁵

Similar properties attributed in the past to the discussed components of grave inventories could also have determined their placement in the graves of people who died at an age considered 'advanced' in the Early Middle Ages (see Table 1).¹⁰⁶

In the Middle Ages, there was a tendency to entrust high dignities to older people.¹⁰⁷ A long life made it possible to accumulate experience and knowledge, facilitating the survival of fragments of the past in the collective memory, often, it seems, transmitted and updated through myths or beliefs.¹⁰⁸ This was of particular importance for pre-literate, traditional communities (though, as we know, not only them), as is also evidenced by ethnological analogies.¹⁰⁹ At the same time, the ability to recall a temporally distant reality in a situation of inevitable approach to the border of mortal life was decisive for attributing a supernatural and mediatory character to the elderly.¹¹⁰ This could have been related to the need for magical protection in the grave, although we are moving into the realm of conjecture here. At the same time, the fact that the egg was placed in the graves of people of post-productive age calls into

¹⁰⁴ Kowalski 1998, 174; Kubicka 2014, 160; Stanaszek 2016, 87. B. Zawadzka-Antosik concludes this based on the lateral position of the child's body in grave no. 87 from Czekanów, Zawadzka-Antosik 1982, 48. Following Bulgarian folk beliefs, an 'anti-vampiric' explanation for the presence of eggs in some graves in proto-Bulgarian cemeteries was also accepted by T. Chobanov 2009, 303. This was the purpose of placing eggs in graves, according to H. Biegeleisen 1929, 174. It is possible that leaving eggs and/or their remains on graves after funeral feasts was an attempt to appease the dead and thus protect the living, Smetanká 1998, 10; Smetanká 2014, 127.

¹⁰⁵ See Smetanká 2014, 127; Kajkowski 2020, 33-34.

¹⁰⁶ Even in the case of the individual from grave no. C87 in Giecz, site 4, who died at the age of over 30, it can be assumed that in the conditions of those times, he was no longer the youngest person. It is worth citing materials from outside Poland in addition. The anthropological assessment of the two mentioned burials from Estonia indicates that the eggshells were discovered in burial pits with skeletons of women who were over 50 years old at the time of death, Jonuks et al. 2018, 109.

¹⁰⁷ Numerous examples are given by G. Minois 1995, 167-168, 213-214.

¹⁰⁸ Geremek 1977, 13-14; Samsonowicz 1992, 393; Banaszkiwicz 1998, 242-243.

¹⁰⁹ Halbwachs 1969, 158-159; Worach-Kardas 1983, 66-67; Tokarczyk 2002, 354.

¹¹⁰ Kowalski 1998, 529-531; Lehr 2003b, 75-77; overall Wawrzyniuk 2006.

question their supposed connection with fertility, vitality and activity.¹¹¹ Unless we hypothetically assume that the use of this 'object' was to be a kind of compensation for the lack of offspring.

Another concept, also difficult to prove, referring to the realities of everyday life, says that placing eggs in the graves of children and the elderly resulted from the fact that it was an easy-to-chew protein food for them.¹¹²

As already noted, the occurrence of eggs in early medieval cemeteries in Polish lands was not frequent and was limited to a selected group of the deceased.¹¹³ This would indicate a unique position of the people buried with them, although it is not known whether this was due to their exceptional esteem or social status, sometimes confirmed by a larger assortment of items placed in the grave.¹¹⁴ In general, however, the posthumous equipment was rather modest or non-existent (see Table 1). Perhaps the point was to undertake ritual actions in individual cases, for example, resulting from the special circumstances of death (unusual disease and its symptoms).¹¹⁵ The protective, invigorating and healing power of the egg could be at work here. Other reasons have also been sought to explain the limited number of egg finds and their remains in graves. It is emphasised that in the early Middle Ages, hens that were not yet racially specialised, laid eggs only in the spring months. Therefore, it was not a product available all year round.¹¹⁶

The last issue requiring comment is the assessment of the phenomenon of burying the dead with an egg in terms of ideological and religious changes. The findings to date indicate that the early medieval custom of burying the dead with an egg was a reference to pre-Christian eschatological ideas and belief systems.¹¹⁷ However, the

chronology of the spread of this custom in Polish lands, which is generally placed in the horizon of the years around the middle or after the middle of the 11th century (see Table 1), allows us to assume that the old pagan content was adapted to the Christian faith. Perhaps the old belief in the rebirth of life and cosmic cyclicality, which dictated the need to place eggs in graves as an expression of the cult of the dead, could have been symbolically transformed into resurrection and hope for further life as part of the Easter Passion celebration. It seems that the process of 'Christianisation' of eggs included the formula of blessing this food (*benedictio ovorum*), documented since the 12th century.¹¹⁸ According to Christian tradition, the eggshell symbolises the tomb of Jesus, from which new life emerges, and therefore, the egg expresses the resurrection of the Son of God. The red paint on the eggs symbolically indicates the shed blood of Christ and his sacrifice for humanity.¹¹⁹

The connection between the magical-healing power of the egg and symbolic resurrection and healing in Christ seems to be contained in an account from the 13th-century *Life of St. Hedwig*. It tells of the miraculous healing of a boy on Easter Tuesday or Wednesday with the help of Easter eggs left on the Saint's grave.¹²⁰

The reception of theological ideas in a social environment at the stage of reception of the new faith may seem problematic. On the other hand, however, the new idea of the egg as a symbol of the resurrection of the soul and rebirth turned out to be so universal that – as it was indicated – it also fitted with traditional Slavic ideas. Close symbolic meanings, consistent with the pursuit of *renovatio vitae*, could, therefore, be at the origin of depositing eggs in graves in Christianised communities and those adhering to old beliefs. In this custom, there is a noticeable syncretic intertwining of systems of values and ideas that are in constant interaction with each other.¹²¹

Considering the role of the dog in the proto-Bulgarian pagan tradition, this researcher suggested that placing an egg in the grave could be an appropriate 'gift' for this animal, which led the soul to the afterlife, Chobanov 2009, 303.

¹¹¹ Nevall 1967, 15; Daxelmüller 1986, 521; Večerková 2007, 7; Walerczuk 2007, 50-52; on the blessing of Easter foods, see Pisarszak 1973; Pisarszak 1993.

¹¹² Nevall 1967, 21; Kobielius 2002, 373; Alcock 2007, 24, 25; Večerková 2007, 9; Gumułka 2019, 115. The egg could also be associated with the Holy Trinity: the shell referred to the Father, the yolk to the Son, and the white to the Holy Spirit, Alcock 2007, 24.

¹¹³ With reference to the source Wojciechowska 2000, 80; Wawrzeniuk 2004, 144; Koval 2021, 111-112.

¹¹⁴ See Smetanká 1998, 10; Shepard 2008, 145; Smetánka 2014, 127-128; Jonuks et al. 2018, 118, 120; Dragotã and Blãjan 2019, 169-170.

¹¹¹ See Jonuks et al. 2018, 118.

¹¹² Török 1973, 65, footnote 66.

¹¹³ The situation was similar in the early medieval cemeteries (7th-13th centuries) outside Poland. A small percentage of these finds are found in the cemeteries of the Great Moravian horizon, Dostál 1966, 29; Hanuliak 2004, 194; Klanica 2006, 74, as well as in graves from the territory of the present-day Czech Republic, Krumphanzlová 1986, 518; Frolíková-Kalischová 2021; Tomková 2020, 310-312; Latvia and Estonia, Jonuks et al. 2018, 109, 116; Bulgaria, Chobanov 2009; Croatia, Petrinec 2009, 129-130; Premužić et al. 2013; Germany, Pollex 2010, 428, 433, 651; Müller 2013, 144; Austria, Justová 1990, 253; Romania, Slovakia, and Hungary, Dragotã 2014; 2016; Dragotã and Blãjan 2019; Kovács 2023; and Sweden, Jelicic 2017; Andersson 2019.

¹¹⁴ See Kajkowski 2020, 50-51. However, what is more relevant here is the graves containing clay and glazed, and sometimes also stone, Easter eggs, which are only marginally taken into account in this work, although they undoubtedly belong to overlapping semantic fields as the 'natural' eggs.

¹¹⁵ Frolíková-Kalischová 2021, 342.

¹¹⁶ Marešová 1983, 46-47; Tomková 2020, 306.

¹¹⁷ T. Chobanov proposed a different interpretation of the custom of putting eggs in the grave than the ones given earlier.

This could perhaps explain the presence of egg remains in the resting places of people who belonged to environments that were certainly already Christianised, especially representatives of the highest social classes. While in the case of early Czech rulers, buried in the Basilica of St. George at Prague Castle,¹²² there may be a fear that eggshells got into their graves (JK-92 and JK-98) secondarily,¹²³ the intentional placement of the remains of a chicken egg in the tomb of the priest from Ostrov (3rd-4th quarter of the 11th century) does not raise any concerns (the skeleton was not disturbed).¹²⁴ It is also worth pointing out the occurrence of egg remains in burials in graveyards from the 12th-13th centuries in Zalavár and Esztergom in Hungary.¹²⁵ Also in Croatia, the finds in question appeared – mostly – in graves with Christian features.¹²⁶

We are undoubtedly dealing with an issue that is not easy to generalise, even if we limit our attention to one cemetery. The burials from the aforementioned necropolis in Kukruse, Estonia best demonstrate this. In the case of grave no. VII, a red-painted egg was placed prominently on top of the deceased's clothing and ornaments, which, in the broader religious context characteristic of the eastern coast of the Baltic Sea, could have had connotations with Christianity. In relation to the second female grave (no. VI), the egg placed at the feet (although next to a clay vessel) indicates a symbolic food offering,¹²⁷ evoking associations with pre-Christian tradition. Thus, the same 'object' – a chicken egg – could reflect symbolism derived from different religious worldviews, especially since both women were simultaneously gifted with objects with a Christian meaning (silver pendants with the sign of the cross) and a pagan meaning (the selection of other grave goods).¹²⁸ It cannot be ruled out that the analysed phenomenon was a form of ideological manifestation and contestation expressed as a result of the spread of Christianity.¹²⁹

CONCLUSIONS

Bird eggs were used as food and medicine, but they were also used in ritual activities. Their role was marked

in early medieval funeral ceremonies, as evidenced by the remains in the form of shells found in graves. In the cemeteries of the early Piast period, such organic deposits are a rarely recorded element of posthumous equipment, which is also confirmed in necropolises from other regions of the European continent. The graves probably contained eggs from chickens, which were the basic breeding birds at the time, although an appropriate expert opinion has never confirmed this.

The discussion undertaken in this paper, which is based on material from the territory of Poland presented against a broader comparative background, indicates the polysemous nature of the finds in question.¹³⁰ We are talking about a phenomenon characterised by very high internal variability, both in relation to the finds themselves (the number of eggs in the grave, the way they were deposited, the stage of development, location, etc.) and the context surrounding them (the sex and age of the deceased, the type of funeral rite, the remaining contents of the grave, etc.).¹³¹ Each of these variables can be a source of specific information influencing the interpretation of the phenomenon. Specialist analyses in the field of assessing the developmental state of the egg bring many new data, but they are not often performed to further identify eggshells found in graves. They are completely missing in the case of finds from Poland. This makes it difficult to make unequivocal statements about the reasons and intentions explaining the presence of eggshells in graves. There are various meanings and connotations behind depositing eggs as grave goods, referring to both pagan and Christian religious worldviews. The custom under consideration thus shows the degree of complexity of the ideological changes taking place in the area of interest to us in the 11th century. The key issues seem to be those related to fertility, stimulation of life forces, regeneration, and transformation. The magical and protective significance of the egg is also revealed.

Finally, it should be noted that Easter eggs/rattles have been almost completely omitted in these considerations, although they also found their way into graves in Polish lands¹³² and in other regions of the European continent, especially in Latvia,¹³³ Moravia,¹³⁴ Romania,¹³⁵ Sweden,¹³⁶ and

¹²² Borkovský 1975, 26, 27, 37.

¹²³ This issue is discussed in detail by Z. Smetanká 2014, 123-125.

¹²⁴ Břicháček et al. 2006.

¹²⁵ Kovács 2023, 309, 315-316.

¹²⁶ Petrinec 2009, 130.

¹²⁷ This interpretation is further complicated by the very late incubation of the egg (shortly before the chick hatched). This may indicate that the 'grave' egg was simultaneously a symbolic representation of a food product, as well as a symbol of rebirth and activity in the afterlife, Jonuks et al. 2018, 120, 121.

¹²⁸ More on this topic: Jonuks et al. 2018, 120-123.

¹²⁹ See Kajkowski 2020, 73.

¹³⁰ Their perception and use may vary considerably over time and in different cultural contexts. Even in a similar time horizon, different motivations and goals may have come to the fore, Hanuliak 2004, 195.

¹³¹ Tomková 2020, 314.

¹³² Listings in Wawrzenuk 2004, 148-149 [Tab. 1]; Kajkowski 2020, 36-37 [Tab. 1]; see also Ślusarski 2004; Siemianowska 2008.

¹³³ Jonuks et al. 2018, 116.

¹³⁴ Vachût and Hladík 2010.

¹³⁵ Szmoniewski et al. 2023.

¹³⁶ Jelčić 2017, 60-63.

also in the old Russian lands.¹³⁷ There are many indications that despite the general similarity and generalisation adopted by most researchers in the interpretation of 'natural' eggs and their stone and clay counterparts, there are certain differences in the scope of the semantic content encoded in them. According to K. Kajkowski, *Not only was the origin of these objects different, but also the type of practices for which they were used. If an egg could be considered a 'natural model of the*

*cosmos, then a clay imitation is already an object made by man (...).*¹³⁸ As a result, it can be stated that in ritual activities an egg could not always be replaced by a ceramic imitation and an Easter egg-rattle by an egg.¹³⁹ However, this is a topic for another discussion.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

Table 1. List of graves containing eggshells from Poland.

No.	Site	Grave no.	Sex	Age	Location	The remaining contents of the grave	Chronology of the grave	Source of information	Comments
1	Brześć Kujawski, Kujawsko-pomorskie Voivodeship	23	?	<i>infans</i>	at the feet	-	2 nd half of the 11 th –beginning of the 12 th c.	Rajewski 1937, 75; Kaszewscy 1971, 427.	
2	Brześć Kujawski, Kujawsko-pomorskie Voivodeship	32	M	adult	on the right foot	-	2 nd half of the 11 th –beginning of the 12 th c.	Kaszewscy 1971, 428.	a burial partially destroyed
3	Brześć Kujawski, Kujawsko-pomorskie Voivodeship	59	?	<i>infans</i>	on the right hand	-	2 nd half of the 11 th –beginning of the 12 th c.	Kaszewscy 1971, 429.	
4	Brześć Kujawski, Kujawsko-pomorskie Voivodeship	73	?	<i>infans</i>	at the skull	-	2 nd half of the 11 th –beginning of the 12 th c.	Kaszewscy 1971, 429.	
5	Czekanów, Mazowieckie Voivodeship	24	?	<i>infans I</i> (2-3 years)	at the feet	-	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1982, 48, 51.	
6	Czekanów, Mazowieckie Voivodeship	42	M	<i>senilis</i> (60 years)	?	-	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1982, 48.	
7	Czekanów, Mazowieckie Voivodeship	83	F	<i>senilis</i> (60 years)	?	an iron knife; a clay spindle whorl; 12 glass beads (necklace); 3 temple rings of tin (2) and bronze (1); 3 silver beads; a tin ring; a clay vessel	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1975, 158; Zawadzka-Antosik 1982, 48.	
8	Czekanów, Mazowieckie Voivodeship	87	?	<i>infans I</i> (6-9 months)	in the middle of the grave	-	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1982, 48, 54.	skeleton on the right side
9	Czekanów, Mazowieckie Voivodeship	98	?	<i>infans I</i> (3 years)	at the feet	-	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1982, 48, 54.	
10	Czekanów, Mazowieckie Voivodeship	150	M and (?)	adult and <i>infans</i>	between burned, human remains	fragment of a secondarily burnt clay vessel	12 th –13 th c.	Kalaga 2006, 23.	in addition to skeletons, burnt human bones

¹³⁷ Recently Gur'yanov and Chubur 2022.

¹³⁸ Kajkowski 2020, 70.

¹³⁹ Kajkowski 2020, 71.

No.	Site	Grave no.	Sex	Age	Location	The remaining contents of the grave	Chronology of the grave	Source of information	Comments
11	Czekanów, Mazowieckie Voivodeship	188	?	<i>infans I</i>	at the feet	-	mid-11 th –beginning of the 13 th c.	Zawadzka-Antosik 1984, 146.	
12	Giecz, site 4 Wielkopolskie Voivodeship	B150	?	<i>infans I</i> (2.5-3.5 years)	on the right forearm and right hip	-	2 nd half of the 11 th –2 nd half of the 12 th c. (or beginning of the 13 th c.)	Indycka 2021, 177.	
13	Giecz, site 4 Wielkopolskie Voivodeship	C67	?	<i>infans I</i> (1-2 years)	on the right side of the pelvis	a fragment of a bone needle	2 nd half of the 11 th –2 nd half of the 12 th c. (or beginning of the 13 th c.)	Indycka 2021, 170, 177.	
14	Giecz, site 4 Wielkopolskie Voivodeship	C86	?	<i>infans I</i> (1.5-2.5 years)	on the left side of the skeleton	12 glass beads (necklace); iron needle	2 nd half of the 11 th –2 nd half of the 12 th c. (or beginning of the 13 th c.)	Indycka 2021, 177.	
15	Giecz, site 4 Wielkopolskie Voivodeship	C87	M	<i>adultus</i> (34 years)	on the right side of the skull	iron nail	2 nd half of the 11 th –2 nd half of the 12 th c. (or beginning of the 13 th c.)	Indycka 2021, 161, 177	
16	Giecz, site 10 Wielkopolskie Voivodeship	3/14	?	<i>maturus/ senilis</i> (> 45 years)	between the feet	3 bronze temple rings (one silver plated); bucket; bronze fittings	end of the 10 th –1 st half of the 11 th c. (983-1021 AD, 68.2 % probability 900-1030 AD, 95.4% probability)	Miciak 2017, 54; Miciak and Agnew 2021, 168, 173.	There could also have been a wooden bowl in the grave, Miciak and Agnew 2021, 168.
17	Giecz, site 10 Wielkopolskie Voivodeship	20/16	F	<i>senilis</i> (> 50 years)	on the left foot	bronze temple ring; 2 coins	2 nd quarter of the 11 th c.	Miciak 2017, 51, 56; Miciak and Agnew 2021, 168, 178.	The grave may also have contained a bone spike, an iron nail and an unspecified metal object, Miciak 2017, 56.
18	Giecz, site 10 Wielkopolskie Voivodeship	15/17	?	<i>infans I</i> (4-6 lat)	on the right side of the skull	clay vessel	end of the 10 th –11 th c. (994-1118 AD, 68.2 % probability 986-1153 AD, 95.4% probability)	Miciak and Agnew 2021, 166, 168, 180.	The eggshells were in a clay vessel.
19	Giecz, site 10 Wielkopolskie Voivodeship	8/19	?	<i>infans I</i> (0-2 years)	at the level of the abdomen (between the lumbar vertebrae, ribs, forearm bones and hip, on the right side of the skeleton)	-	end of the 10 th –11 th c.	Miciak and Agnew 2021, 168, 184.	skeleton on the right side

No.	Site	Grave no.	Sex	Age	Location	The remaining contents of the grave	Chronology of the grave	Source of information	Comments
20	Giecz, site 10 Wielkopolskie Voivodeship	17/19	F	<i>maturus</i> (30-50 years)	between the shin bones (in the basset part of the grave)	2 temple rings; antlers with traces of processing; 2 iron nails	end of the 10 th -11 th c.	Miciak and Agnew 2021, 168-169, 185.	
21	Giecz, site 10 Wielkopolskie Voivodeship	20/19	?	<i>iuvenis</i> (11-15 years)	on the right foot	iron knife	end of the 10 th -11 th c.	Miciak and Agnew 2021, 168, 186.	
22	Góra, Wielkopolskie Voivodeship	7	F (?)	<i>adultus</i>	at the feet	2 bronze temple rings; iron knife with a fragment of a bronze scabbard fitting	2 nd half of the 11 th c.	Kowiańska-Piaszykowa 1960, 183-184; Kozikowska 1960, 195.	slight remnants of textile at the temple rings
23	Góra, Wielkopolskie Voivodeship	11	?	<i>iuvenis</i>	at a distance of about 40 cm from the right foot	unspecified iron object; iron knife; iron piston	2 nd half of the 11 th c.	Kowiańska-Piaszykowa 1960, 185-186; Kozikowska 1960, 195.	
24	Jaksice, Świętokrzyskie Voivodeship	4/61	?	<i>infans</i>	on the left foot	bronze plate	11 th -beginning of the 12 th c.	Zoll-Adamikowa 1966, 57; Miśkiewicz 1968, 422	'skeleton of a larger child'
25	Końskie, Świętokrzyskie Voivodeship	unnumbered	?	?	'at the skeleton'	?	11 th c.	Gąssowski 1950, 154; Kostrzewski 1962, 111.	a burial under hearth II
26	Płock-Podolszyce, Mazowieckie Voivodeship	25	?	<i>iuvenis</i> (15-16 years)	between the feet	iron knife	2 nd half of the 11 th -beginning of the 12 th c.	Kordala 1992, 37; Łuczak 1992, 101; Łuczak and Kordala 1995, 10; Kordala 2006, 204.	
27	Prząsław, Świętokrzyskie Voivodeship	39	F	<i>adultus/maturus</i>	?	?	mid-11 th -mid-12 th c.	Nowaczyk and Nowaczyk 2017, 116.	
28	Rogów, Mazowieckie Voivodeship	24	?	<i>infans I-II</i> and <i>adultus</i>	in the burnt layer	-	mid-11 th -mid 13 th c.	Kalaga 2006, 74, 151.	a mound with cremated human remains
29	Sandomierz-Kamień Plebański, Świętokrzyskie Voivodeship	12	?	<i>infans</i> (about 4-5 years)	at the right knee	iron knife	2 nd half of the 11 th -1 st half of the 12 th c.	Florek 2016, 538, 540.	a burial partially destroyed
30	Wolin-Młynówka, Zachodniopomorskie Voivodeship	115 (252)	F (?)	<i>iuvenis</i>	at the feet (under the bronze bowl on a wooden plate)	bronze bowl; wooden plate; 2 temple rings, iron knife; spindle whorl; 7 iron nails; plant remains (nuts, broad bean seeds); skin remains; fragments of clay vessels	9 th -12 th c.	Cnotliwy and Wojtasik 1959, 250; Wojtasik 1968, 67-68, 202.	
31	Złota Pińczowska, Świętokrzyskie Voivodeship	78	?	<i>infans</i>	in the burial pit (at the feet?)	112 glass beads; 4 fluorite beads	mid-11 th -mid-13 th c.	Miśkiewicz 1967, 112, 131.	
32	Złota Pińczowska, Świętokrzyskie Voivodeship	85	?	<i>infans</i>	at the feet	-	mid-11 th -mid-13 th c.	Miśkiewicz 1967, 113, 131.	

No.	Site	Grave no.	Sex	Age	Location	The remaining contents of the grave	Chronology of the grave	Source of information	Comments
33	Złota Pińczowska Świętokrzyskie Voivodeship	91	?	<i>infans</i>	in the central part of the grave pit (just above the skeleton)	-	mid-11 th –mid-13 th c.	Miśkiewicz 1967, 116, 131.	

REFERENCES

- Adamowski J. 1992. *O symbolice wielkanocnego jaja*. "Twórczość Ludowa" 7(1-2), 38-40.
- Albarella U. 2005. *Alternate Fortunes? The Role of Domestic Ducks and Geese from Roman to Medieval Times in Britain*. In: G. Grupe, J. Peters (eds.), *Feathers, Grit and Symbolism. Birds and Humans in the Ancient Old and New Worlds*. Documenta Archaeobiologiae 3. Rahden/Westf., 249-258.
- Alcock J. P. 2007. *The Egg: its Symbolism and Mythology*. In: R. Hosking (ed.), *Eggs in Cookery*. Devon, 20-29.
- Andersson G. 2019. *Om ägg, hår och händelser i Skopintull*. In: C. Ljung, A. Andreasson Sjögren, I. Berg, E. Engström, A.-M. Hällans Stenholm, K. Jonsson, A. Klevnäs, L. Qviström, T. Zachrisson (eds.), *Tidens landskap. En vänbok till Anders Andrén*. Stockholm Studies in Archaeology 77. Lund, 48-50.
- Banaszkiewicz J. 1998. *Polskie dzieje bajeczne Mistrza Wincentego Kadłubka*. Wrocław.
- Banham D., Faith R. 2014. *Anglo-Saxon Farms and Farming*. Oxford.
- Becker A. 2002. *Bemerkungen zu Hühnerbeigaben in frühmittelalterlichen Grabkontexten*. In: Ch. Bücker, M. Hoeper, N. Krohn, J. Trumm (eds.), *Regio Archaeologica. Archäologie und Geschichte an Ober- und Hochrhein*. Rahden/Westf., 337-349.
- Benecke N. 1994a. *Archäozoologische Studien zur Entwicklung der Haustierhaltung in Mitteleuropa und Südkandinavien von den Anfängen bis zum ausgehenden Mittelalter*. Berlin.
- Benecke N. 1994b. *Der Mensch und seine Haustiere – Die Geschichte einer jahrtausendealten Beziehung*. Stuttgart.
- Beranová M. 2007. *Jídlo i pití v pravěku a ve středověku*. Praha.
- Berglund B. 2009. *Fugela Federum in Archaeological Perspective – Eider Down as a Trade Commodity in Prehistoric Northern Europe*. "Acta Borealia" 26(2), 119-135.
- Berglund B., Rosvold J. 2021. *Microscopic Identification of Feathers from 7th Century Boat Burials AT Valsgärde in Central Sweden: Specialized Long-distance Feather Trade or Local Bird Use?* "Journal of Archaeological Science: Reports" 36(2), 1-14.
- Biegeleisen H. 1927. *Matka i dziecko w obrzędach, wierzeniach i zwyczajach ludu polskiego*. Lwów.
- Biegeleisen H. 1929. *U kolebki, przed oltarzem, nad mogiłą*. Kraków.
- Biermann F. 2008. *Die Knochen- und Geweihbearbeitung im nordwestslawischen Siedlungsgebiet vom 7./8. bis 12. Jahrhundert n. Chr.* In: W. Melzer (ed.), *Archäologie und mittelalterliches Handwerk – Eine Standortbestimmung. Beiträge des 10. Kolloquiums des Arbeitskreises zur archäologischen Erforschung des mittelalterlichen Handwerks*. Soest, 239-266.
- Bocheński Z. 1993. *Catalogue of Fossil and Subfossil Birds of Poland*. "Acta Zoologica Cracoviensia" 36(2), 329-460.
- Bocheński Z., Lasota-Moskalewska A., Tomek T. 2000. *Podstawy archeozoologii. Ptaki*. Warszawa.
- Bojarski J. 2020. *Obrzędowość pogrzebowa w strefie chełmińsko-dobrzyńskiej we wczesnym średniowieczu*. Toruń.
- Bojarski J. 2024. *Człowiek, koń, pies – razem za życia i po śmierci. Refleksje na przykładach pochówków z Kaldusa*. In: M. Jaeger, J. Tomczyk, J. Wrzesiński (eds.), *Prawy dba o duszę swego zwierzęcia domowego. Pochówki ludzi i zwierząt*. Funeralia Gnieźnieńskie – spotkanie 23. Gniezno, 161-179.
- Borkovský I. 1975. *Svatojiřská bazilika a klášter na Pražském hradě*. Praha.
- Brenz A. 1987. *Polska obrzędowość pogrzebowa jako obrzęd przejścia*. "Lud" 71, 215-229.
- Bronicka-Rauhut J. 1998. *Cmentarzysko wczesnośredniowieczne w Czersku*. Warszawa.
- Břicháček P., Merhautová A., Richter M., Sommer P. 2006. *Opatský hrob z doby počátků Ostrova u Davle*. "Archaeologica Pragensia" 18, 45-64.

- Bukowska J. 1958. *Pisanki polskie z X-XIII wieku*. "Polska Sztuka Ludowa" 12(1), 45-49.
- Bukowska-Gedigowa J., Gediga B. 1986. *Wczesnośredniowieczny gród na Ostrówku w Opolu*. Wrocław, Warszawa, Kraków, Gdańsk, Łódź.
- Buliński T. 1997. *Enkulturacyja w średniowiecznym społeczeństwie*. "Lud" 81, 77-91.
- Bylina S. 1992. *Człowiek i zaświaty. Wizje kar pośmiertnych w Polsce średniowiecznej*. Warszawa.
- Bystroń J. S. 1916. *Słowiańskie obrzędy słowiańskie rodzinne. Obrzędy związane z narodzeniem dziecka*. Kraków.
- Cherry P., Morris T. R. 2008. *Domestic Duck Production. Science and Practice*. Wallingford.
- Chobanov T. 2009. *Prabŭlgarski pogrebalni rituali s yaŭtsa*. In: V. D. Grigorov (ed.), *Eurika. In honorem Ludmilae Donchevae-Petkovae*. Sofiya, 301-305.
- Chorvátová H. 1998. *K významu priveskov-amuletov z včasnostredovekých pohrebísk*. "Hieron" 3, 106-112.
- Cnotliwy E., Wojtasik J. 1959. *Misa romańska z wczesnośredniowiecznego cmentarzyska w Wolinie*. "Materiały Zachodniopomorskie" 5, 249-256.
- Coussens A., Anson T., Norris R. M., Henneberg M. 2002. *Sexual Dimorphism in the Robusticity of Long Bones of Infants and Young Children*. "Przegląd Antropologiczny" 65, 3-16.
- Czerwińska-Burszta H. 1986. *Teoria rytów przejścia Arnolda van Gennepa i jej recepcja na gruncie strukturalistycznym*. "Lud" 70, 51-65.
- Dacke C. G., Arkle S., Cook D. J., Wormstone I. M., Jones S., Zaidi M., Bascal Z. A. 1993. *Medullary Bone and Avian Calcium Regulation*. "Journal of Experimental Biology" 184(1), 63-88.
- Daxelmüller Ch. 1986. *Ei im Brauchtum*. In: H. Beck, H. Jankuhn, K. Ranke, R. Wenskus (eds.), *Reallexikon der Germanischen Altertumskunde* 6. Berlin, New York, 520-524.
- Dembińska M. 1963. *Konsumpcja żywnościowa w Polsce średniowiecznej*. Wrocław, Warszawa, Kraków.
- Dobney K., Jaques D., Barrett J., Johnstone C. 2007. *Farmers, Monks and Aristocrats. The Environmental Archaeology of Anglo-Saxon Flixborough*. Excavations at Flixborough 3. Oxford.
- Dostál B. 1966. *Slovanská pohřebišť ze střední doby hradištní na Moravě*. Praha.
- Dove C. J., Wickler S. 2016. *Identification of Bird Species Used to Make a Viking Age Feather Pillow*. "Arctik" 69(2), 29-36.
- Dragotă A. 2014. *Eggs as Offerings in Tenth-Eleventh Century Necropolises*. "Ziridava. Studia Archaeologica" 28, 183-192.
- Dragotă A. 2016. *Eggs Offerings in the Cemetery from Împăratului, Alba Iulia (10th-11th centuries)*. In: I. M. Țiplic, M. Crîngaci Țiplic (eds.), *Archaeology, Architecture and Informatics. ArhIn I. Medieval Changing Landscape. Settlements, Monasteries and Fortifications*. Sibiu, 7-15.
- Dragotă A., Blăjan M. 2019. *Bird Offerings in the 10th-11th Centuries Necropolises From Alba Iulia*. "Ziridava. Studia Archaeologica" 33, 153-170.
- Dübner-Manthey B. 1990. *Zum Amulettbrauchtum in frühmittelalterlichen Frauen- und Kindergräbern*. In: W. Affeldt (ed.), *Frauen in Spätantike und Frühmittelalter. Lebensbedingungen – Lebensnormen – Lebensformen*. Sigmaringen, 65-87.
- Ehrlich F., Agurajuja-Lätti Ü., Haak A. 2023. *Zooarchaeological Evidence for the Exploitation of Birds in Medieval and Early Modern Estonia (ca 1200-1800)*. "Estonian Journal of Archaeology" 27(3S), 105-122.
- Eisner J. 1966. *Rukověť slovanské archeologie. Počátky Slovanů a jejich kultury*. Praha.
- Florek M. 2016. *Wczesnośredniowieczne cmentarzysko szkieletowe w Sandomierzu-Kamieniu Plebańskim*. In: B. Chudzińska, M. Wojenka, M. Wołoszyn (eds.), *Od Bachorza do Światowita ze Zbrucza. Tworzenie się słowiańskiej Europy w ujęciu archeologicznym, historycznym i językoznawczym. Studia źródłoznawcze dedykowane Profesorowi Michałowi Parczewskiemu w 70-tą rocznicę urodzin*. Kraków, Rzeszów, 533-542.
- Frolíková-Kaliszová D. 2021. *Odras procesu christianizace na vybraných pohřebišťích přemyslovské domény*. "Archaeologia Historica" 46(2), 327-349.
- Gál E. 2006. *The Role of Archaeo-Ornithology in Environmental and Animal History Studies*. In: E. Jerem, Z. Mester, R. Benczes (eds.), *Archaeological and Cultural Heritage Preservation within the Light of New Technologies*. Budapest, 49-61.
- Gąsowski J. 1950. *Cmentarzysko w Końskich na tle zagadnienia południowej granicy Mazowsza we wczesnym średniowieczu*. "Materiały Wczesnośredniowieczne" 2, 71-175.
- Gennep van A. 2006. *Obrzędy przejścia. Systematyczne studium ceremonii*. Warszawa.

- Geremek B. 1977. *Wyobrażenia czasowa polskiego dziejopisarstwa średniowiecznego*. "Studia Źródłoznawcze" 22, 1-17.
- Gilbert B. M., Martin L. D., Savage H.G. 1996. *Avian Osteology*. Columbia.
- Gorobets L., Kovalchuk O. 2017. *Birds in the Medieval Culture and Economy of the East Slavs in the 10–13th centuries AD*. "Environmental Archaeology" 22(2), 147-165.
- Gumułka M. 2019. *Znaczenie jaja w symbolice i wierzeniach człowieka*. In: J. Chyb (ed.), *Zwierzęta gospodarskie w mitach i wierzeniach*. Kraków, 107-119.
- Gur'yanov V. N., Chubur A. A. 2022. „Ab ovo”: *yaytsa-pisanki v kurgannom pogrebal'nom obryade vostochnykh slavyan*. "Stratum Plus" 5, 127-134.
- Halbwachs M. 1969. *Spoleczne ramy pamięci*. Warszawa.
- Hanuliak M. 2004. *Veľkomoravské pohrebiská. Pochovávanie v 9.-10. storočí na území Slovenska*. Nitra.
- Hołubowicz W. 1956. *Opole w wiekach X-XII*. Katowice.
- Indycka E. 2021. *Charakterystyka przedmiotów z grobów*. In: E. Indycka (ed.), *Cmentarzysko wczesnośredniowieczne w Gieczu (stanowisko 4)*. Biblioteka Studiów Lednickich Fontes 10. Dziekanowice, 101-202.
- Jakab B. 1979. *Vergleichende Analyse der anlässlich von Ausgrabungen in Ungarn freigelegten Eierschalen-Funde*. "Acta Archaeologica Academiae Scientiarum Hungaricae" 31, 147-162.
- Janowski A. 2015. *Groby komorowe w Europie środkowo-wschodniej. Problemy wybrane*. Szczecin.
- Jelicic A. 2017. *En hardkott historia. En studie av äggskal fynd från vikingatida gravkontext med särskilt fokus på Uppland och Gotland* [unpublished]. Uppsala. Source: <https://www.diva-portal.org/smash/get/diva2:1112047/FULLTEXT01.pdf>. Available on-line: 20.10.2024.
- Jonuks T., Oras E., Best J., Demarchi B., Raivo Mänd R., Presslee S., Vahur S. 2018. *Multi-method Analysis of Avian Eggs as Grave Goods: Revealing Symbolism in Conversion Period Burials at Kukruse, NE Estonia*. "Environmental Archaeology" 23(2), 109-122.
- Justová J. 1990. *Dolnorakouské Podunají v raném středověku*. Praha.
- Kajkowski K. 2019. *Obrzędowość religijna Pomorzan we wczesnym średniowieczu. Studium archeologiczne*. Wrocław
- Kajkowski K. 2020. *Jajko i pisanka w świecie przedchrześcijańskich wyobrażeń religijnych Północno-Zachodnich Słowian*. In: M. Szymczyk, A. Jobke-Fus (eds.), *Myśluborska grzechotka – pisanka, zabawka, przedmiot, instrument?* Myślubórz, 29-88.
- Kajkowski K. 2024. *Bydło w wyobrażeniach eschatologicznych wczesnośredniowiecznych Słowian zachodnich. Kontekst nekropoliczny*. In: M. Jaeger, J. Tomczyk, J. Wrześniński (eds.), *Prawy dba o duszę swego zwierzęcia domowego. Pochówki ludzi i zwierząt. Funeralia Gnieźnieńskie – spotkanie 23*. Gniezno, 85-96.
- Kajkowski K., Kuczkowski A. 2011. *Pokarm dla duszy – pokarm dla ciała. Szczątki zwierzęce we wczesnośredniowiecznej przestrzeni grzebalnej Pomorza*. "Materiały Zachodniopomorskie. Nowa Seria" 6-7(1), 327-356.
- Kalaga J. 2006. *Ciałopalny obrządek pogrzebowy w międzyrzeczu Liwca, Bugu i Krzny we wczesnym średniowieczu*. Warszawa.
- Kamińska J. 1952. *Wyniki badań archeologicznych w Gdańsku w r. 1951*. "Z otchłani wieków" 21(3), 89-98.
- Karpińska K. 2018. *Asche und Knochen. Vogelüberreste in wikingerzeitlichen Gräbern auf den Nordfriesischen Inseln und in Dänemark*. "Archäologie in Schleswig" 17, 115-131.
- Karpińska K. 2023. *Between Life and Death: Waterfowl in Viking Age Funerary Practices*. In: L. Gardela, K. Kajkowski (eds.), *Animals and Animated Objects in the Early Middle Ages*. Turnhout, 57-80.
- Karwot E. 1955. *Katalog magii Rudolfa. Źródło etnograficzne XIII wieku*. Wrocław.
- Kaszewscy E. and Z. 1971. *Wczesnośredniowieczne cmentarzysko w Brześciu Kujawskim, pow. Włocławek*. "Materiały Starożytne i Wczesnośredniowieczne" 1, 365-434.
- Keepax C. A. 1981. *Avian egg-shell from archaeological sites*. "Journal of Archaeological Science" 8(4), 315-335.
- Kelly F. 2000. *Early Irish Farming. A Study Based Mainly on the Law-texts of the 7th and 8th Centuries AD*. Early Irish Law Series 4. Dublin.
- Kerschnitzki M., Zandera Th., Zaslanskyb P., Fratzla P., Shaharc R., Wagermaier W. 2014. *Rapid alterations of avian medullary bone material during the daily egg-laying cycle*. "Bone" 69, 109-117.
- Kirkinen T., Riikonen J., Dove C., Ruohonen J. 2020. *The Identification and Use of Fur and Feathers Excavated from the Late Iron Age and Early Medieval (12th–13th centuries) Ravattula Ristimäki Cemetery in Kaarina, Southwest Finland*. "Fennoscandia archaeologica" 37, 45-59.

- Klanica Z. 2006. *Nechvalín, Prušánky. Čtyři slovanská pohřebiště 1*. Brno.
- Klinger W. 1909. *Jajko w zabobonie ludowym u nas i w starożytności*. "Rozprawy Akademii Umiejętności. Wydział Filologiczny" 2(30), 162-190.
- Kobieliński S. 2002. *Bestiarium chrześcijańskie. Zwierzęta w symbolice i interpretacji. Starożytność i średniowiecze*. Warszawa.
- Kordala T. 1992. *Cmentarzysko z XI-XII wieku w Płocku-Podolszycach*. "Rocznik Muzeum Mazowieckiego w Płocku. Archeologia" 15, 3-96.
- Kordala T. 2006. *Wczesnośredniowieczne cmentarzyska szkieletowe na północnym Mazowszu*. Łódź.
- Kostrzewski J. 1962. *Kultura prapolska*. Warszawa.
- Kościński B., Paner H. 2005. *Nowe wyniki datowania grodu gdańskiego – stanowisko I (wyk. I-V)*. In: H. Paner, M. Fudziński (eds.), *XIV Sesja Pomorzoznawcza 2: Od wczesnego średniowiecza do czasów nowożytnych*. Gdańsk, 11-47.
- Kovačiková L. 2023. *Posudek vaječných skořápek*. In: D. Frolíková-Kalishová, *Early Medieval Triangl Cemetery in Prague*. Praha, 158.
- Kovács L. 2023. *Tojásleletek a 10-11. századi Kárpát-medencei sírokban némi korábbi kitekintéssel*. In: A. Türk (ed.), *Hadak útján. A népvándorlások kutatásának XXIX. konferenciája. Budapest, November 15-16, 2019*. Budapest, 287-328.
- Koval M. 2021. *Childhood in Medieval Poland (1050–1300). Constructions and Realities in a European Context*. Leiden, Boston.
- Kowalski P. 1996. *Dziecko. Rajska niewinność, wróżby, magia. Wstęp do lektury postaci*. "Literatura Ludowa" 40(4-5), 19-30.
- Kowalski P. 1998. *Leksykon znaki świata. Omen, przesąd, przeznaczenie*. Warszawa.
- Kowiańska-Piaszykowska M. 1960. *Wczesnośredniowieczne cmentarzysko rzędowe w Górze, pow. Turek*. "Fontes Archaeologici Posnanienses" 11, 179-193.
- Kozák J. 1997. *Kettétört csontsípászár a Bijelo brdoi avarkori temetőben*. "Communicationes Archaeologicae Hungariae" 1997, 195-203.
- Kozikowska J. 1960. *Szczątki kostne z cmentarzyska szkieletowego z Góry, pow. Turek (XI w.)*. "Fontes Archaeologici Posnanienses" 11, 194-199.
- Kozłowski W. 2004. *Polska kura domowa we wczesnym średniowieczu*. "Teki Historyka" 24, 9-45.
- Kroll H. 2013. *Ihrer Hühner waren drei und ein stolzer Hahn dabei. Überlegungen zur Beigabe von Hühnern im awarischen Gräberfeld an der Wiener Csokorgasse*. "Offa" 69-70 (2012-2013), 201-216.
- Krumphanzlová Z. 1986. *Ei im slawischen Bereich*. In: H. Beck, H. Jankuhn, K. Ranke, R. Wenskus (eds.), *Reallexikon der Germanischen Altertumskunde 6*. Berlin, New York, 515-520.
- Kubicka A. 2014. *Czy nietypowe groby odkrywane na wczesnośredniowiecznych stanowiskach archeologicznych z terenu Polski to pochówki wampirów?* "Ogrody Nauk i Sztuk" 3, 157-160.
- Küchelmann H. Ch. 2010. *Highland Tunes in the Lowlands: a Medieval Vulture Bone Flute from Northern Germany*. In: A. Legrand-Pineau, I. Sidéra (eds.), *Ancient and Modern Bone Artefacts from America to Russia. Cultural, Technological and Functional Signature*. BAR International Series 2136. Oxford, 171-182.
- Kyselý R. 2010. *Pohřebiště Klecany I. Zvířecí kosti*. In: N. Profantová a kolektiv, *Klecany. Raně středověká pohřebiště 2*. Praha, 25-26.
- Kyselý R. 2020. *Mikroskopická analýza skořápky ptačího vejce z raně středověkého hrobu v Praze-Vinoři*. "Archaeologica Pragensia" 25(1), 210-214.
- Lasota-Moskalewska A. 2005. *Zwierzęta udomowione w dziejach ludzkości*. Warszawa.
- Leaf H. 2007. *Medieval Bone Flutes in England*. In: A. Pluskowski (ed.), *Breaking and Shaping Beastly Bodies. Animals as Material Culture in the Middle Ages*. Oxford, 11-17.
- Lehr U. 2003a. *Magia czasu narodzin*. In: J. Kowalska, S. Szykiewicz, R. Tomicki (eds.), *Czas zmiany, czas trwania. Studia etnologiczne*. Warszawa, 151-164.
- Lehr U. 2003b. *Oblicza starości*. "Etnografia Polska" 47(1-2), 71-102.
- Lepówna B. 1981. *Materialne przejawy wierzeń ludności Gdańska w X-XIII w.* "Pomorania Antiqua" 10, 169-199.
- Lewicka-Kowalska H. 1981. *Wątki kosmogoniczne we wschodniosłowiańskiej i polskiej pieśni ludowej*. "Studia Polono-Slavica-Orientalia. Acta litteraria" 7, 187-205.
- Lewicka-Rajewska U. 2004. *Arabskie opisanie Słowian. Źródła do dziejów średniowiecznej kultury*. Wrocław.

- Lewicki T. 1954. *Średniowieczne źródła arabskie i perskie o hodowli zwierząt domowych u Słowian*. "Kwartalnik Historii Kultury Materialnej" 2(3), 444-469.
- Ludikovský K., Snášil R. 1974. *Mladohradištní kostrové pohřebiště ve Velkých Hostěrádkách (o. Břeclav)*. Praha.
- Luff R. 2000. *Ducks*. In: K. F. Kiple, K. C. Ornelas (eds.), *The Cambridge World History of Food* 1. New York, 517-524.
- Łuczak B. 1992. *Analiza antropologiczna szczątków kostnych z cmentarzyska wczesnośredniowiecznego (Płock-Podolszyce)*. "Rocznik Muzeum Mazowieckiego w Płocku. Archeologia" 15, 97-117.
- Łuczak B., Kordala T. 1995. *Charakterystyka biokulturowa pochówków z cmentarzyska XI-XII-wiecznego w Płocku-Podolszycach*. "Acta Universitatis Lodziensis. Folia Anthropologica" 2, 3-23.
- MacDonald K. C., Blench R. 2000. *Geese*. In: K. F. Kiple, K. C. Ornelas (eds.), *The Cambridge World History of Food* 1. New York, 529-531.
- Makowiecki D. 2001. *Hodowla oraz użytkowanie zwierząt na Ostrowie Lednickim w średniowieczu. Studium archeozoologiczne*. Poznań.
- Makowiecki D. 2006. *Wybrane zagadnienia ze studiów nad gospodarką zwierzętami we wczesnośredniowiecznych kompleksach grodowych Pomorza, Wielkopolski i Dolnego Śląska*. In: W. Chudziak, S. Moździoch (eds.), *Stan i potrzeby badań nad wczesnym średniowieczem w Polsce – 15 lat później*. Toruń, Wrocław, Warszawa, 123-150.
- Makowiecki D. 2008. *Użytkowanie zwierząt i konsumpcja mięsa w średniowieczu w świetle badań archeozoologicznych. Wybrane zagadnienia*. In: S. Suchodolski (ed.), *Źródła historyczne wydobywane z ziemi*. Wrocław, 57-77.
- Makowiecki D. 2010. *Wczesnośredniowieczna gospodarka zwierzętami i socjotopografia in Culmine na Pomorzu Nadwiślańskim*. Mons Sancti Laurentii 6. Toruń.
- Makowiecki D. 2014. *Studia archeozoologiczne nad znaczeniem wczesnośredniowiecznej i średniowiecznej fauny łęczyckiego grodu*. In: R. Grygiel, T. Jurek (eds.), *Początki Łęczycy* 1. Łódź, 261-437.
- Makowiecki D. 2016a. *Gdy umiera człowiek, umiera cały świat. Zwierzęta – towarzysze czy ofiary?* In: W. Dzieduszycki, J. Wrzesiński (eds.), *Gdy umiera człowiek, umiera cały świat*. Funeralia Lednickie – spotkanie 18. Poznań, 71-88.
- Makowiecki D. 2016b. *Zwierzęta średniowiecznego i nowożytnego Poznania oraz okolic. Podstawy archeozoologiczne*. Poznań.
- Makowiecki D. 2019. *Szczałki zwierzęce*. In: S. Wadył (ed.), *Ciepłe. Elitarna nekropola wczesnośredniowieczna na Pomorzu Wschodnim*. Gdańsk, 289-291.
- Makowiecki D., Gotfredsen A.B. 2002. *Bird Remains of Medieval and Post-Medieval Coastal Sites at the Southern Baltic Sea, Poland*. "Acta Zoologica Cracoviensia" 45, 65-84.
- Makowiecki D., Gotfredsen A.B. 2007. *Ptactwo ośrodka wczesno miejskiego w Kołobrzegu Budzistowie i jego okolic*. In: L. Leciejewicz, M. Rębkowski (eds.), *Kołobrzeg. Wczesne miasto nad Bałtykiem*. Origines Polonorum 2. Warszawa, 289-297.
- Makowiecki D., Makowiecka M. 2023. *Gospodarka zwierzętami średniowiecznego ośrodka kruszwickiego*. In: W. Dzieduszycki, J. Sawicka (eds.), *Kruszwica wczesnośredniowieczna*. Warszawa, 331-369.
- Makowiecki D., Tomek T., Bocheński Z.M. 2014. *Birds in Early Medieval Greater Poland: Consumption and Hawking*. "International Journal of Osteoarchaeology" 24, 358-364.
- Malinowski A., Bożiłow W. 1997. *Podstawy antropometrii. Metody, techniki, normy*. Warszawa, Łódź.
- Marešová K. 1983. *Uherské Hradiště-Sady. Staroslovanské pohřebiště na Horních Kotvicích*. Brno, Uherské Hradiště.
- Masłowska E., Niebrzegowska S. 1999. *Rzeka*. In: J. Bartrmiński (ed.), *Słownik stereotypów i symboli ludowych* 1(2). Lublin, 324-350.
- Mianecki A. 2011. *Jajo w wybranych wątkach ludowych bajek magicznych*. In: P. Kowalski (red.), *Mit, prawda, imaginacja*. Wrocław, 131-143.
- Miciak M. 2017. *Cmentarzysko wczesnośredniowieczne w Gieczu, stan. 10. Wstępne wyniki badań*. "Studia Lednickie" 16, 39-59.
- Miciak M., Agnew A. M. 2021. *Cmentarzysko wczesnośredniowieczne w Gieczu, stan. 10, woj. wielkopolskie – wyniki badań z lat 2014-2019*. "Studia Lednickie" 20, 125-195.
- Minois G. 1995. *Historia starości. Od antyku do renesansu*. Warszawa.
- Miśkiewicz M. 1967. *Cmentarzysko wczesnośredniowieczne w Złotej Pińczowskiej, pow. Pińczów*. In: W. Antoniewicz, P. Biegański (eds.), *Metodyka naukowo-techniczna badań archeologicznych i antropologicznych*.

- Rozprawy Zespołu Badań nad Polskim Średniowieczem Uniwersytetu Warszawskiego i Politechniki Warszawskiej 4. Warszawa, 93-139.
- Miśkiewicz M. 1968. *Cmentarzysko wczesnośredniowieczne w Jaksicach, pow. Kazimierza Wielka*. "Wiadomości Archeologiczne" 33(3-4), 421-423.
- Mlíkovský J. 2003. *Die Vögel aus der frühmittelalterlichen Burg Mikulčice, Mähren*. In: L. Poláček (ed.), *Studien zum Burgwall von Mikulčice 5*. Brno, 215-338.
- Moreno-García M., Pimenta C., Gros M. 2005. *Musical vultures in the Iberian Peninsula: Sounds Through their Wings*. In: G. Grupe, J. Peters (eds.), *Feathers, Grit and Symbolism. Birds and Humans in the Ancient Old and New Worlds*. Documenta Archaeobiologiae 3. Rahden/Westf., 329-347.
- Müller E. 2013. *Slawische Bestattungssitten im Saalegebiet von Niederwünsch und Oechlitz (Saalekreis, Sachsen-Anhalt)*. In: F. Biermann, T. Kersting, A. Klammt (eds.), *Soziale Gruppen und Gesellschaftsstrukturen im westslawischen Raum*. Langenweißbach, 129-183.
- Nadolski A., Abramowicz A., Poklewski T. 1959. *Cmentarzysko z XI wieku w Lutomiersku pod Łodzią*. Acta Archaeologica Universitatis Lodziensis 7. Łódź.
- Nevall V. 1967. *Easter Eggs*. "The Journal of American Folklore" 80(315), 3-32.
- Nevall V. 1984. *Easter Eggs: Symbols of Life and Renewal*. "Folklore" 95(1), 21-29.
- Niebrzegowska-Bartmińska S. 2016. *Symbolika płodnościowa w polskim folklorze*. "Etnolingwistyka" 28, 207-226.
- Niewiadomski D. 1989. *Semantyka jaja w rytach orki i siewu*. "Etnolingwistyka" 2, 61-72.
- Nilsson M. P. 1908. *Das Ei im Totenkult der Alten*. "Archiv für Religionswissenschaft" 11(4), 530-546.
- Nowaczyk K., Nowaczyk L. 2017. *Cmentarzysko wczesnośredniowieczne w Przysławiu, gm. Jędrzejów, woj. świętokrzyskie, stanowisko 1 (AZP 90-59/1)*. In: S. Kadrow (ed.), *Raport 12*. Warszawa, 97-122.
- Nowotny E. 2022. *Tierknochen und Tafelgeschirr. Speisebeigaben in den langobardenzeitlichen Gräbern Niederösterreichs*. In: L. Poláček, O. Heinrich-Tamáska, E. Nowotny, S. Eichert (eds.), *Über Speisen, Getränke und Macht zwischen Spätantike und Karolingerzeit*. Grenzach-Wyhlen, 215-232.
- Pacocha K. 2007. *Określanie wieku i płci dzieci na podstawie materiałów szkieletowych*. In: H. Głąb, E. Haduch, A. Szczepanek (eds.), *Non omnis moriars — rozważania nad egzystencją człowieka w aspekcie badań antropologicznoarcheologicznych. Materiały konferencyjne, Kraków 23-25 marca 2007*. Kraków, 125-137.
- Pankiewicz A. 2023. *Wrocław. Gród na Ostrowie Tumskim we wczesnym średniowieczu*. Origines Polonorum 18. Warszawa, Wrocław.
- Petrinec M. 2009. *Gräberfelder aus dem 8. bis 11. Jahrhundert im Gebiet des frühmittelalterlichen kroatischen Staates*. Split.
- Piątkowska-Matecka J. 2023. *Zwierzęta w życiu mieszkańców wczesnośredniowiecznego grodu na Zawodziu w Kaliszu w świetle dawnych i aktualnych wyników badań archeozoologicznych*. "Archaeologia Polski" 68, 251-284.
- Piątkowska-Matecka J., Tomek T. 2013-2014. *Ssaki i ptaki w gospodarce ludności zamieszkującej wczesnośredniowieczny zespół osadniczy w Kulczynie-Kolonii (st. 8), pow. włodawski*. "Światowit" 11-12 (62-63)/B, 205-222.
- Pisarzyk M. 1973. *Zwyczaj „święconego” w Kościele zachodnim*. "Collectanea Theologica" 43(4), 157-161.
- Pisarzyk M. 1993. *Błogosławieństwo pokarmów i napojów wielkanocnych*. "Ruch Biblijny i Liturgiczny" 46(2), 93-103.
- Pisula N. 2021. *Monety odkryte w obiektach na stanowisku Giecz 10 w latach 2014-2019*. "Studia Lednickie" 20, 197-214.
- Pluta A., Śmiech M., Dobrosz K., Flak N., Batkowska J. 2019. *Jaja w tradycji, kulturze i historii*. In: M. Baran, J. Nyckowiak (eds.), *Badania i Rozwój Młodych Naukowców w Polsce. Żywność i żywienie*. Poznań, 62-66.
- Pollex A. 2010. *Glaubenvorstellungen im Wandel. Eine archäologische Analyse der Körpergräber des 10. bis 13. Jahrhunderts im nordwestslawischen Raum*. Rahden/Westf.
- Premužić Z., Rajić Šikanjić P., Rapan Papeša A. 2013. *Eggshell in a juvenile burial from Avar cemetery in Croatia*. In: J. Turek (ed.), *Abstract Book of the 19th Annual Meeting of the European Association of Archaeologists*. Plzen, 59.
- Presslee S., Wilson J., Woolley J., Best J., Russell D., Radini A., Fischer R., Kessler B., Boano R., Collins M., Demarchi B. 2017. *The Identification of Archaeological Eggshell Using Peptide Markers*. "STAR. Science & Technology of Archaeological Research" 3(1), 89-99.

- Rajewski Z. 1937. *Wielkopolskie cmentarzyska rządowe okresu wczesnodziejowego*. "Przegląd Archeologiczny" 6(1), 28-85.
- Reed K. 2019. *Ritual Household Deposits and the Religious Imaginaries of Early Medieval Dalmatia (Croatia)*. "Journal of Anthropological Archaeology" 56, 1-10.
- Rosiński F. M., Chromik A., Kostowska B. 2002. *Pisanki w tradycji, obrzędowości i wierze ludowej*. "Quaestiones Selectae" 9(15), 127-144.
- Roth H. 1986. *Merowingerzeit, Reihengräberkreis und Awaren*. In: H. Beck, H. Jankuhn, K. Ranke, R. Wenskus (eds.), *Reallexikon der Germanischen Altertumskunde* 6. Berlin, New York, 514-515.
- Samsonowicz H. 1992. „*Historia opowiadana*” w polskim średniowieczu. "Przegląd Historyczny" 83(3), 389-404.
- Schubert E. 2019. *Jedzenie i picie w średniowieczu*. Toruń.
- Schulz A. 2011. *Essen und Trinken im Mittelalter (1000–1300). Literarische, kunsthistorische und archäologische Quellen*. Berlin, Boston.
- Serjeantson D. 1998. *Birds: a Seasonal Resource*. "Environmental Archaeology" 3(1), 23-33.
- Serjeantson D. 2002. *Goose Husbandry in Medieval England, and the Problem of Ageing Goose Bones*. "Acta Zoologica Cracoviensia" 45, 39-54.
- Serjeantson D. 2006. *Birds: Food and a Mark of Status*. In: C. M. Woolgar, D. Serjeantson, T. Waldron (eds.), *Food in Medieval England. Diet and Nutrition*. Oxford, 131-147.
- Serjeantson D., Crabtree P. 2018. *How Pious? How Wealthy? The Status of Eynsham and St Albans Abbeys Between the 8th to the 12th Centuries Re-examined in the Light of their Food Consumption*. In: B. Jervis (ed.), *The Middle Ages Revisited Studies in the Archaeology and History of Medieval Southern England Presented to Professor David A. Hinton*. Oxford, 115-139.
- Shepard J. 2008. *Slav Christianities, 800-1100*. In: T. F. X. Noble, J. M. H. Smith (eds.), *The Cambridge History of Christianity 3: Early Medieval Christianities, c. 600-1100*. Cambridge, 130-155.
- Sichert B. M., Rentzel Ph., Demarchi B., Best J., Negric A., Deschler-Erb S. 2019. *Incubated Eggs in a Roman burial? A Preliminary Investigation on How to Distinguish Between the Effects of Incubation and Taphonomy on Avian Eggshell from Archaeological Sites*. "Journal of Archaeological Science: Reports" 26. <https://doi.org/10.1016/j.jasrep.2019.05.010>.
- Sidell E. J. 1993. *A Methodology for the Identification of Archaeological Eggshells*. Philadelphia.
- Siemianowska E. 2008. *Wczesnośredniowieczne grzechotki i pisanki w strefie przebiegu szlaku lądowego z Rusi na Pomorze*. In: P. Kucypera, S. Wadył (eds.), *Kultura materialna średniowiecza w Polsce*. Toruń, 67-84.
- Slavin Ph. 2009. *Chicken Husbandry in Late-Medieval Eastern England: c. 1250-1400*. "Anthropozoologica" 44(2), 35-56.
- Slavin Ph. 2010. *Goose Management and Reading in Late Medieval Eastern England, c. 1250-1400*. "Agricultural History Review" 58(1), 1-29.
- Smetanká Z. 1998. *Archeologie ptačihov vejce*. "Dějiny a současnost" 20(1), 7-10.
- Smetanká Z. 2014. *Vejce a skořápky vajec*. In: J. Frolík et al. (eds.), *Pohřebišť v Lumbeho zahradě na Pražském hradě*. Castrum Pragense 12. Praha, 117-128.
- Stadelman W.J. 2000. *Chicken Eggs*. In: K. F. Kiple, K. C. Ornelas (eds.), *The Cambridge World History of Food* 1. New York, 499-507.
- Stanaszek Ł.M. 2016. *Wampiry w średniowiecznej Polsce*. Warszawa.
- Stawarz N. 2022. *Jajko i jego rola w „słowiańskich zaświatach”*. Source: <https://histmag.org/Jajko-i-jego-rola-slowianskich-zaswiatach-23925>. Available on-line 03.11.2022.
- Stewart J. 2013. *Making Eggshell Visible in the Archaeological Record* [unpublished]. New York. Source: <https://core.ac.uk/download/pdf/20077723.pdf>. Available on-line 10.10.2024
- Stewart J. R. M., Allen R. B., Jones A. K. G., Penkman K. E. H., Collins M. J. 2013. *ZooMS: Making Eggshell Visible in the Archaeological Record*. "Journal of Archaeological Science" 40, 1797-1804.
- Suchodolski S. 1979. *Grójec wczesnośredniowieczny w świetle badań wykopaliskowych przeprowadzonych w 1976 r.* "Sprawozdania Archeologiczne" 31, 205-223.
- Sykes N.J. 2007. *The Norman Conquest: A Zooarchaeological Perspective*. BAR International Series 1656. Oxford.
- Sykes N. 2014. *Beastly Questions: Animal Answers to Archaeological Issues*. London. New Dehli, New York, Sydney.
- Szatmári S. 1979. *Das Gräberfeld von Oroszlány-Borbála-Kolonie (neue Beiträge zur Bestattung mit Holzheimern)*. In: B. Chropovsky (ed.), *Rapports du IIIe Congrès International d'Archéologie Slave, Bratislava 7-14. Septembre 1975*, 1. Bratislava, 805-816.

- Szmoniewski B.Sz., Stănică A.D. 2023. *From Kyiv to Pereyaslavets (Πρεσθλαβίτζα). The Early Medieval Stone Egg Imitations and Glazed Egg-shaped Rattles from Dobrudja, Romania*. "Sprawozdania Archeologiczne" 75(1), 371-403.
- Ślusarski K.W. 2004. *Wczesnośredniowieczne pisanki i grzechotki gliniane z ziem polskich. Próba typologii*. In: Z. Kobylński (ed.), *Hereditatem cognoscere. Studia i szkice dedykowane Profesor Marii Miśkiewicz*. Warszawa, 79-110.
- Špehar P., Zorić B. 2022. *Arheološki tragovi nehrišćanskih obreda u srpskom delu Podunavlja tokom srednjeg veka*. "Etnoantropološki problemi" 17(3), 985-1009.
- Taivalkoski A., Holt E. 2016. *The Effects of Cooking on Avian Eggshell Microstructure*. "Journal of Archaeological Science: Reports" 6, 64-70.
- Tokarczyk R. 2002. *Prawa narodzin, życia i śmierci. Podstawy biojurysprudencji*. Kraków.
- Tomiczy J. i R. 1975. *Drzewo życia. Ludowa wizja świata i człowieka*. Warszawa.
- Tomková K. 2020. *Několik poznámek k tématu archeologie vejce*. In: T. Tomková et al., *Levý Hradec v zrcadle archeologie. Pohřebiště 2*. Praha, 305-314.
- Toporov V. N. 2003. *Ajco mirovoe*. In: S. A. Tokarev (ed.), *Mify narodov mira. Encyklopedia 2*. Moskva, 681.
- Toporow W. 1977. *Wokół rekonstrukcji mitu o jaju kosmicznym (na podstawie baśni rosyjskich)*. In: B. Żyłko (ed.), *Semiotyka kultury*. Warszawa. 162-176.
- Török Gy. 1973. *Sopronkőhida IX. századi temetője*. Budapest.
- Trawkowski S. 1985. *Troska o pożywienie*. In: J. Dowiat (ed.), *Kultura Polski średniowiecznej X-XIII w.* Warszawa, 29-58.
- Trotzig G. 1991. *Craftsmanship and Function. A Study of Metal Vessels Found in Viking Age Tombs on the Island of Gotland, Sweden*. Stockholm.
- Tugya B. 2012. *Avarkori sírok tojáshéjleletei Orosházáról*. "Mozaikok Orosháza és Vidéke Múltjából" 7, 3-7.
- Tugya B. 2016. *Eggshell Remains in an Avar Age Grave in Nädlac*. "Archaeologia Bulgarica" 20 (1), 93-96.
- Tugya B., Stewart J. 2022. *A szegvár-oromdűlői kora avar temető tojásmaradványainak elemzése*. In: G. Lőrinczy, B. Major, A. Türk (eds.), *A szegvár-oromdűlői temető és a Tiszántúl kora avar idősza*. Budapest, Szeged, Szentes, 885-893.
- Ungermaň Š. 2007. *Amulety v dětských hrobech na raně středověkém pohřebišti v Dolních Věstonicích – Na pískách*. "Študijné zvesti Archeologického ústavu SAV" 42, 221-237.
- Vachůt P., Hladík M. 2010. *Nálezy raně středověkých keramických chraštitek ve tvaru vejce z Moravy*. In: Š. Ungermaň, R. Přichystalová (eds.), *Zaměřeno na středověk. Zdeňku Měřinskému k 60. narozeninám*. Praha, 203-201.
- Van Neer W., Noyen K., De Cupere B. 2002. *On the Use of Endosteal Layers and Medullary Bone from Domestic Fowl in Archaeozoological Studies*. "Journal of Archaeological Science" 29, 123-134.
- Večerková E. 2007. *Ostereier aus Mähren*. Wien, Kittsee.
- Vörös I. 2015. *Speisegaben, Opfertiere*. In: G. László, *Das awarenzeitliche Gräberfeld in Csákerény-Orondpuszta*. Monumenta Avarorum Archaeologica 11. Budapest, 109-118.
- Walerczuk M. 2007. *Jajka i pisanki w obrzędach Słowian średniowiecznych*. In: J. Tyszkiewicz (ed.), *Z dziejów średniowiecznej Europy Środkowo-Wschodniej. Zbiór studiów 2*. Fasciculi Historici Novi 6. Warszawa. 643-57.
- Wawrzyniuk J. 2004. *Symbolika jajka w grobie dziecka w okresie wczesnośredniowiecznym*. In: W. Dzieduszycki, J. Wrzesiński (eds.), *Dusza maluczka, a strata ogromna*. Funeralia Lednickie – spotkanie 6. Poznań, 143-154.
- Wawrzyniuk J. 2006. *Mediacyjny aspekt starości w kontekście śmierci*. In: W. Dzieduszycki, J. Wrzesiński (eds.), *Starość – wiek spełnienia*. Funeralia Lednickie – spotkanie 8. Poznań, 149-154.
- Wawrzyniuk J. 2016. *Magia ochronna Słowian we wczesnym średniowieczu na ziemiach polskich*. Warszawa.
- Wiejacka M., Makowiecki D. 2018. *Gęsi i gęsina na ziemiach polskich w świetle badań archeornitologicznych. Ze studiów nad znaczeniem ptactwa w czasach prahistorycznych i historycznych*. "Fontes Archaeologici Posnanienses" 54, 75-87.
- Wiejacka M., Makowiecki D., Opelkova M., Wiewióra M., Pluskowski A. 2022. *Birds at the Teutonic Order's Castles in Prussia (Poland)*. "Quaternary International" 626-627, 133-141.
- Wiński G., Szafranski A. A. 1998. *Obrzędy pogrzebowe jako rytuały przejścia*. "Roczniki Nauk Społecznych" 26(1), 87-96.

- Wojciechowska B. 2000. *Od Godów do św. Łucji. Obrzędy doroczne w Polsce późnego średniowiecza*. Kielce.
- Wojtasik J. 1968. *Cmentarzisko wczesnośredniowieczne na wzgórzu „Młynówka” w Wolinie*. Szczecin.
- Worach-Kardas H. 1983. *Wiek i pełnienie ról społecznych*. Warszawa, Łódź.
- Wrzesińska A., Wrzesiński J. 2003. *Przedmioty z kości i poroża w grobach wczesnośredniowiecznego cmentarzyska w Dziekanowicach*. In: T. Galiński, E. Wilgocki (eds.), *Res et fontes. Księga jubileuszowa dr. Eugeniusza Cnotliwego*. Szczecin, 241-256.
- Wrzesiński J. 2022. *Zmarli i ich groby na cmentarzysku w Dziekanowicach*. In: J. Wrzesiński (ed.), *Mortui viventes obligant. Cmentarzisko wczesnośredniowieczne w Dziekanowicach*. Biblioteka Studiów Lednickich Fontes 11. Lednica, 45-232.
- Zawadzka-Antosik B. 1975. *Czekanów, pow. Sokółów Podlaski*. “Informator Archeologiczny”. Badania 1974, 158.
- Zawadzka-Antosik B. 1982. *Z problematyki pochówków dziecięcych odkrytych na cmentarzysku w Czekanowie, woj. siedleckie*. “Wiadomości Archeologiczne” 47(1), 25-57.
- Zawadzka-Antosik B. 1984. *Czekanów, woj. siedleckie*. “Informator Archeologiczny”. Badania 1983, 145-146.
- Zoll-Adamikowa H. 1966. *Wczesnośredniowieczne cmentarzyska szkieletowe Małopolski*, vol. I: *Źródła*. Wrocław, Warszawa, Kraków.