SPRAWOZDANIA ARCHEOLOGICZNE 68, 2016 PL ISSN 0081-3834

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FROM POTATOES TO BARROWS, OR THERE AND BACK AGAIN

ABSTRACT

Rzepecki S. 2016. From potatoes to barrows, or there and back again. *Sprawozdania Archeologiczne* 68, 409-419.

The dissemination of potato cultivation in the territory of Poland created a necessity for the regular removal of stones from the surface of fields. The structures built with the use of these stones can imitate barrows, for example. This issue was analysed when studying the cemetery of the Pomeranian culture in Nowa Sikorska Huta. The author also addresses the problem in the role that imagination can play when employed for the interpretation of archaeological objects.

Key words: barrow, heuristics, Kashubian Lake District, Pomeranian culture Received: 08.01.2016; Revised: 20.03.2016; Accepted: 04.04.2016

The meaning of the somewhat eccentric title of this paper shall be explained at the end of this disquisition. In this point, however, I feel obliged to introduce some clarification to the object of the study. The disquisition refers to the relationship between an observation and an interpretation, and this particular study concerns the barrows with stone mounds. I would like to add that although the presented study is a continuation of my earlier researches (Rzepecki 2013; 2014; Rzepecki *et al.* 2015), it is also meant as a polemic against the findings by Radosław Janiak (2014) described in the book *"Kurhany z młodszych okresów epoki brązu i wczesnej epoki żelaza na Pojezierzu Kaszubskim" ("Burial Mounds from the Late Bronze and Early Iron Ages in the Kashubian Lake District"*). Here, I wish

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to explicitly point out that it is not a classical review of the cited work. Below, I focus on the problems associated with the research results registered within the cemetery of the Pomeranian culture in Nowa Sikorska Huta 2, Stężyca commune.

1. FROM THE GARDEN TO THE FIELD. A GREAT CAREER OF THE POTATO IN POLAND

It is commonly thought that the contribution made by King John III Sobieski to the Polish culinary art was reduced to a mere introduction of the habit of drinking coffee, whose supply the king presumably ensured for himself after the battle of Vienna. However, it is less often remembered that the venture to Vienna also contributed to returning to Poland with potatoes – a gift brought for the Queen Marysieńka (Maria Kazimiera de La Grange d'Arquien), and more precisely – to the gardens of Wilanów. The potato found its zealous admirers there in the king's gardeners - Paweł Wienczarek and Jan Łuba (Baranowski 1960, 16; Inglot 1986, 244; Zalewski 2009). In the eighteenth century, this vegetable grew into popularity. Its wide influence reached the northern part of Poland – the then Kingdom of Prussia – where, in 1756, King Frederick II issued a decree ordering an intensive cultivation of the potato (Baranowski 1960, 19; Inglot 1986, 245). Similar activities were undertaken by the Austrian partitioning authorities, whilst in the Russian zone - the popularity of this species developed more spontaneously. Although at the turn of the eighteenth and nineteenth centuries, potatoes in Poland were utilized as food for people and animals, used for the production of flour, powder, cheese, grits and vodka, still the area of its crops was relatively limited; the breakthrough in this matter took place in the mid-nineteenth century (Nowiński 1970, 336). The subsequent acts of enfranchisement, replacing the three-field system by crop rotation, promoting new types of ploughs and regular application of fertilizers - all these, and many other factors created good conditions for the expansion of the potato, which then crossed the gardening Rubicon and became a common field crop.

The dynamic increase in the acreage of the fields sown and planted with potatoes was clearly associated with the unique values of this vegetable. It was tested for the production of sugar, wine, beer, starch, yeast, glue, butter, soaps, paints and potash (Baranowski 1960, 35). However, it was vodka production (farms) and consumption (peasant farms) which was of the greatest economic importance. The potato's contribution to the reduction of famine was so significant that it drew attention of the Polish culture luminaries such as Jan Ursyn Niemcewicz and Adam Mickiewicz (Zalewski 2009).

The popularity of potato cultivation in the area of Kashubia (which fact is of my particular concern here) was not only the result of the decisions made by Frederick II. Low soil which are characterized by the dominance of sandy and clay soils (Mirowski and Witek 1979). At this point, it is necessary to make an important remark concerning the agro-technics. Growing potatoes require much deeper ploughing than in the case of wheat or rye. In the nineteenth century, this implied a necessity to replace the sokha by the plough (Baranowski 1960, 77). The deeper penetration of the humus layers obviously did not leave the soil structure undisturbed as its significant loosening results in the "Brazil nut effect" (granular convection; Fig. 1), which means sorting and pushing the stones in the fields upwards (cf. Schiffer 1987, 131). This phenomenon became the origin of, among other things, the once common in Kashubia belief that stones can grow spontaneously (Treder 1989, 21). The massive occurrence of stones adversely affected both the sustainability of the agricultural tools (e.g. ploughs) and the size and quality of the potatoes yields as well. This meant, in turn, a need for regular (early spring) removal of erratics from the surface of the fields and topsoil. Such activities were widely recommended in manuals and guides intended for landowners and farmers (e.g. Schlipf 1845, 33; Weber 1862, 13). Some of the stones were used in construction works, others were heaped on wastelands, the edges of fields or in forests (Fig. 2). At this point, a citation of the observations made by one of the pioneers of Polish archaeology - Tadeusz Dowgird (1887) seems worthwhile. In his report from one of his expeditions Dowgird noted: "The road from Dabrowa to Bogoryia-Górna is 3 kilometres long. Here, there are sandy grounds which form small undulating hills, abundantly dotted with fieldstones on the surface. The farmers collect the stones from the arable soil and pile them in big heaps (Polish: "kamionki"). Some of the heaps reach considerable sizes. I saw one heap which was 3 meters long, 5-6 meters wide and 1 meter high. The form of the structures vary: elongated, round or rectangular. Presumably, quite a number of them cover graves." (Dowgird 1887, 33). I shall add that removing stones from the field area is a regular procedure in modern agricultural technology, as well (e.g. Samborski et al. 2010).

The aforementioned observations lead to quite an important conclusion: a custom of piling stone heaps of various shapes has been present throughout the territory of Poland for at least the last two hundred years. "The life cycle" of the described structures is quite obvious. Initially, they are completely devoid of vegetation (Fig. 2-3), overtime, the encroachment of shrubs and trees, as well as the operation of aeolian and soil formation processes, the thermal weathering (thermal exfoliation) and the weathering caused by changes in humidity (deflocculation) leads to their gradual loss in the micro-relief (Wolski 2009, 52). The resultant structures, particularly when they occur in groups, can appear cumbersome for the archaeologists – as the heaps can imitate the mounds of barrows (Fig. 3: c). A fortiori, as pointed out by the above quoted Dowgird, the piles of stones that might have been placed in the earlier operating cemeteries.

2. BARROWS FROM NOWA SIKORSKA HUTA

Nowa Sikorska Huta is located within the Kashubian Lake District. The sculpture of the young-glacial vicinity of the site consists of the characteristic moraine formations: tills, sands and gravels with accompanying erratics. It is worth noting, that the cemetery itself occupies a moraine hill slope, whose near-surface layer has been greatly transformed by the aeolian processes (Janiak 2014, 38).

It is difficult to decide whether the cemetery discovered in 1990 by Mirosław Fudziński (Janiak 2014, 37-38) is the same as the necropolis previously known under its alternative local name – Nowa Huta Sikorzyńska (e.g. Łuka 1966, 281).

The excavations were conceived by Fudziński (1992 – barrow I), and then were continued in 2002-2008 by Janiak (2014, 37-38). These included, among other things, fifteen barrows, of which twelve have had a stone or stone-earthen mound. The vast majority of these structures belong to the "burial-free barrows" (Janiak 2014, 38). The cited author associates all of these structures with an activity of the population of the Pomeranian culture. According to Janiak, the proposed dating of the barrows should be based on "two elements: the premise resulting from the structure of the barrow itself (the structural benchmark) and the data obtained from the analysis of the grave goods" (Janiak 2014, 43). Obviously though, the whole hierarchy should be reversed, which Janiak performs in practice. It seems advisable to focus on the two groups of premises in the further part of this paper.

First of all, it should be noted that dating the barrows was based merely on the formal features of pottery. The pottery occurred in two main contexts – within the mounds (barrows II, III, IV, VIII, XI and LXXII) and the stone cist recorded beneath the barrow XVIII (Janiak 2014, 344), adding that the former revealed only some highly fragmented parts of vessels. Janiak initially dated the finds to the La Tène Period (e.g. barrow II; Janiak 2002-2003). Only the discovery of a face urn (the aforementioned stone cist recorded beneath the barrow XVIII) allows, according to the author of the cited work, to verify the earlier diagnoses, who then indicates the Hallstatt D phase as the time of creation and functioning of the necropolis. Following the line of reasoning of Janiak, this find alone proves decisive for the dating of the whole burial ground and Janiak does not consider a more complex scenario of use of the necropolis – extended over the both aforementioned time periods.

The problems with dating the highly fragmented ceramic material occurred fully in the case of barrow I (explored by Fudziński). Following the data provided in "Informator Archeologiczny" the structure in question yielded only a few ceramic fragments. On this basis, the study feature can be dated back to the Early Bronze Age (Informator Archeologiczny 1992, 24). However, Janiak (2014, 343) did not only verify this diagnosis, but also did not include the cited finds in his description of the barrow, dating it consistently to the period of the Pomeranian culture.

The author on the paper assigned the structures devoid of any ceramic material to the Pomeranian culture on the basis of the "specific constructional features which include:

- the presence (or the possible lack) of the construction limiting the scope of the whole structure;

- the type of material used to produce the mound;

- the type and location of the main burial and, if any, of the accompanying burial (Janiak 2014, 113).

I must confess that I do not fully comprehend the criteria presented above. Do they, for example, indicate that both – the presence and the absence of "the construction limiting the scope of the whole structure" may evidence its connection with the rituals of the Pomeranian culture? After all, in this perspective, the issue of the delimitation of the barrow's space ceases to have any meaning, anyway.

The same applies to the type of building material applied. Among the types of barrows, defined by Janiak, associated with the Pomeranian culture, some structures with mounds were registered in Nowa Sikorska Huta: earthen (barrows III, IV and LXXII) with stone mounds without a stone ring (Figs. 4-5; barrows II, VIII, XI, XIX, LXX, LXXI, LXXV, LXXVI and LXXVII) and a "stone setting in the shape of a boat" (barrow V; Janiak 2014, 344). Therefore, an application of the criterion of the raw material used for determining the chronology of the features – suggested by Janiak – is, to put it mildly, not too reliable. Earth and stone were basic and widely available building materials used for a substantial number of monumental funeral structures erected in the prehistory of Europe. Even the analysed work provides an evidence supporting this view – exactly the same raw materials were applied for building the mounds of the barrows associated with the Lusatian culture and the Wielka Wieś phase in the Kashubian Lake District ("earth barrows without stone embankments" and "stone barrows without an embankment). Are there any premises to indicate any grounds for cultural and chronological ordering of the features depending on the material used for their construction? The answer is – no.

The last of the analysed criteria relates to the issue of the nature and location of the burials. The problem lies in the fact that only two features (i.e. XVIII and XIX) in Nowa Sikorska Huta contained stone burial boxes and the other features can be described as "burial-free barrows". Unfortunately then, this criterion does not apply in practice. I would like to add, moreover, that other burials of different types were also discovered in the vicinity of some of the moulds. These include pit graves: no. 1 (to the north of barrow XIX), no. 2 (to the north of barrow LXXVI), no. 16 (to the north of LXXVII) and the cobblestone no. LXIX. The problem resides in the fact that the dating of these barrows is quite an uncertain matter. Janiak generally dates pit no. 2 to prehistoric times (Janiak 2009, 75-76; 2014, 138), while pits no. 1 and no. 16 were devoid of any dating material. Only mound no. LXIX was accompanied by single fragments of pottery associated with the Pomeranian culture. Unfortunately, the author of the work quoted above did not make any attempts to

apply different methods in order to determine the chronology of the barrows (C14; cf. Rzepecki, Walenta 2009).

3. THERE AND BACK AGAIN

It is advisable to introduce a brief summary of the findings set out above. Undoubtedly, several graves were recorded at the site in Nowa Sikorska Huta but the chronological framework of the majority of them is uncertain. Only some of these burials were covered with stone moulds but only the latter finds belong (mostly) to the "burial-free barrows". That raises a fundamental question about the nature of the relationship connecting the stone embankments of the graves.

Janiak proposed an unambiguous solution to this problem. In his opinion, the "burialfree barrows" were a dedicated commemoration to "missing persons, who died while being away from home. They may have been buried by another community, and perhaps they did not have the grave at all" (Janiak 2014, 205). In contrast, the role of the barrow V was highly evaluated as significant. "There is no doubt that some elements and – above all – the form of structure V, accounted for the effect of an imitation of a boat/ship" (Janiak 2014, 197). In line with the thesis created by the explorer of the structure in question, it should be simply perceived as "a ship carrying a deceased person to the other world" (Janiak 2014, 197). Additionally, following this interpretation, the burial-free barrows with earthen mounds which were also recorded in the vicinity of structure V, most presumably, performed some auxiliary functions. As a result, "in such a case we would be dealing with a difficult to grasp ritual, which required that the burials remained for some time in the vicinity of the stone boat, and then, after being extracted from the mounds they were moved to their final resting place" (Janiak 2014, 199).

The critical evaluation of Janiak's findings may be many-layered. Below I will refer only to the most important issues which are connected with perception, heuristics and interpretation.

"There is a universal tendency among mankind to conceive all beings like themselves, and to transfer to every object, those qualities, with which they are familiarly acquainted, and of which they are intimately conscious. We find human faces in the moon, armies in the clouds; and by a natural propensity, if not corrected by experience and reflection, ascribe malice and good will to everything that hurts or pleases us" – these words are taken from the works of David Hume (1956, 29) and provide a description of an interesting curiosity. This obviously concerns a pareidolia, or attributing the characteristics of the well known phenomena to the observations. In recent decades, the analogous phenomena taken from the field of philosophy (e.g. Merleau-Ponty 2012) have been "grafted" onto the ground of the cognitive science, and especially – the cognitive neuroscience. Together with the cognitive psychology, they shed an interesting light on the problem which is at issue here.

Visual perception involves a wide range of structures – from the retina to the area of the parietal cortex and the hippocampus (Hohol 2013, 68-69; Jaskuła 2014). During this process the stimuli are transformed into a three-dimensional model of the observed scene or object. The left hemisphere of the brain is responsible for searching the patterns and the classification. It is this part which is responsible for the human tendency to seek order from chaos, it tries to put all the information into a coherent story and set it in the context. It seems that the left hemisphere formulates hypotheses about the structure of the world, even in the face of evidence showing that the pattern does not exist (Gazzaniga 2011, 76). Here it is enough to add that the processes of classification and judgements are often based on heuristics. According to Amos Tversky and Daniel Kahneman (Kahneman 2011) they are simple, efficient rules which people often use to form judgements and make decisions. They are mental short-cuts which usually involve focusing on one aspect of a complex problem and ignoring others, alongside with developing a subjective belief in the righteousness of the judgement (Necka et al. 2013, 550). Particular attention should be paid to three heuristics. The availability heuristic is based on the use of the long-term memory and the personal experience. It leads to an acceptance of the judgements which are "more cognitively accessible" (Maruszewski 2011, 392). Likewise, in the case of the representativeness heuristic – it ignores base rates (the relative frequency with which an event occurs) and leads to a stereotyped evaluation of the phenomena to which some properties are being attributed - even if, in reality, the phenomena do not possess any of them. On the other hand, the anchoring heuristic allows, among other things "anchoring", i.e. basing on the first information or impression (Maruszewski 2011, 359-398; Necka et al. 2013, 550-555).

As can be easily seen, a common feature of the aforementioned heuristics is that the meaning of statistical data is intuitively ignored. "Our minds are designed to absorb the information, fill the gaps and trace the patterns" (Mlodinow 2008, 212). To exemplify – most people fear travelling by air-planes, perceiving them as far more dangerous than driving a car. A similar case is with the observation of the convex landforms. Therefore, many archaeologists will intuitively accept a higher probability of the fact that the study features represent (e.g. prehistoric) barrows, rather than some aeolian mounds created after removing stones from fields. Needless to say that both of the intuitions are wrong (cf. Rzepecki *et al.* 2015). It is the heuristics that make it so easy to interpret some round mounds of stones as burial mounds and see a resemblance to a boat in an elongated shape (structure V) (Janiak 2014, 197).

It is not without reason that I mention all these circumstances. The treatment of stone "mounds" discovered in Nowa Sikorska Huta as related to the Pomeranian culture was quite a reasonable heuristic hypothesis. Unfortunately though, it is not the only possible explanation. As pointed out in the first part of the work, an arrangement of the features, analogous to that observed, could have been created as a result of modern day damping of stones (including those processed, taken from authentic burials), from the fields and their accumulation in the "flat" cemetery. The resulting cumulative palimpsest (Bailey 2007; Rzepecki 2015) can perfectly imitate the integrated structure of barrows and mounds. An exclusion of this scenario using independent dating methods performed in collaboration with the geomorphologists should be the basic duty of the explorer of the site. Unfortunately, Janiak did not act on this idea. What is more, he ignored the important stratigraphic evidences which contradicted his beliefs of how the site developed. To illustrate this, barrow II is a good example. According to the author of the research (Janiak 2003, 86; 2014, 118), the mound was built on the surface of fossil soil – light brown sand with gravel (Fig. 4: d), while the profile indicates an accumulation of a substantial part of the stones is parallel to the accumulation of a layer of fine yellow sand (Fig. 4: c). Janiak ascribes this layer to an aeolian origin, however, the problem is that he himself also points to the fact that it must have developed "on discontinuation of use of the necropolis by the population representing the Pomeranian culture" (Janiak 2014, 287).

Here, I would like to highlight yet another challenge. Describing the finds in Żaków 3, Suleczyno commune, Janiak drew attention to three flint artefacts found in the mound of barrow IV / 2013. They were recorded in "the upper part of the barrow," where "they were deposited in a secondary context" (Janiak 2014, 182). A similar problem seems to concern the pottery dating to the early Bronze Age, which was discovered in the barrow and researched by Fudziński. In my opinion, this fact should raise awareness to the issue of the nature of the artefacts found within the stone mounds. In other words - if the flints were redeposited (Nowa Sikorska Huta, barrow II -3 artefacts) or the pottery from the Early Bronze Age (barrow I), what then happened with the pottery from the Pomeranian culture and such details as bones? According to Janiak (2014, 163), the discovered fragments of vessels representing the Pomeranian culture should be a relic of the containers "deposited at the site, where then a stone construction was erected". Unfortunately though, the cited author does not explain the reasons for such a high level of defragmentation and incompleteness of the vessels. Might this mean, that the buried ceramics consisted of merely fragments of pottery? Leaving this question unanswered I would like to suggest an existence of other explanations. Just like in the case of pottery from the Early Bronze Age or flint, the fragments of vessels from the Pomeranian culture (or bones, for example) were probably moved with the stones, in the course of transport from the fields to the area within Nowa Sikorska Huta. As the erratics were collected in the early spring, some of them were caked with frozen soil which contained artefacts. It is also possible that their presence is a result of the destruction (demolition) of the genuine stone cists in Nowa Sikorska Huta.

In conclusion: "there and back again" is, of course, a quotation from the title of a book by Tolkien – "The Hobbit". For me, it is also a metaphor for hermeneutic cognition caught in the circle of interpretations (cf. Grimwood 2012). Such an approach – discursive, revising or even falsifying their own judgement and intuitions, was what Janiak missed most (2014). The naive realism presented by him, out of his belief that things are what they seem to be, resulted in "steroid-triggered" interpretations – where a large part of the hypotheses



Fig. 1. Stare Skoszewy, Nowosolna commune. Fields with stones visible on the surface (early spring of 2016)



Fig. 2. Stare Skoszewy, Nowosolna commune. Stone heaps before an encroachment of vegetation



Fig. 3. Stare Skoszewy, Nowosolna commune. Stone heaps – an encroachment of vegetation at different stages



Fig. 4. Nowa Sikorska Huta 2, Stężyca commune, barrow II. Key: a – stones, b – forest humus, c – yellow fine-grained sand, d – fine light brown sand and gravel, e – an outline of a pit situated beneath the stone structure, f – location of the vertically oriented parallelepiped stone. According to: Janiak 2003



Fig. 5. Nowa Sikorska Huta 2, Stężyca commune. A collective plan of features: III, IV, V, LXXII, LXXII, LXXIV. According to: Janiak 2009

describing the functioning of cemeteries as well as the ways of dealing with the deceased is unfortunately untestable on the basis of the presented sources. Hence, "back" should give rise to a re-evaluation of the model of changes in the funeral rites within the Kashubian Lake District at the turn of the Bronze and Iron ages.

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