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THE PROBLEM OF DATING THE BEGINNING OF THE CENTRAL SETTLEMENTS OF THE BRZEŚĆ KUJAWSKI CULTURE. THE CASE OF RADIOCARBON DATING OF SITE 3 AT ŻEGOTKI, STRZELNO COMMUNE

ABSTRACT

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One of the most characteristic elements of the Brześć Kujawski culture (4350-4000 cal. BC) were central settlements distinguished by dense development in the form of longhouses and associated graves, a large area (on average 3-6 ha), and a long period of use. A controversial issue is the dating of the beginning of this type of settlement (4600/4500 cal. BC versus 4350 cal. BC) and, consequently, of a given culture.

The article aims to analyse six radiocarbon dates from a previously unpublished central settlement in Żegotki, Strzelno commune (Site 3), excavated in 1995. Each date refers to a separate house, giving a general picture of the settlement chronology within the range of 4300-3980 cal. BC. This finding is consistent with the general BKC dating model (Czerniak *et al.* 2016) and the dating of the settlement in Osłonki (Budd *et al.* 2020).

Keywords: Neolithic, Central Europe, Brześć Kujawski culture, longhouses, chronology
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INTRODUCTION

The Brześć Kujawski culture (further: BKC) marks the Danubian Neolithic era in the Lowlands. On the one hand, continuing the tradition of pioneer settlement of the Linear-bandkeramik culture (further LBK: 5500-5050 cal. BC) and Late Band Pottery culture (further LBPC: 4800-4350 cal. BC) and on the other hand, starting a new era called the Eneolithic or, more traditionally, Chalcolithic (Czerniak and Pyzel 2019). One of the most characteristic elements of the BKC were central settlements distinguished by dense development in the form of longhouses and graves associated with them, a large area (on average 3-6 ha), and a long period of use (Czerniak 2002; Grygiel 2008). A controversial issue is the dating of this type of settlements, which is crucial for the interpretation of the process of origin of the BKC. Lech Czerniak and his co-authors date them within the range of 4350-4000 cal. BC (Czerniak *et al.* 2016; Czerniak 2018). Ryszard Grygiel and Peter Bogucki date them to 4700/4600-4000 cal. BC (Grygiel 2008; Bogucki 2023).

A significant role in this discussion is played by the settlement at Osłonki, Site 1, which has been recently dated to the period 4385-3990 cal. BC based on Bayesian chronological modelling of radiocarbon dating for 17 burials (Budd *et al.* 2020). On this basis, it can be

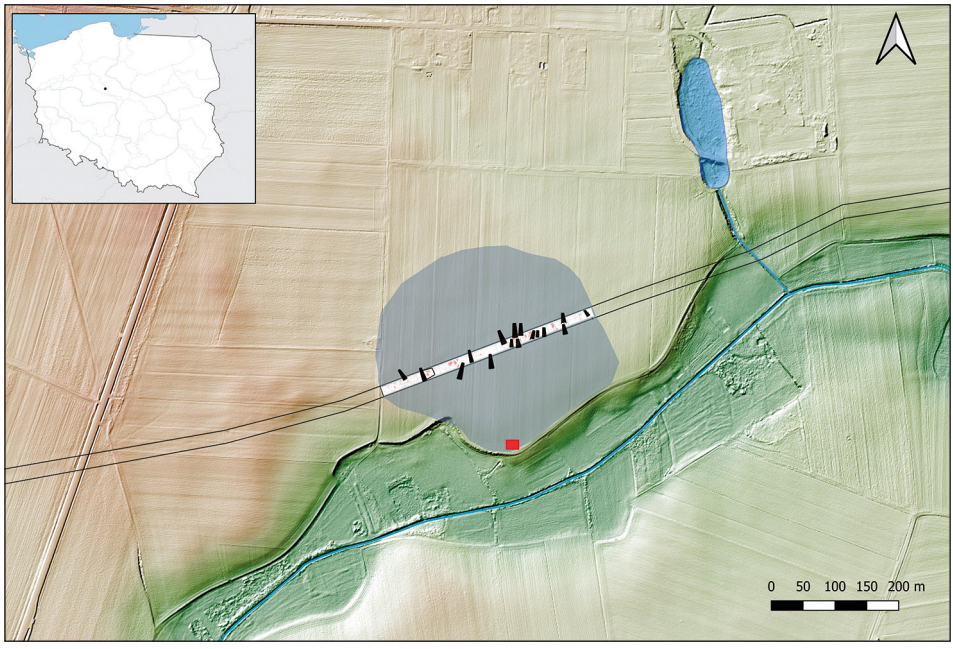


Fig. 1. Żegotki, Strzelno commune, Site 3. Location of the site. The plan shows the site range (grey colour), the course of the gas pipeline route, the boundaries of the excavation examined within Site 3 (357 × 13 m) and the outlines of the BKC longhouses are schematically marked. The red square indicates the place where two longhouses were recorded using aerial photography

assumed that the chronology of Brześć Kujawski type settlements has been established. Especially since the radiocarbon dating for Site 4 at Brześć Kujawski currently represents little value due to the large error range and the lack of dating made using the AMS method. However, it seems that the authors of the study of this site and the participants of this latest publication (Budd *et al.* 2020) have not changed their view on the earlier BKC dating (Grygiel and Bogucki 2022; Bogucki 2023).

In this article, we present a previously unpublished central settlement at Żegotki, Strzelno commune (Site 3), excavated during rescue excavations conducted on the route of the former Yamal-Germany transit gas pipeline in 1995. This is an area of western Kuyavia much less explored than the eastern part (for which Site 3 at Krusza Zamkowa has been representative so far). Our goal is to analyse six radiocarbon dates, each referring to a separate house, giving a general picture of the settlement chronology within the range of 4300-3980 cal. BC. It is consistent with the general BKC dating model (Czerniak *et al.* 2016) and the dating of the settlement at Osłonki (Budd *et al.* 2020). This provides a reasonable basis for revisiting the discussion on the BKC chronology. The presented research is of a pilot nature. In the next two years, we plan to conduct a larger series of dating studies relating to all Kuyavia BKC sites located along the gas pipeline route.

1. Methods and materials

1.1. Research

The sites examined along the gas pipeline route were investigated several times as part of field walking research: in the 1970s by the Kuyavia Research Team of Adam Mickiewicz University in Poznań, and in the 1980s as part of the Polish Archaeological Record. The next phase of surface observations was carried out in 1994 by Lech Czerniak and Jacek Kabaciński in connection with the planned rescue research on the gas pipeline route. All subsequent site investigations provided repeatable and abundant material, mainly ceramic.

Rescue excavation was carried out by the expedition of the Institute of Archaeology and Ethnology of the Polish Academy of Sciences in Poznan from 10 August to 15 November 1995. The work, led by Lech Czerniak, was conducted by Teresa Krysztofiak, Ryszard Kirkowski and Ewa Czerniak. The collision area (and thus the research area) determined based on the surface reconnaissance covered a 350 m long and 13 m wide strip, which was extended during the excavation research to a length of 357 m (62 trenches measuring 10 x 6.5 m, divided between 100-metre-long sections: A, B, C and D) due to the continuation of the occurrence of features towards the east. A total area of 45.5 ares was examined. The method used involved the removal of ploughsoil using a bulldozer and the cleaning of the entire site surface. Archaeological features appeared most often directly under the topsoil against the background of the sloping natural subsoil, which in the majority of the sites was heavy till.

1.2. Location and extent of the BKC settlement

Site 3 at Żegotki is located on a small moraine headland with an S and S-E exposure, distinguished on the northern slope of the extensive valley of an unnamed stream connecting the Pakoskie and Gopło lakes (Fig. 1). On the west, the site is directly adjacent to Site 5, and on the east to Site 2. Excavations indicate that the extent of the site determined during field walking was arbitrary and distorted, as it considered field boundaries and terrain configuration rather than the occurrence of archaeological features. Especially since this area was settled multiple times, starting from the early Neolithic (LBK) period and continuing through the Roman influence and the Middle Ages. The surface of the site is covered with black soils on a substrate of heavy moraine clays (locally – in a small section in the western part – sands).

Traces of settlement of the Brześć Kujawski culture were among the most numerous at the site, continuing eastwards-already within the Żegotki 2 site-for another 170m. The total length of the zone of occurrence of the BKC objects, counted from west to east, was approximately 520 m. This, depending on the assumed width (*e.g.*, 100 to 200 m), allows us to estimate the area of development within the range of 5 to 10 ha. Over the last 25 years, three attempts have been made to determine the range of longhouses at the discussed site using aerial photography (*cf.*, Czerniak *et al.* 2003). However, due to the strongly clayey substrate and the dominance of root crops, it was only in 2023 that it was possible to photograph two houses located about 100 m south of the excavation line (the research was carried out by Michał Jakubczak, whom we thank for providing the results). This suggests that the BKC development area reached the lower edge of the valley slope (approximately 100 m south of the excavation) and, considering the slope's shape, it could also have extended about 100 m in the opposite direction, resulting in a total width of up to 200 m. In this article, we present only the features from Site 3 (Fig. 2). The outlines of the foundation ditches of 16 longhouses, 77 accompanying utility pits, and five graves were uncovered.

1.3. Development of site layout

The layout of the houses and their accompanying structures presents a typical picture of the development of settlements of the Brześć Kujawski type, characterized by the relatively compact occurrence of longhouses in the form of clusters, most often in pairs distinguished by the parallel arrangement of side walls and often also by the location of the rear gable walls in one line (*e.g.*, Houses C1 – C24; C153 – C155; perhaps also Houses C35 – C51). Despite the considerable density, no overlapping of houses is observed, a characteristic of settlements at Krusza Zamkowa, Brześć Kujawski and Osłonki. This may indicate that the examined excavation did not cut through the central part of the village, or that we are dealing with a very uniform system of building a later (successive) house next to an older one. Both hypotheses are equally probable, although the relatively small size of the

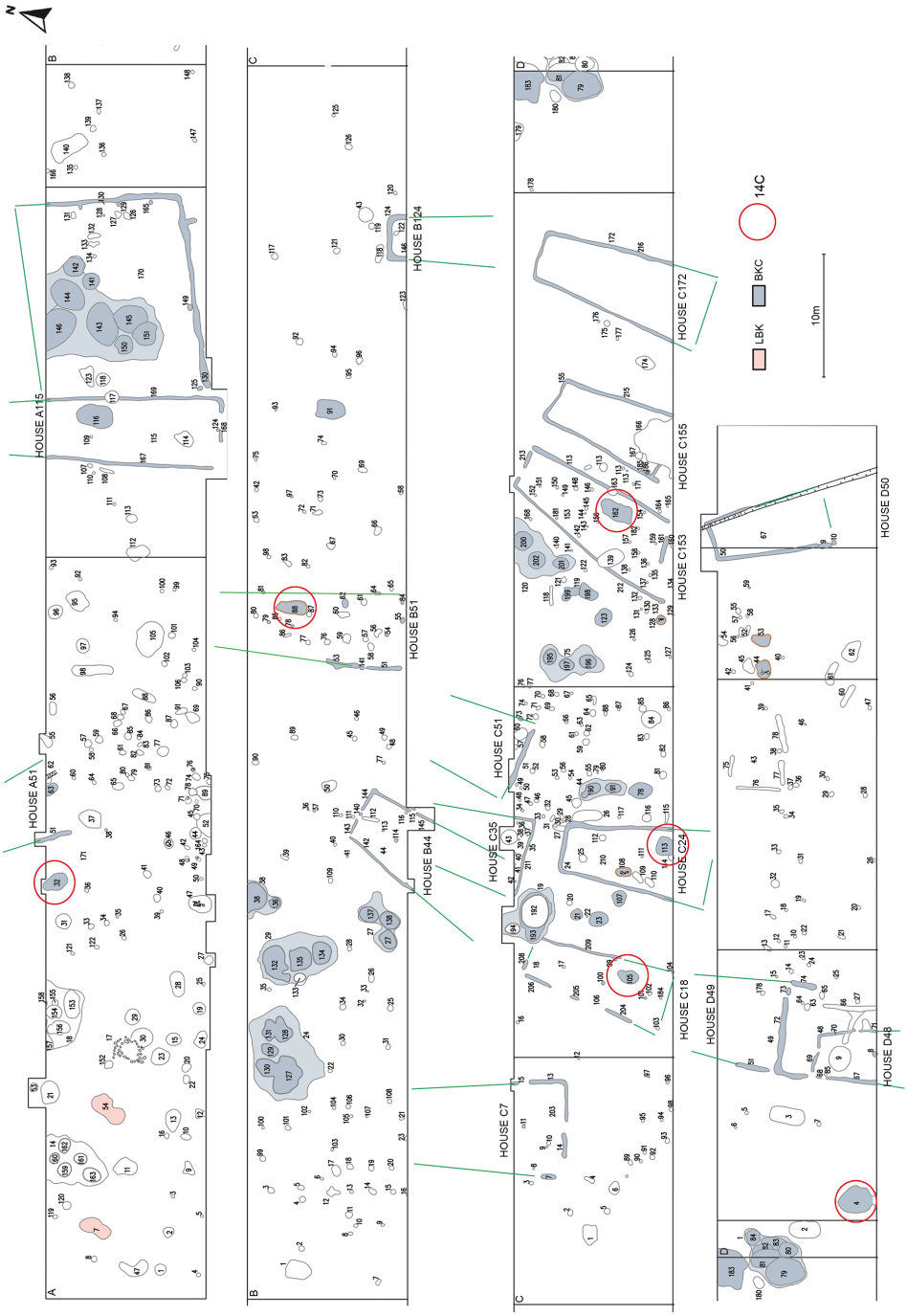


Fig. 2. Żegotki, Strzelno commune, Site 3. Layout of the structures in the excavation. BKC features are marked in grey (in the case of clay pits, different shades of grey); the red border inside the feature indicates a BKC grave. Green lines suggest the further course of the foundation trenches

houses, more often found on the outskirts of the development, speaks in favour of the first one. Out of 16 houses, full dimensions could be determined for six (*ca.* 37% of the total), which are within the range of 10-15 m in length and their area does not exceed 80 m^2. This means that they belong to the category of the smallest houses in the BKC, the percentage of which in central settlements oscillates around 20% (Czerniak and Pyzel 2016). There were also larger houses, as indicated by the size of the front wall (Houses A115, C35, C51, C7 and D49 or the back wall (House B44). House A115 deserves a separate mention, distinguished by the adjacent fence closing off a large space of unspecified function. A similar house with a fence occurs on the eastern edge of the settlement at Brześć Kujawski Site 4 (House 12: *cf.*, Grygiel 2008), which can be interpreted as a central house in relation to which the remaining houses were located, creating a radial layout. In this case, it is not so; however, the large size of the house and the enclosure indicate a unique function.

Out of eight houses uncovered in suitably large sizes, five had internal cellars. The second characteristic element of the house surroundings are clay pits (sometimes used as garbage dumps) located most often in the vicinity of the rear (NW) gables of the houses, and exceptionally on the eastern or western side. A well was uncovered in the vicinity of Houses D48-49, which could have served a communal function.

At Site, five graves and one ceremonial pit (A32) were recorded. The latter had a significant accumulation of animal bones and was located near the SW corner of House A51, similarly to Grave C128 at House C153. Grave B88 was placed in the cellar of House B51, and Grave C108 was located inside House C24, parallel to the western wall. The latter grave was likely associated with House C18: the younger of the pair of Houses C18-C24, and was placed inside the older house (C24) as the ancestral home. In one grave (Feature D44), traces of green discolouration of some parts of the skull were observed, which proves the presence of copper ornaments dissolved by humic acids.

1.4. Features selected for radiocarbon dating

The optimal dating program for Żegotki Site 3 should include sampling from: (1) at least all cellars located inside longhouses, as features clearly associated with the houses, (2) all graves, and (3) other objects important due to their function and high artefact content – unfortunately, not all features meeting the above criteria contained 'safe' bone samples. Considering the limited financial resources, we ultimately selected only six samples from the features described below.

Feature A32. Located at the SW corner of House A51, on the western edge of the settlement. The connection with House A51 is evidenced by its location in the area of the entrance to the house, similarly to, for example, Grave C128 at House C153. It could probably have served a ritual function as a sacrificial object or a pit in which the remains of a feast were deposited. In the fill of the feature, in addition to two layers of bones, there was also a clear layer of burnt material. It yielded 276 pottery fragments, 127 flints, 44 fragments of

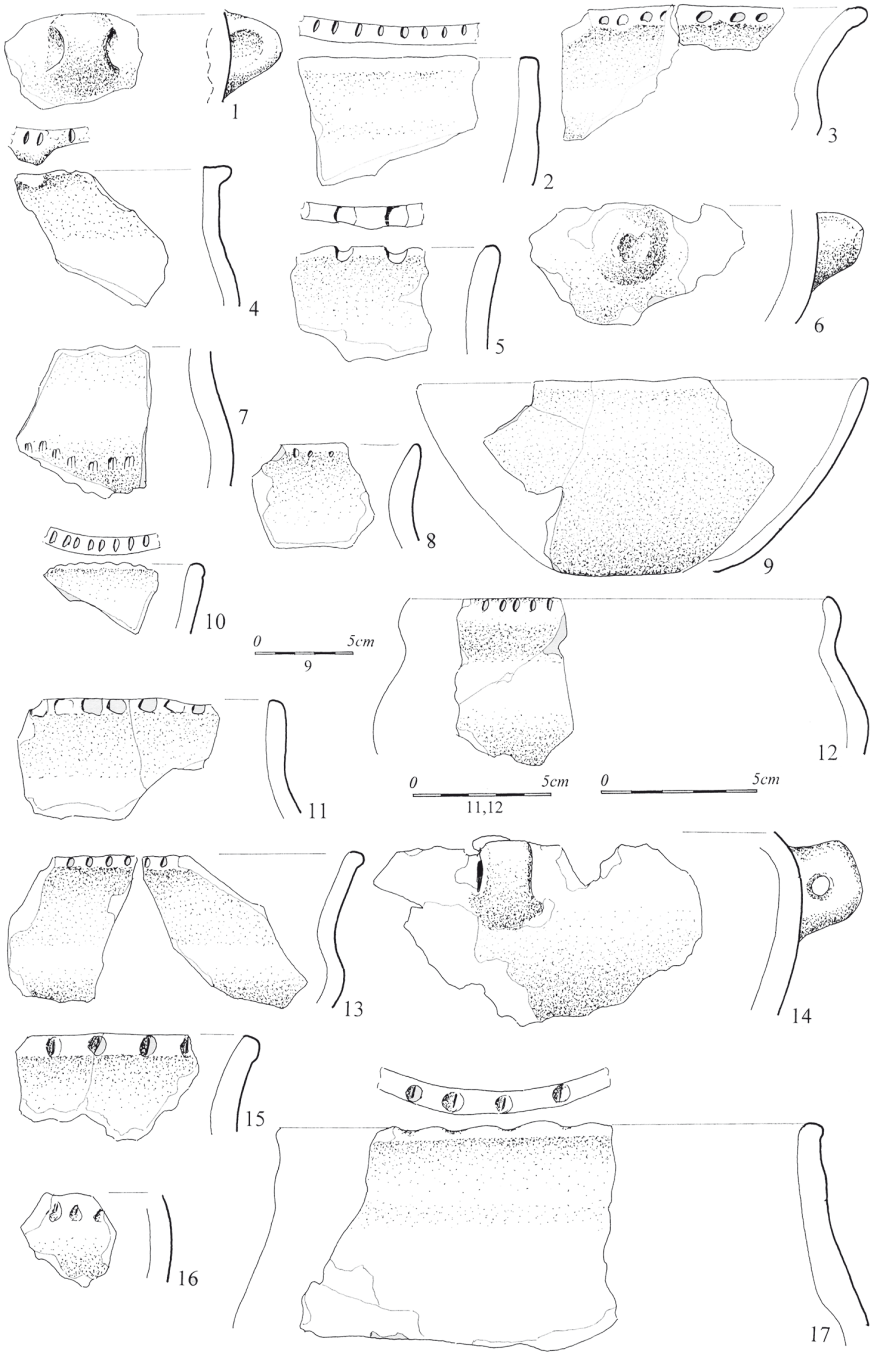


Fig. 3. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature A32 (House A51)

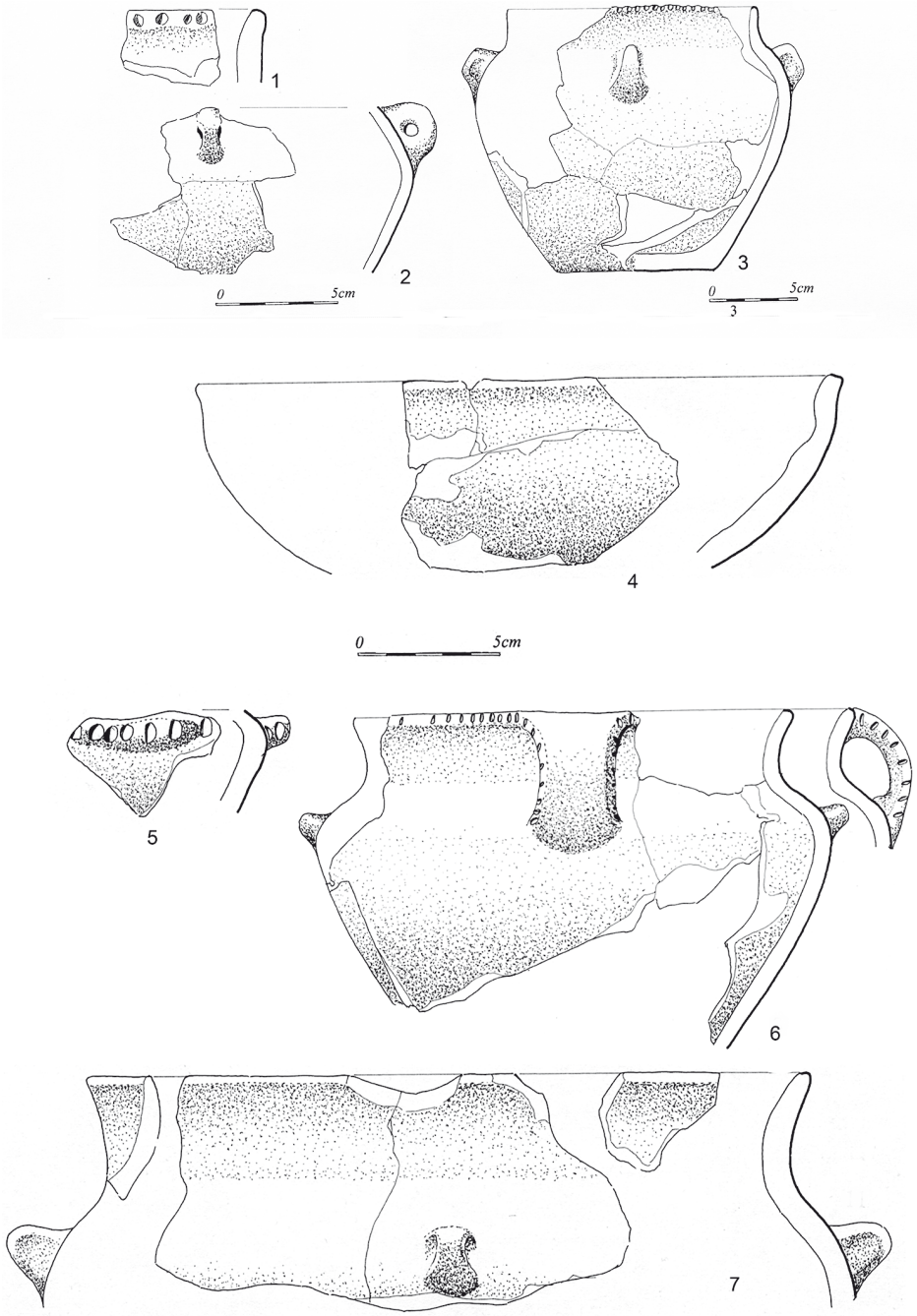


Fig. 4. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature B88 (House B51): 1-2 pottery from the cellar filling; 3 – vessel deposited as a grave good. Feature B91: 4-8

clay and as many as 586 animal bones. In addition, five beads, a grinding plate and two awls were discovered. This feature has the oldest radiocarbon date among those from this site (95.4% probability: 4331 BC (52.7%) 4219 BC), and the ceramic style can be quite clearly assigned to phase IIb (the oldest) of the BKC (*cf.*, Czerniak 1994). This is evidenced by bowls with a sharp profile (Fig. 3: 3, 13), conical bowls (Fig. 3: 9), a knob/lug with a depression instead of an opening (Fig. 3: 1), and horizontal edge corrugation in the form of incisions.

Feature B88. This was probably an inhumation grave, as evidenced by small fragments of long bones and a fragment of a human spine found in the fill. Perhaps an almost entirely preserved clay vessel (Fig. 4) was a grave offering. However, the nature of the fill itself suggests a utility pit, or perhaps even a cellar of a longhouse, which has not yet been designated on the site plan. Animal bones were selected for dating this feature because the condition of the human bones was poor. The total inventory of this feature consists of 97 fragments of pottery, six flints, 17 fragments of clay, 110 animal bones, a pestle and a stone grinder.

Features C105 and C113 are internal cellars of Houses C18 and C24, respectively. We discuss them together because the houses form a pair of successive buildings, and dating both cellars gives a chance to verify the hypothesis of the sequential functioning of both houses. Indirectly, an analysis of the time separating the two houses may be an indication of the length of use of a single house. House C24 was older, as indicated by radiocarbon dating, but also by the presence of a C108 Grave inside, in which one can assume a burial was made after (or during) its abandonment by the inhabitants of the successor House C18. Both houses have rear gable walls (NW) in a line and parallel side walls. House C24 had a more solid foundation trench and was slightly wider. This may suggest that it was longer than House C18 and that their front walls did not form a line, similarly to the neighbouring pair of Houses C153-C155 to the east.

The radiocarbon dating of both houses is difficult to verify because the cellar C105 (House C18) contained only eight pottery fragments and 11 animal bone fragments. This is a significant inconvenience, because the radiocarbon date suggests that it may have been one of the latest houses on the site. The older cellar (C113) contained 88 fragments of ceramic vessels, a grinding plate, a pulper and 71 animal bones. The pottery assemblage represents an average collection of ceramics, in addition consisting mostly of rather banal forms, among which a sharply profiled bowl (Fig. 5: 4) with an undecorated rim and a bent belly stands out. Generally, on this basis, this house can be dated to phase IIIa BKC.

Feature C162. This is the cellar of House C153, which forms a pair with House C155. This is evidenced by the alignment of the rear gable walls, the parallel arrangement of the side walls and the similar (but quite unique in its form) construction of the front wall. In the discussed feature, 38 fragments of pottery, nine flints, a tubular bone bead and 273 animal bones were discovered. Unfortunately, House C155 had no cellar, and its surroundings lacked other pits that would have allowed for radiocarbon dating and stylistic dating of the

pottery. In this situation, there is also no point in considering which of the two houses was older. Generally, it should be stated that the pottery from feature/cellar C162 and the accompanying clay pits (C120, C200-201-202 plus C123, C198-199) can be dated within the relatively broad framework of phases IIIa-IIIb (Fig. 6).

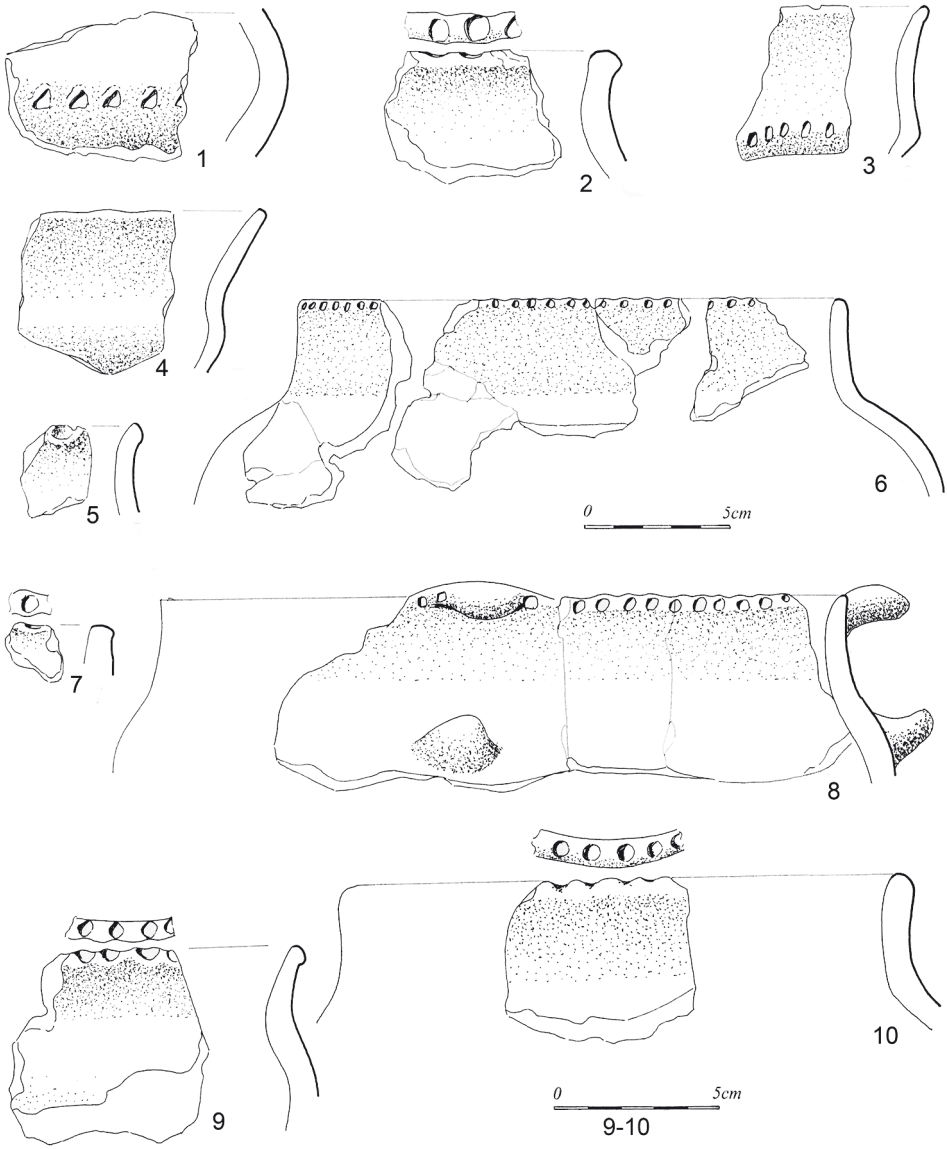


Fig. 5. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature C113 (House C24): 1-7. Feature C107: 9, 10

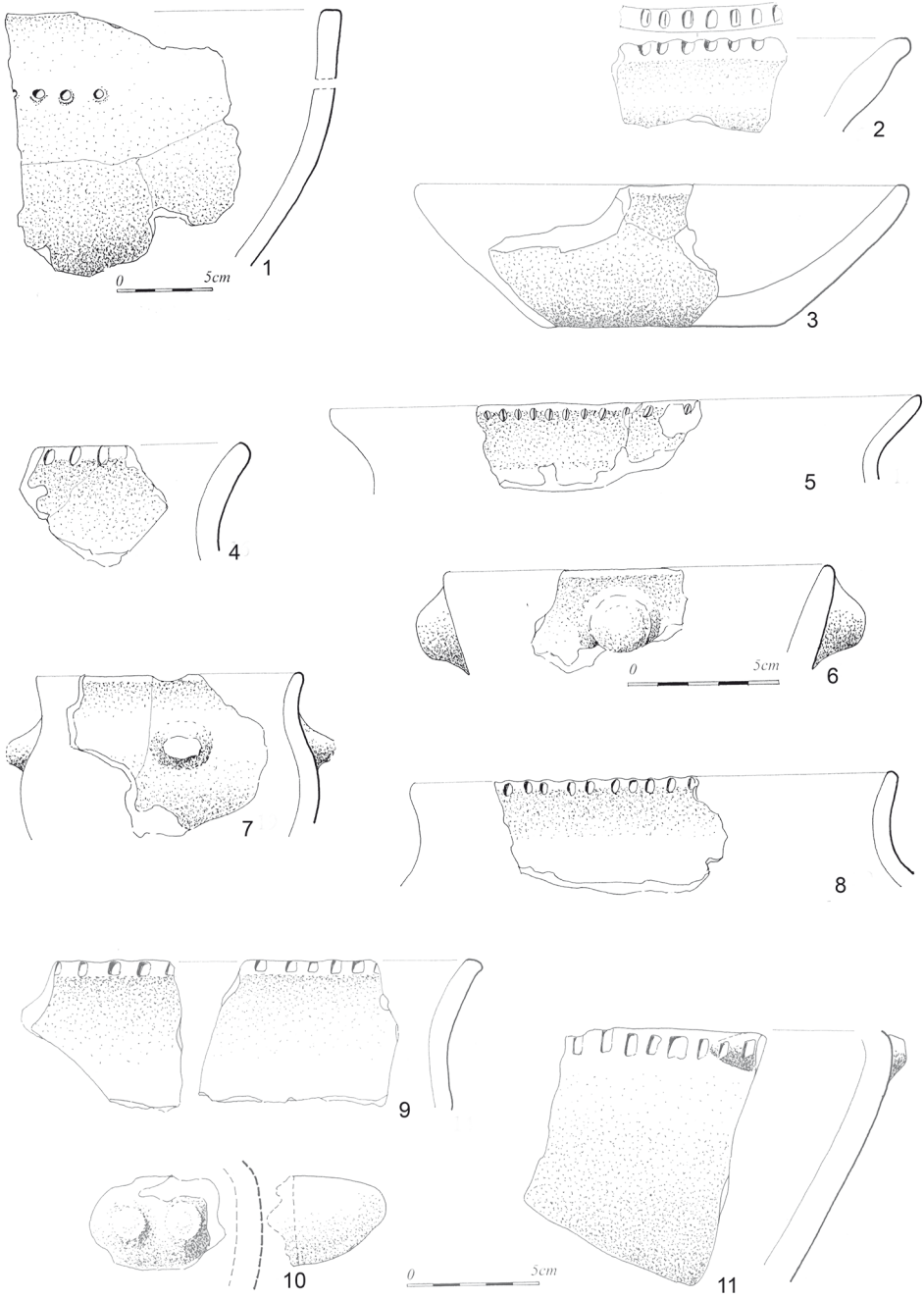


Fig. 6. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature C162 (House C153): 1-2. Feature C200: 3-10, 12. Feature C195: 11, 14. Feature C202: 13, 15

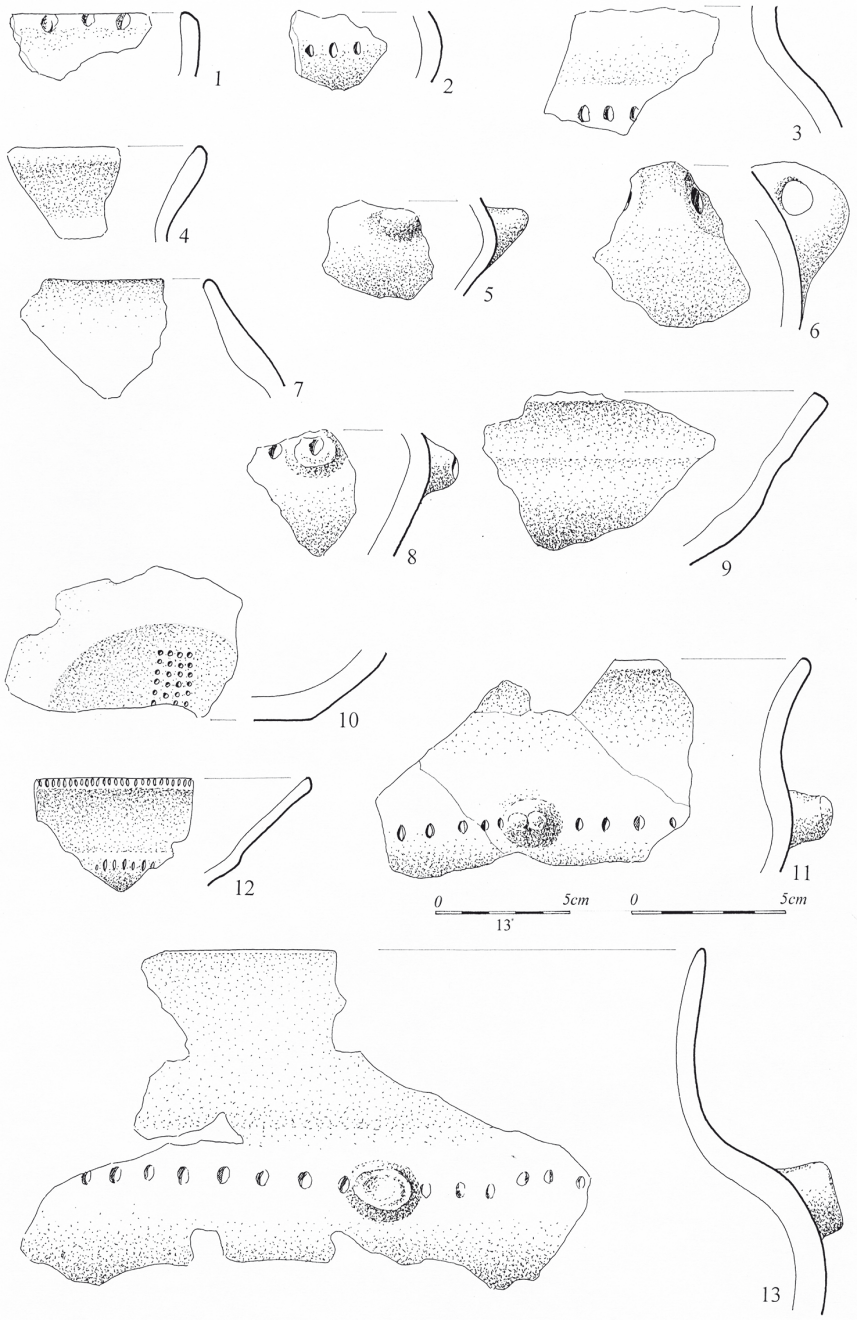


Fig. 7. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature D4 (well, probably House D49)

Feature D4 is a well, probably a communal one, but its location indicates a connection with House D49, of which only the front wall was examined. Its form and dimensions suggest that a high-ranking household inhabited it. Unfortunately, the well was examined only to a depth of 3.1 m from the ground surface, where a very intense outflow of groundwater occurred, threatening the collapse of the excavation walls. In the excavated part of the fill, 33 fragments of pottery, three flint tools and 47 animal bones were discovered. Among the pottery, generally not very characteristic, a bowl with a sharp profile, stylistically referring to the older phase and classic BKC (IIIa?, Fig. 7: 12), stands out.

2. Radiocarbon dating, calibration and chronological modelling

The Bayesian chronological modelling has been undertaken on the collected dates using OxCal 4.4 (Bronk Ramsey 1995; 2009), analysing two hypotheses. Firstly, to obtain dates for two Houses: C18 and C24. They form a pair built sequentially (with C24 being older than C18) by descendant groups from the same household, which allows us to establish how long a period of time could have separated the construction of the two houses. Interval modelling suggests that the probable time difference in the use of the houses was around 95 years (sigma 109.025; Fig. 8). Given the very short sequence, Bayesian modelling has allowed us to narrow down the time of use of both features slightly. Feature C113: from 4326-4052 cal. BC to 4322-4051 cal. BC and feature C105: from 4230-3977 cal. BC to 4227-3980 cal. BC (Fig. 8).

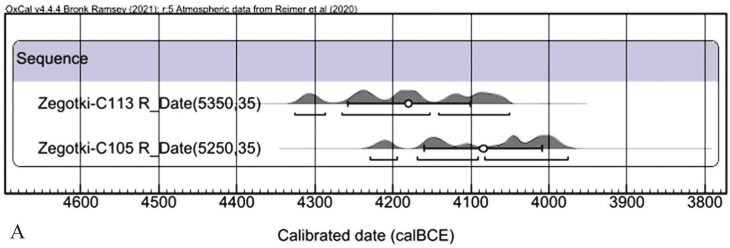
Secondly, based on all the dates, we attempted to establish the time frame for the functioning of the settlement (more precisely: its examined fragment) by adopting the following assumptions in the relevant model: (1) feature A32 (*i.e.*, House A51) is the oldest in the entire sequence studied in terms of its ceramic style, (2) features C113 and C105 (*i.e.*, Houses C24 and C18, respectively) are later than Feature A32 and between themselves they form the sequence described in the previous paragraph, (3) the remaining dated features (B88, C162 and D4) are later than Feature A32, but based on stylistic features it can be suggested that they are contemporary with Feature C113 and therefore (since C113 is older than C105 within the pair of houses) older than C105. In other words, we have the following chronological sequence:

A32 (oldest)

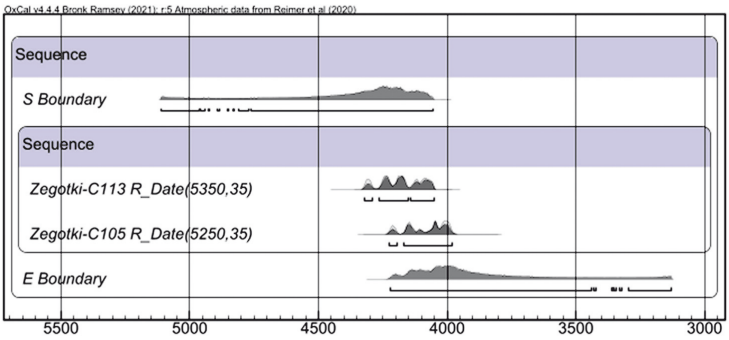
C113 – B88 – C162 – D4

C105 (latest).

Summarising, in light of the dating of six features from the Żegotki 3 site (Fig. 9), the BKC settlement began functioning around 4392-4064 cal. BC (95.4% probability) or 4294-4087 cal. BC (68.3% probability) and ended 4229-3900 cal. BC (95.4% probability) or 4160-3982 cal. BC (68.3% probability). Considering the difference between these dates, it can be assumed that the functioning of the BKC at the Żegotki 3 site lasted 163-492 years (95.4% probability) or 134-312 years (68.3% probability).



A



B

Fig. 8. Żegotki, Strzelno commune, Site 3.
Results of chronological modelling – two Houses (C24 and C18)

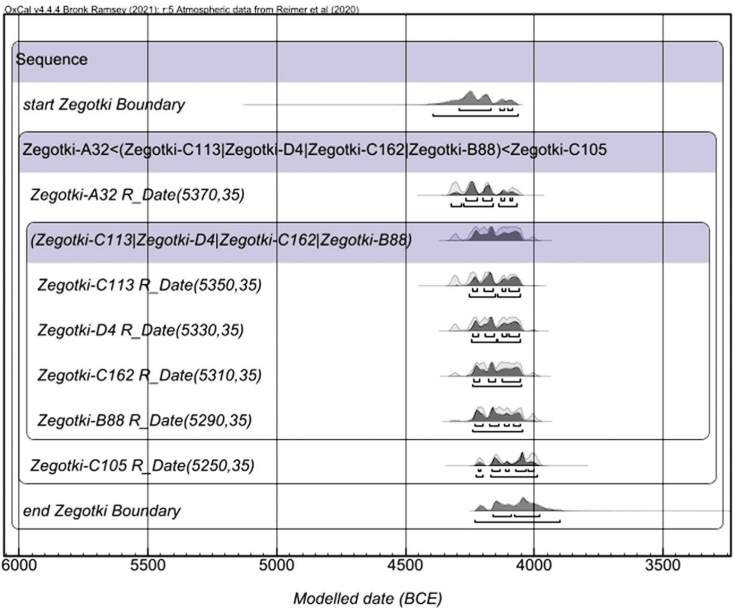


Fig. 9. Żegotki, Strzelno commune, Site 3. Results of chronological modelling of the settlement

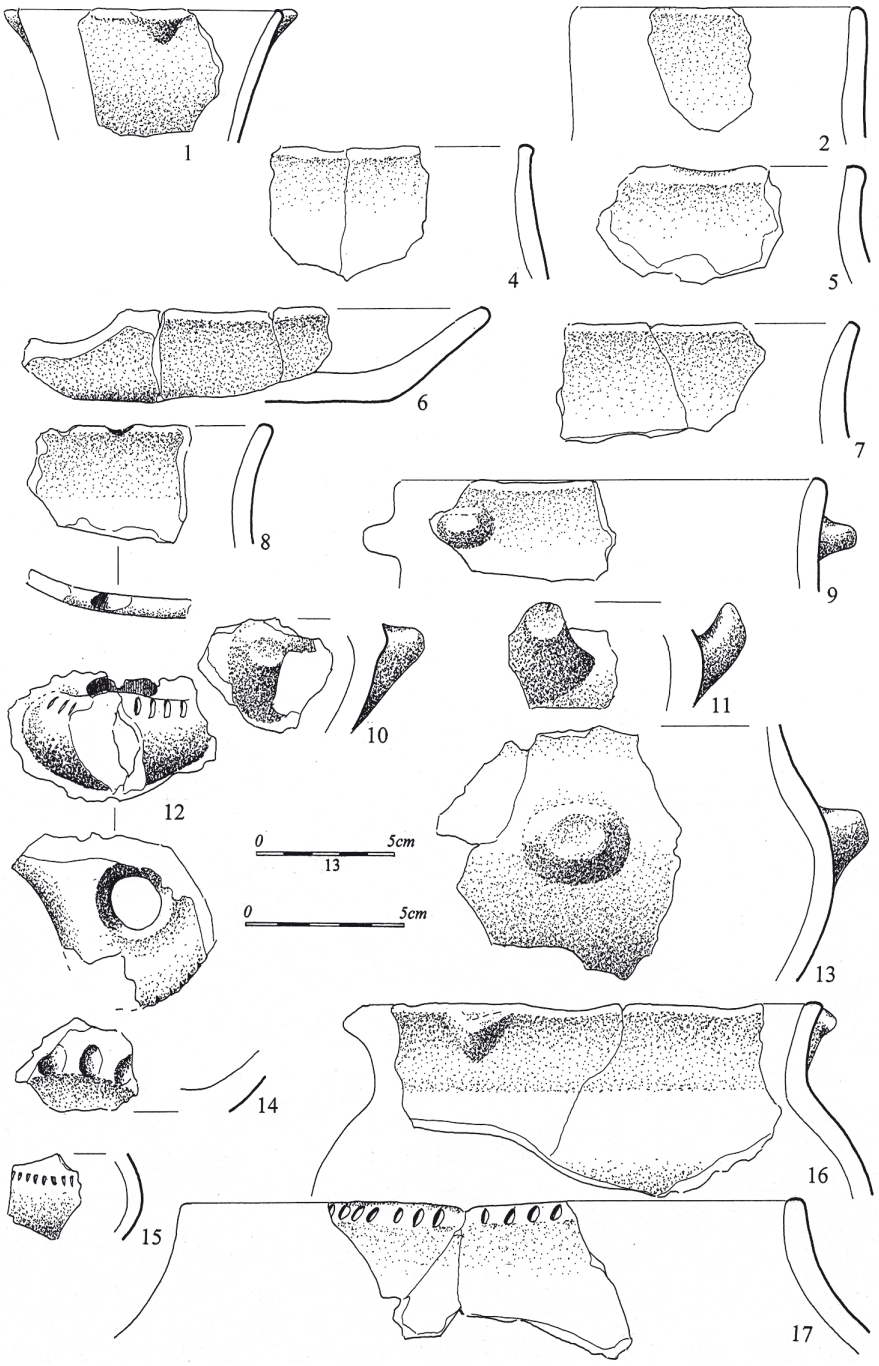


Fig. 10. Żegotki, Strzelno commune, Site 3. Selection of the BKC pottery. Feature B24 (House B44)

The presented dating results are very close to the dating of the settlement in Osłonki (Budd *et al.* 2020) and the general dating of the BKC in Kuyavia (Czerniak *et al.* 2016). There is little doubt that we are dealing with a multi-phase development. This is evidenced by the different orientations of the houses in relation to the cardinal directions, as well as by locational collisions. For example, it seems evident that House D48 could not have functioned contemporaneously with House D49 because it would have blocked the entrance. Houses C24 and C35 create a similar situation. There are also pairs of houses, the relationships of which we discussed earlier. However, the question is to what extent the dated features are representative of the entire settlement, as well as from the perspective of the chronological differentiation of the BKC pottery.

Using the criterion of typo-chronological dating of pottery, two reservations can be made. Firstly, pottery from features associated with House B44, from which we do not have dates (Features B24, B29: Fig. 10), may be slightly older than Feature A32 (the oldest within the dated sequence). Therefore, it is not possible to rule out obtaining slightly older dates, closer to the date of 4350 cal. BC (possibility that the site is older than the oldest dated feature is visible on the plot based on Bayesian modelling) considered to be the initial date for the BKC (Czerniak *et al.* 2016). Secondly, we do not observe the stylistic features of pottery typical of the final phase of the BKC among the examined archaeological features, despite obtaining dates consistent with the final phase of the BKC. It should be emphasised, however, that the clearly late stylistic features occur relatively rarely, and the latest phase of the BKC was distinguished primarily based on technological features (Czerniak 1994).

Table. 1. Żegotki, Strzelno commune (site 3).
Sample characteristics and radiocarbon dating results

Feature no.	Species	Element sampled	Collagen yield (%)	C (%)	N (%)	$\delta^{13}C$ ‰	$\delta^{15}N$ ‰	Lab ID	Radio-carbon age BP	Cal BC (95,4%)
Żegotki 3_A32	Pig	Humerus	7.4	6.5	2	-20.4	8.2	Poz-179621	5370±35	4331 – 4056
Żegotki 3_C113	Cattle	Metacarpus	5.6	9.7	2.9	-20.3	5.6	Poz-179474	5350±35	4326 – 4052
Żegotki 3_D4	Un id. (big mammal)	Un id.	3.6	7.9	2.3	-20.2	6.8	Poz-179473	5330±35	4317 – 4049
Żegotki 3_C162	Cattle	Ulna	3.3	6.2	1.3	-20.4	5.8	Poz-179622	5310±35	4311 – 4000
Żegotki 3_B88	Pig	Cranium	1	4.7	0.8	-20.5	7.8	Poz-179476	5290±35	4241 – 3993
Żegotki 3_C105	Sheep/ goat?	Mandible?	0.9	5.2	1.2	-19.4	5.6	Poz-179475	5250±35	4230 – 3977

Table 2. Żegotki, Strzelno commune (site 3). Chronological modelling results. Assumptions (applies to features with radiocarbon dates): 'Żegotki-A32' is stratigraphically the earliest. 'Żegotki-A32' precedes 'Żegotki-C113', 'Żegotki-D4', 'Żegotki-C162', and 'Żegotki-B88', which are contemporaneous. They precede 'Żegotki-C105', which is stratigraphically the latest

Name	Unmodelled (BCE/CE)				Modelled (BCE/CE)			
	from_ 68.3	to_ 68.3	from_ 95.4	to_ 95.4	from_ 68.3	to_ 68.3	from_ 95.4	to_ 95.4
start Żegotki Boundary					-4303	-4089	-4394	-4063
Żegotki-A32 R_Date(5370,35)	-4325	-4072	-4331	-4056	-4264	-4083	-4323	-4067
Żegotki-C113 R_Date(5350,35)	-4316	-4064	-4326	-4052	-4240	-4060	-4251	-4052
Żegotki-D4 R_Date(5330,35)	-4241	-4060	-4317	-4049	-4237	-4059	-4245	-4052
Żegotki-C162 R_Date(5310,35)	-4232	-4055	-4311	-4000	-4235	-4056	-4239	-4052
Żegotki-B88 R_Date(5290,35)	-4228	-4049	-4241	-3993	-4232	-4054	-4239	-4047
Żegotki-C105 R_Date(5250,35)	-4219	-3987	-4230	-3977	-4215	-4000	-4225	-3989
end Żegotki Boundary					-4160	-3985	-4229	-3901

SUMMARY AND DISCUSSION

The fragment of the settlement examined at Żegotki can be assessed as small in relation to its estimated overall size. On the other hand, the obtained sample area, measuring 357 × 13 m, covered its entire length, revealing 16 longhouses and was located near the central part of the settlement, within which the occurrence of buildings from all periods of use is most likely. In other words, both the framework of the absolute chronology of the functioning of the settlement at Żegotki and the typochronological features of pottery, which are comparable to observations in other well-dated BKC settlements, can be considered valuable material for verifying hypotheses concerning the chronology of the central BKC settlements. This material, similar to the dating of features from sites such as Osłonki, Racot, Krusza Zamkowa, Kruszynek Site 6, Dubielewo Site 8, and Bodzia Site 1, proves that the residential development of BKC settlements in the form of long houses functioned within the chronological framework of 4350-4000 cal. BC.

Referring to the discussion on the chronology of the Brześć Kujawski culture, it is necessary to consider what features should be taken into account as a criterion for recognising the beginning of this culture. The traditional criterion is the stylistic changes in pottery, which in this case (*i.e.,* in the LBPC-BKC sequence), can only be described as a process of gradual transformation. An arbitrary boundary can be assumed, marking the transition

from the use of the style of stroked pottery to the increased importance of Lengyel culture features. This is a dilemma that is well expressed in the discussion on the interpretation of Phase IIa and IIb of the LBPC (see Czerniak 1994 and later analyses: Czerniak 2018), and is probably the key to understanding the differences in the dating of the beginning of the BKC around 4600/4500 cal. BC by R. Grygiel and P. Bogucki (Grygiel 2008) or 4350 cal. BC (Czerniak 2018).

In our opinion, if we were to consider the BKC as a phenomenon of ethnogenetic change (in the meaning presented by Hu 2013; Voss 2014), the beginning of the BKC should be associated with the construction of characteristic longhouses (Czerniak 2018; more broadly: Więcaszek *et al.* in print). Of course, changes in the style of ceramic vessels, like many other features of material culture, also played a significant role in establishing a new identity. However, in their case, it is much more difficult to recognise which configuration of features was 'groundbreaking' and to justify its role in the process of ethnogenesis. Assuming that the construction of longhouses was of groundbreaking importance for the ethnicity of the BKC, we can refer to the phenomenon that Di Hu (2013) lists as one of the necessary conditions for the processes of ethnogenesis: settlement aggregation, mergers, displacements, and migrations, within the context of this change.

The post-LBK period began in the Polish Lowlands around 4800 BCE through the merger of several cultural groups and the emergence of a community that was characterised by a much more dispersed settlement and only sporadic appearance of longhouses, mostly built as semi-dugouts (Czerniak 2018). The emergence of the BKC was characterised by agglomeration and stabilisation of settlement, the establishment of large central settlements with which smaller satellite hamlets cooperated. However, the most emblematic element of the BKC were long, trapezoidal houses, which must have stood out significantly in the landscape occupied by the BKC, which included the areas of Kuyavia, Paluki, Chełmno Land and Greater Poland.

The role that longhouses played in shaping the identity of the BKC community warrants a closer examination of the process of their introduction, particularly in terms of the pace and accompanying circumstances. This should be served by a radiocarbon dating program that prefers to obtain dates as closely related to houses as possible. This means a preference for dating cellars located inside houses.

An additional aspect of focusing on dating houses will be the possibility of determining how long a single house was used. In the case of the settlement at Żegotki, we determined that Houses C18 and C24 were separated by approximately 95 years. However, it is not known whether the later house was built immediately after the older one was abandoned or after some time had passed. However, examining pairs of houses appears to be a good way to collect data that will enable a more precise interpretation.

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