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BUILDINGS ERECTED WITH UNCONVENTIONAL MATERIALS IN GRAJEWO AND RAJGRÓD COMMUNES, N-E POLAND: RESULTS OF FIELD SURVEYS IN 2021

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Abstract

In October 2021 a series of field surveys were performed in the gminy (communes) of Grajewo and Rajgród in north-eastern Poland, to assess the present-day occurrence of old semi-vernacular buildings that had been made with unique materials or unconventional structures. The secondary objective was to develop and test the best methods of recording such buildings, assuming that they are an important part of the local architectural heritage. Eventually, six rammed earthen buildings and two cordwood masonry houses were found, assessed and recorded. However, the authors failed to find two other cordwood masonry buildings that had been mentioned in earlier writings. Old hollow brick buildings were also found and mentioned as important elements of rural landscape due to their ornamental values.

Streszczenie

W październiku 2021 r. przeprowadzono szereg badań terenowych na terenie gmin Grajewo i Rajgród w północno-wschodniej Polsce, w celu oceny współczesnego występowania starych, semi-wernakularnych budynków, wykonanych z unikalnych materiałów lub niekonwencjonalnych konstrukcji. Celem drugorzędnym było opracowanie i przetestowanie najlepszych metod rejestrowania takich obiektów, przy założeniu, że stanowią one ważną część lokalnego dziedzictwa architektonicznego. Ostatecznie odnaleziono, oszacowano i zarejestrowano sześć budynków z ubitej gliny i dwa murowane domy z drewna sznurowego; ponadto nie udało nam się znaleźć dwóch innych budynków murowanych z drewna sznurowego, o których wspomniano we wcześniejszych pismach. Odnaleziono również stare budynki z pustaków, które ze względu na walory ozdobne wymieniane są jako ważne elementy krajobrazu wiejskiego.

Keywords: cordwood masonry; stackwall structures; rammed earth; N-E Poland

Słowa kluczowe: konstrukcja gliniana; konstrukcje ze użyciem słomy; skrzynie z ziemią; pn-wsch. Polska

INTRODUCTION

For centuries until 1945, the territories of the present-day communes of Grajewo and Rajgród in north-eastern Poland were borderland areas. During the Middle Ages those territories belonged to Yotvingians (Sudovians), later to the State of the Teutonic Order; then to the Kingdom of Poland. While being integrated into the territory of Poland, those areas still bordered on Duchal Prussia (until 1701), the Kingdom of Prussia (1701-1772), and East Prussia (1773-1795). In 1795 those territories were annexed by the Kingdom

of Prussia, then ceded to Tsarist Russia in 1807 (as part of the Duchy of Warsaw, 1807-1815; then Russian Poland, known as the Kingdom of Poland, 1815-1915), while still being adjacent to the Kingdom of Prussia. Annexed into the Second Polish Republic (1918-1939), the territories of the present-day communes Grajewo and Rajgród still bordered on the German East Prussia, then on Nazi Germany until the WW2. From 1939 to 1941 those territories belonged to the Soviet Union, then to Nazi Germany until 1945.

Due to their geographical placement, tangled history and multi-ethnicity,¹ the territories of the present-day communes of Grajewo and Rajgród were influenced by a great multitude of factors and forces that eventually have contributed to their cultural identity. Possibly, such variety of factors also shaped vernacular architecture of those communes, but at the same time, all the political twists and turns hindered orderly research on the subject matter.

Some social and legal factors, including the state advisory influence on vernacular architecture in the 20th century, gave reasons to distinguish a “semi-vernacular architecture” as an important heritage category at the territories that underwent repeated profound political changes and belonged to various political forces throughout the last century. Thus, semi-vernacular architecture is here meant to be just architecture that, after originating as vernacular, has then been evolving as the subject of architects’ improvements, advisory policies, legal directions etc. Assuming that such top-down forces acted stronger on borderland territories, the authors focus on their effects on (semi)-vernacular architectural heritage of Grajewo and Rajgród communes. In particular, the authors have surveyed the surrounding villages to look for old buildings that, while maintaining traditional forms and layouts, had uncommon structures or materials, such as rammed earth, brushwood or cordwood, etc.

1. WHY WERE THEY “SEMI-VERNACULAR”?

Vernacular countryside buildings in these two communes were mostly timber-constructed. Log walls prevailed amongst other structures. But in the 19th century, both Prussian and Russian authorities, as well as intellectual elites, initiated and intensified their campaigns against “flammable buildings”, and the resultant fire protection concepts, fire-proof structures and fire-resisting building materials started to spread slowly amongst the folk. In the Russian Empire and in its Polish dominion, both adobe and rammed earth became advocated in the early 1800s; brushwood-reinforced rammed earth in the 1830s; “sand pisé” or “rammed sand structure” (sand stabilised with 8% lime admixture) in the second half of the century. Since 1895 brushwood-reinforced rammed earth evolved into cordwood masonry, which gained its peak popularity later, in the 1930s, during the 2nd Polish Republic epoch. Also in the 1930s, self-made concrete hollow

blocks became an acceptable alternative. All these structures re-emerged in the 1950s, again.

Before WW2, all such ingenious structures were advocated top-down and usually without much stress on functional and aesthetical changes [see Tuliszkowski, 1927; Niewierowicz, 1930; Piaścik, 1938], except for nationalist architecture movement that promoted alleged “traditional” architectural forms but either opposed timber [see Balicki, 1908] or, on the contrary, opposed timber expulsion [see Szyller, 1915]. Therefore, merging new “top-down-advised” fireproof building materials with old traditional functional layouts of buildings and old aesthetical patterns, became common practice to bring countryside architecture up to date, at least in a sense. The resulting new farmhouses, cowsheds and barns were still vernacular in terms of their layouts, proportions, aesthetics, but not exactly in terms of material or structural pattern. They were neither vernacular, nor polite. They were just semi-vernacular.

1.1. Mid-war period

During the research survey, the authors found only the echoes of the mid-war “top-down-advisory” campaign against timber-constructed buildings. Namely, in a small hamlet Łazarze in the commune of Rajgród, older inhabitants recalled that a number of earthen farm buildings had existed there in the mid-war period but merely two of them have survived until now. These buildings were built in the late 1920s or the early 1930s and their construction was similar to that of the Suwałki region (fig. 1). But, in the region of Suwałki, earthen farmhouses seem vernacular and indigenous, rooted in its landscape at least since the 19th century. Still, in the communes of Grajewo and Rajgród, where timber buildings prevailed, earthen architecture seems a more recent derivative phenomenon, allegedly supported by lower insurance taxes in the mid-war period. Similarly, there also originated a mid-war phenomenon of farm buildings made with hollow bricks adorned with sculptural relief ornamentation. Such a phenomenon covered a much wider area [Choiński, Szewczyk, 2017].

1.2. Post-war state advisory for vernacular builders

After World War II, the communist authorities focused on countryside rebuilding with fireproof materials, advising to use local materials because of transport problems and general supply shortage. There were a number of building manuals for unqualified villagers [see Łukaszewicz, 1946; Piaścik, 1953].

¹According to Franciszek Maksymilian Sobieszczański [Orgelbrand, 1862, p. 435], in 1862 the population of Grajewo was 2,306 inhabitants, of which 1,724 (i.e. 76 %) were Jews.

Some state-licensed building advisors published journal articles in “Budownictwo Wiejskie”, assessing the speed of countryside rebuilding and usage of local fireproof building materials and structures. According to Menandr Łukaszewicz [1958, p. 12], who surveyed the whole region during the first post-war decades, “...buildings rammed in formwork with lime-and-sand mortar, were common in the commune of Grajewo. Numerous examples were found near Guty and Bęczkowo.” “Rammed cob, i.e. rammed clay with straw, reed or other straw-like admixtures, is also a popular structure. It is exemplified by a house of [Mr.] Józef Gwiazdowski in Konopki in the commune of Grajewo, approximately 2.5 km from the town, built in 1958. (...) External walls are 50 cm thick and 3 m high;

the house is 9.80 m long, 7.25 m wide” [Łukaszewicz, 1959, pp. 21-22]. The above-quoted passages referred to the two communes that are also presented in this article.

1.3. Late communist and post-communist eras

The same state-induced stimuli that had encouraged villagers to use local materials for their farm modernisation, later resulted in further changes in forms, materials and structures of newly built countryside buildings, eventually leading to an ultimate replacement of older architecture with new, large brick and concrete farm buildings. Small low-cost cordwood-masoned and earthen barns occurred the most volatile and disappeared from the landscape almost completely.



Fig. 1. A map of Grajewo and Rajgród communes; source: the authors



Rys. 10. Wies Ciemnoszyje, pow. Grajewo. Dom mieszkalny ob. Kozakowskiej ze zrzynek tartacznych układanych na wapie z piaskiem. Wybudowany w 1928 r. w czasie wojny był spalony, ściany jednak nie spaliły się i nie zniszczyły, chociaż połowa domu na zewnątrz tylko zarapowana, w połowie zaś drewnienka nawet nie zarapowane od czasu budowy, tj. od 30 lat, jednak nie uległy zmianie

Fig. 2. A farmhouse made with cordwood in 1928 in Ciemnoszyje; source: M. Łukaszewicz [1958, p. 14]

2. FINDINGS

The specimens found in the region (fig. 1), include cordwood masonry farm buildings, rammed earthen barns and barns built with self-made hollow bricks.

2.1. Cordwood masonry

In Ciemnoszyje, the commune of Grajewo, an old farmhouse was built with cordwood and lime mortar in 1928. Three decades later it was mentioned by Menandr Łukaszewicz [1958, p. 14] (Fig. 2). The authors failed to find it nowadays. Probably, the building was dismantled several decades ago.

Another cordwood masonry farmhouse in Ciemnoszyje was found by Jarosław Szewczyk in 2010 [p. 359] (Fig. 3). Presumably, it was built in the 1930s. According to a villager the authors met during the survey, the building had ceased to exist a few years before.

The authors also verified earlier mentions about an old cordwood masonry house in Rydzewo Kolonia, the commune of Rajgród. The house was in a ruinous state in 2010 [J. Szewczyk, 2010, p. 360-361]. Surprisingly, its ruins still exist (Figs. 4-7). No local villagers were able to provide any detailed information about the house. Assumedly, it was built in the late 1920s and inhabited for over about half a century or less.



Fig. 3. Another farmhouse made with cordwood in Ciemnoszyje; photo: J. Szewczyk, 2010

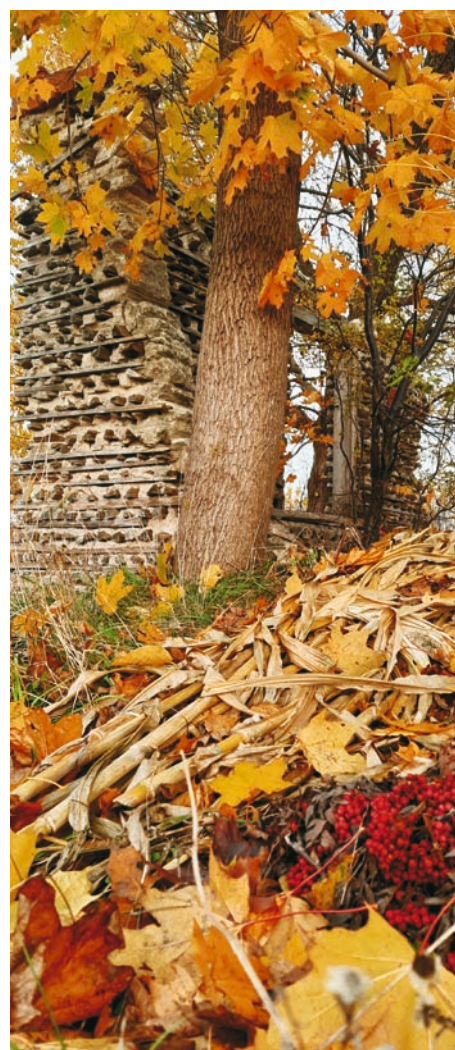


Fig. 4-7. Ruins of a cordwood house in Rydzewo Kolonia; photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 8, 9. Cordwood masonry in Rydzewo Kolonia (wall details); photo: Renata Adamska and Katarzyna Karwowska, 2021

All these cordwood masonry buildings revealed the utmost workmanship perfection of their builders: brick foundations were robust, cordwood items and wooden reinforcing slats were carefully arranged and all the walls were perfectly vertical (Figs. 8-9). Window frames and jams, and door lintels were made of massive timber with their mortise tenon joints carefully carved out (Fig. 10).

According to Menandr Łukaszewicz [1958], cordwood masonry was a popular building method in

the commune of Grajewo in the mid-war period. Supposedly, a number of buildings with cordwood walls still exist, but they are difficult to find because their walls have been plastered. The authors found only one example which had not been described before, namely, a farmhouse in Pieńczykowo (Fig. 11). The building was erected in the 1920s, supposedly by a relatively rich family. Its showy front entrance stairs still witness its past relative glory, if compared to other farmhouses of that time.



Fig. 10. Wall and carpentry details of the cordwood house in Rydzewo Kolonia: (1) door lintel; (2) door header; (3) mortise; photo: Renata Adamska and Katarzyna Karwowska, 2021

2.2. Rammed earth

A dozen or so miles north and north-west away from Grajewo and Rajgród, one could find only several small earthen barns in the past, and farther northwards such type of structure was a bit more common. Still, a few rammed earthen buildings are in existence in the commune of Rajgród (Table 1). In the commune of Grajewo the authors managed to find only one rammed



Fig. 11. A farmhouse made with cordwood in Pierńczykowo; photo: the authors, 2018

earthen farmhouse, although there were a few more buildings of that type in the past.

In Łazarze, the commune of Rajgród, according to locals, there were more earthen sheds in the past. They all were used as tobacco curing sheds, as the local community grew tobacco crops for tobacco industry in Augustów (from 1951). An old tobacco shed in Łazarze 26 now serves as a bakery of *sękacze* (*sękacz* is a type of *Baumkuchen* cake, claimed to be a regional cake; Figs. 12-13).

Another old earthen barn in Łazarze, although not plastered, still remains in a quite good technical condition (Fig. 14). Its walls were constructed with three to four horizontal courses of earthen mortar. The mortar consisted of substantial amount of chopped straw and earth just dug from the site with no transport needs. Both these earthen sheds were built in the early 1950s.

About a kilometre north-east away from Łazarze there is a small hamlet Kosyły. Amongst its buildings there is another rammed earthen barn (Fig. 15), but rather in a ruinous condition. Its walls were erected in the 1950s with four courses of rammed earth mortar, each approximately 50 cm thick.

Yet another earthen barn still exists in Kołaki. Its walls are all earthen, except for the western gable wall, partly brick-masoned. Curiously, this western part of the building was used as a farmhouse in the past (Fig. 16).

The most interesting old earthen farmhouse was found in Konopki Kolonia (Fig. 17). It is the oldest one, allegedly built in the 1930s. Currently uninhabited, it has still retained its floral stencils on some of its walls (Fig. 18). The walls were plastered in various

Tab. 1. Rammed earthen buildings

id	address	original type	changes	construction date
The commune of Grajewo				
2.2.1	Konopki Kolonia	small farmhouse	an extension attached in the 1970s	the 1950s (+1970)
The commune of Rajgród				
2.2.2	Kołaki	farmhouse with a barn adjoined	now uninhabited	approx. the 1930s
2.2.3	Kosily 33	barn	partially dilapidated	approx. 1925-1927
2.2.4	Łazarze 26	originally, a tobacco curing shed	now a bakery of sękacze	the 1930s
2.2.5	Łazarze 27	shed (mini-barn)	no changes	the 1930s

Source: prepared by the authors



Fig. 12. An old tobacco curing shed made with rammed earth, in Łazarze 26;
photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 13. The old tobacco curing shed inside (now a bakery), in Łazarze 26; photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 14. An old rammed barn shed in Łazarze 27; photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 15. An old rammed earth barn in Kosily; photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 16. An old rammed farm building in Kolaki; photo: Renata Adamska and Katarzyna Karwowska, 2021



Fig. 17. An old farmhouse made with rammed earth, in Konopki Kolonia; source: the authors, 2021



Fig. 18. Stenciled walls in the earthen farmhouse in Konopki Kolonia; source: the authors, 2021



Fig. 20. Wall plaster in the earthen farmhouse in Konopki Kolonia (outer plaster above; inner plaster below); source: the authors, 2021



Fig. 19. Stenciled wall in the earthen farmhouse in Konopki Kolonia; source: the authors, 2021



Fig. 21. Grain storage in the former main room in the earthen farmhouse in Konopki Kolonia; source: the authors, 2021



Fig. 22. Hollow brick walls in various villages in the communes of Grajewo and Rajgród: Brzozowa Wólka, Łosewo, Białogrądy, Ciemnoszyje, Flesze, Łosewo, Kolonia Sojczyn Borowy (g, composed with stone and brick masonry), Turczyn (h) - a collection of photos taken in 2012-2022

manners: the external side of the wall was plastered with thick two-layer plaster fixed with ceramic shells and stones (Fig. 20: upper photo), whilst the inside three-layer plaster was fixed with a reed mat (Fig. 20: lower photo). These days, the main room of the farmhouse in Konopki Kolonia serves as a granary (Fig. 21).

2.3. Hollow bricks

From the 1930s to the 1970s, in Ciemnoszyje, numerous barns as many as a few dozen stables and even a few farmhouses were erected with self-made hollow bricks. About 60 per cent of them have until now ceased to exist, but there are still many interesting specimens of that simple structure in existence. Simi-

larly, old barns with hollow brick walls were in existence in other villages in both communes. Their landscape value refers to their aesthetics, because self-made hollow bricks were often ornamented², thus adding pattern coverage to walls and building façades. When old and covered with lichens, hollow brick walls gain unique ambience.

A few decades ago, in the 1980s and the 1990s, in both communes of Grajewo and Rajgród, there were many more buildings that had been built with self-made hollow bricks. The recent profound change in rural landscape and architecture has led to annihilation of many of these structures; nevertheless, numerous villages still abound in such objects or their picturesque ruins. Amongst them there is a small tobacco curing shed in Pieńczykowo. The shed was made with ornamented hollow bricks in the 1960s.

DISCUSSION

As shown in figure 23, according to the 1921 census [Sochaniewiczówna, 1928, p. 91], from 1 to 5% buildings were constructed with clay on the territories of the present-day communes of Grajewo and Rajgród, against a background of surrounding communes in mid-war Poland where only 1% of buildings (or less) were made with clay or earth. This proves that earthen buildings in both communes, while neither prevailing nor quite common, had been known before that time. After 1921, there appeared some other consecutive stimuli towards buildings with earth and other cheap local materials; namely, they reflected the period of the Great Depression in the 1930s, mid-war governmental campaigns against fires and against flammable buildings (including lower insurance rates for clay-constructed buildings), WW2 damage with subsequent rebuilding efforts, and the post-war governmental “top-down-advisory” towards cheap substitutes of traditional building materials and towards local materials usage in the countryside as a remedy for general supply shortages in construction industry.

CONCLUSIONS

In the past, both the communes Grajewo and Rajgród were known for their farm buildings made with unconventional materials, such as stovewood, earth, straw and hand-made hollow bricks, the latter being vividly ornamented. Although earthen and stovewood

² Sometimes, cinder concrete was used to produce hollow bricks. Usually, such cinder bricks, „żżaki”, were not adorned. Cinder concrete walls, being unadorned and darker than common hollow brick walls, were plastered instead.

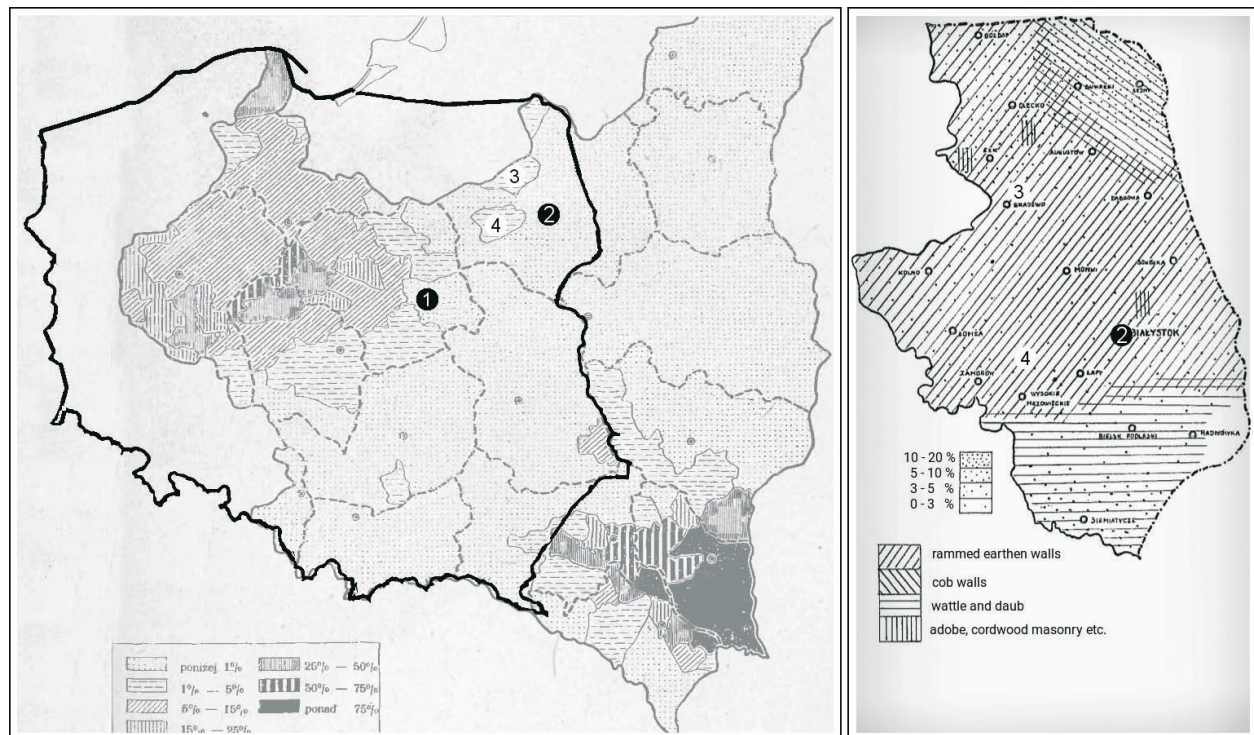


Fig. 23. Left: communes of Grajewo and Rajgród (area no. 3) against the background of a map of earthen architecture prevalence in mid-war Poland (grey hatched background; source: J. Sochaniewiczówna [1928, p. 91], based on the 1921 census) and present-day Poland (black outline; 1 - Warsaw; 2 - Białystok; 4 - the surroundings of Wysokie Mazowieckie and Łomża); right: unconventional materials and constructions shares in north-eastern Poland in the 1950s, according to M. Łukaszewicz [1959, p. 21] (the legend was translated and graphics corrected)

structures were not as abundant as in some nearby communes,³ it was rather the co-existence of various unconventional structures that seemed specific for these two communes. Such a statement could be supported both by literature [Łukaszewicz, 1958; Łukaszewicz, 1959; Sochaniewiczówna, 1928; Szewczyk, 2010] and by the authors' field survey findings in 2021 (two cordwood masonry houses, six rammed earthen buildings and dozens barns made with hand-made hollow bricks).

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³ For example, cordwood masonry was more abundant in the communes of Białystok and Łapy; the communes of Suwałki and Sejny were famous for their cob barns; wattle-and-daub construction was widely used in the commune of Rudka south-west of Bielsk Podlaski; rammed earthen constructions were common in countryside near Ciechanowiec; wickerwork walls were known in Plutycze, the commune of Bielsk Podlaski etc.

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CASE STUDY OF AN OLD FARMHOUSE IN OLSZEWO: *PRO MEMORIA*

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Abstract

In 2021, the authors performed a series of field surveys in Podlaskie region, northeastern Poland, looking for culturally significant specimens of vernacular architecture. The search in Brańsk commune (gmina Brańsk) have resulted with finding a small but extremely interesting farmhouse, built some 80 years ago, i.e. in the early 1940s, with the use of locally obtained materials. In this article the authors present their findings; namely, they have documented the unique history and essential features of this farmhouse in terms of its construction, materials, layout, architectural form and adornment. All these aspects also witness a tangled history of the village and its surroundings, as well as intricacies of the local culture. An observed accumulative nature of the house and the uniqueness of its long history attribute the house with moral values of commemoration. Both that reason and the recently-observed rapid deterioration of the house compose a rationale for its documenting.

Streszczenie

W 2021 roku wykonano serię poszukiwań terenowych na Podlasiu. Celem poszukiwań było rozpoznanie zachowanych po dziś dzień cennych przykładów budownictwa ludowego. W rezultacie znaleziono bardzo interesujący obiekt we wsi Olszewo w gminie Brańsk. Ten ponad osiemdziesięcioletni budynek wzniesiono około 1940 roku lub niewiele później z użyciem różnych materiałów miejscowych. W artykule scharakteryzowano go pod względem materiałowo-konstrukcyjnym, rozplanowania, kształtu (formy architektonicznej) i zdobnictwa, rozpoznając w tychże jego cechach wartość unikat. Autorzy stawiają tezę o kulturowej esencjonalności opisywanego budynku jako wieloaspektowo upamiętniającego przeszłość swą formą, konstrukcją i zdobnictwem, przy czym mało który dawny wiejski dom (lub chałupa) równie bogato poświadczał minione zakręty historii. Czynniki te zaważyły na decyzji o jego naukowym opisie, niemniej także postępujące ostatnio techniczne zniszczenie domu dowodzi zasadności przedłożenia tu jego dokumentacji ku pamięci następnych pokoleń.

Keywords: vernacular architecture; farmhouses; local building materials; the Podlasie region; N-E Poland

Słowa kluczowe: architektura wernakularna; budownictwo ludowe; domy wiejskie; budownictwo z materiałów miejscowych; Podlasie

INTRODUCTION

In October 2021, the area of south-western Białystok was included in a field search to find examples of folk architecture. The reason for the search was the acceleration of the transformation of rural buildings observed in recent years, resulting in the complete disappearance in many (if not most) villages in the west of the region of old buildings of traditional construc-

tion and form, not to mention the old architectural ornamentation that had disappeared even earlier. So far, only the eastern part of the Białystok region has not suffered similar losses (and even some villages around Białystok still abound in old buildings), but the west of the region has almost completely lost its pre-modernistic identity.

The authors, aware of these changes, as well as of the fact that the old wooden rural buildings in the study area had already passed away, included in their research also clay, brushwood, stone and cordwood buildings, which, although non-indigenous (because these structures were introduced secondarily here in the second half of the 19th century and in the first half of the 20th century and were promoted and developed until the end of the 1950s), constituted a sort of bridge between the old folk architecture of the region and the new construction and architectural solutions.

The most interesting facility turned out to be an already abandoned dwelling house on the eastern edge of the village of Olszewo¹ in Brańsk commune – a house with a pleasingly traditional form, interesting external ornamentation (reminiscent of the decorative fashion of the early 20th century) and unconventional material solutions, combining the heritage of tradition with the *novum* of the cordwood masonry construction introduced here by 20th-century modernisers. The building's creation was also linked to the tragic twists and turns of history that the house witnessed.

This article presents (and comments on) a selection of synthetic inventory drawings of this building, documenting it for the memory of generations, especially as it has been rapidly deteriorating since it ceased to be inhabited (i.e. since 2008). In anticipation of its imminent passing, its documentation is presented here as source material, perhaps useful for possible future research into local clay building traditions. Factual information about the building was obtained from neighbours and family members of the owners. The information was fragmentary, hence this article provides a critical synthesis of it.

1. ORIGINS OF THE FACILITY

On 13 September 1939, a little over an hour before midnight, a battle between the Germans and the Polish army began near Olszewo. After the nightlong battle, the Polish troops lost about 70-80 people and retreated eastwards, while the village was burnt down. The next day the Germans shot about 50 people, including at least 13 villagers, after which they set fire to the few buildings that had not burned down during the night and retreated. Of all the buildings in Olszewo, only

the smithy building remained, also badly damaged but not burnt down.

That same autumn, three villagers rebuilt small sheds in which they lived with their livestock. It was not until the following years that the buildings began to be rebuilt to a greater extent, not least because of a shortage of building materials. Among the buildings erected at that time was the house to which this article is devoted – a building erected on a large property belonging to a relatively wealthy (for the time) family.²

It was rebuilt on the foundations of an earlier burnt wooden cottage, but using substitute building materials, including finely chopped cordwood logs, brushwood and clay (the choice of building materials was mainly due to their easy availability). However, no reliable information could be obtained as to the year of its reconstruction. It may have been erected only a few years after the village fire, which would be indicated by the careful and thoughtful construction of the house and the external ornamentation used on it. Nevertheless, some of the German wartime equipment (most likely cannons) that remained after the battle was used to build the fence gate. It is therefore possible that the house was also rebuilt quite quickly, probably as early as 1940. Nowadays, it survives together with several other buildings on a rather large plot of land (Fig. 3), but it is no longer used or heated.

2. DESIGN AND MATERIAL

The building rests on a solid foundation of large and carefully coursed stones (Fig. 4). It is likely that an existing foundation from a previous burnt building was used during construction, perhaps reinforcing it. The stone foundation wall, elevated 40 cm above ground level and pierced every metre and a half with drainage pipes acting as sub-floor ventilation, was covered with a thin layer of cement plaster with an imprinted relief ornament in the shape of plant tendrils (such foundation ornamentation had previously been found in small-town and urban construction in the Białystok region).

On top of the foundation rests a rather thick (about 60 cm including plaster) clay wall interlayered with cordwood. Visual inspection of the wall where the plaster has fallen off, i.e. at the jambs, reveals that not only debarked chopped cordwood logs, but also

¹ This village should not be confused with the larger village of Olszewo in Boćki commune, 20 km to the south-east, or with the village of Olszewo in Perlejewo commune, 30 km to the south-west. Olszewo in Brańsk commune is a small former gentry village, not overpopulated (unlike many of the surrounding gentry hamlets), and therefore inhabited by a relatively wealthier population.

² During interviews with neighbours and descendants of the builders of this house, it was not possible to reconstruct an accurate knowledge of local social relations and the position of the family (material and social) in relation to its neighbours, as conflicting, uncertain or incomplete information was obtained. The article provides approximate information.

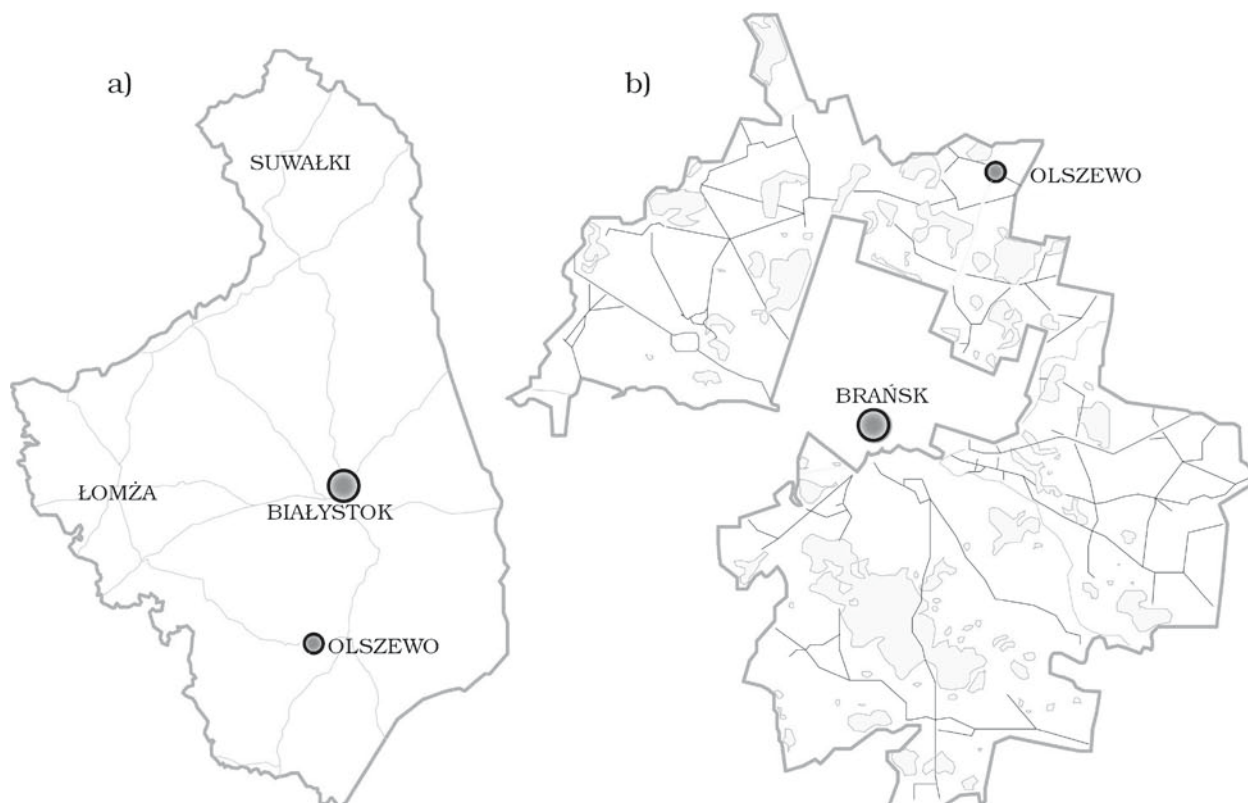


Fig. 1. Olszewo on a map of the Podlaskie region (a) and Brańsk commune (b); source: the authors, 2022



Fig. 2. An old cordwood masonry house in Olszewo; source: the authors, 2021



Fig. 3/a-d. The cordwood house in Olszewo, against its farmstead plot (panoramic views); source: the authors, 2021

coarser unbarked juniper brushwood and waste wood were used as 'reinforcement' for the clay wall (Fig. 5). Cut boards, perhaps remnants of wood salvaged from previously burnt buildings, were used to reinforce the corners. These have survived in fairly good condition.

The wall was plastered on both sides with a thick layer of cement-lime plaster. Unlike other buildings with cordwood walls erected in the surrounding villages, the object under investigation was probably plastered with one very thick layer of plaster (other buildings were plastered with two or three thinner layers, with only the outer layer containing cement, and the inner layers were lime mortar). This thick layer of plaster has not deteriorated to this day, because good adhesion to the timber-clay wall was achieved by the fact that the clay with the logs was applied without compacting, producing a very uneven wall with protruding log ends and brushwood into which the plaster mortar was later pressed. The smoothed plaster surface was whitewashed with lime. This massive clay-polish wall, rendered in lime plaster with a small amount of cement, was built up to the level of the wall plate above the ground floor, while the pediment triangles leading out above already have a clay core and stovewood construction.

The roof truss was made as a collar-purlin construction, with each of the purlins resting on two outer-



Fig. 4. A stone foundation of the house in Olszewo, its ornated plaster and two ceramic tubes for wooden floor ventilation;
source: the authors, 2021



Fig. 5/a-e. Walls of the house in Olszewo: exposed clay core and stovewood pieces, embedded in thick lime mortar;
source: the authors, 2021



Fig. 6/a-d. A garret and roof construction; source: the authors, 2021

most queen posts and two central posts with braces (Fig. 6). This construction is noteworthy insofar as it was usually used in small-town and urban construc-

tion, whereas the roofs of country cottages and houses almost always had the simplest rafter-collar construction. It is therefore puzzling to see the use of purlins and

queen posts here to support the rafters of a relatively small house on the edge of a small village, rebuilt after war damage. It is possible that these are later additions, made during the last replacement of the roofing with asbestos panels (the 1980s).

3. AESTHETICS, ORNAMENTATION

The exterior ornamentation of the house is modest. The corners are decorated with simple rhombic rustication (Fig. 2). The layer of plaster covering the clay wall is thick, a few centimetres in thickness, but even

twice as thick on the corners, and even thicker on the corner rustication and the window sills, where it can exceed 10 cm.

The boarding of the pediment triangles is also decoratively and carefully shaped. The extremities of the timber framing, to which the decorative radial boarding elements are nailed on the pediments, have an arched (curvilinear) shape, requiring greater care in workmanship, which is all the more noteworthy. As the building is situated with its ridge facing (parallel to the street), both gables were made with equal care and concern for aesthetics (Fig. 6/b).



Fig. 7/a-c. Panoramic views of the living room (a) and the kitchen (b, c); source: the authors, 2021

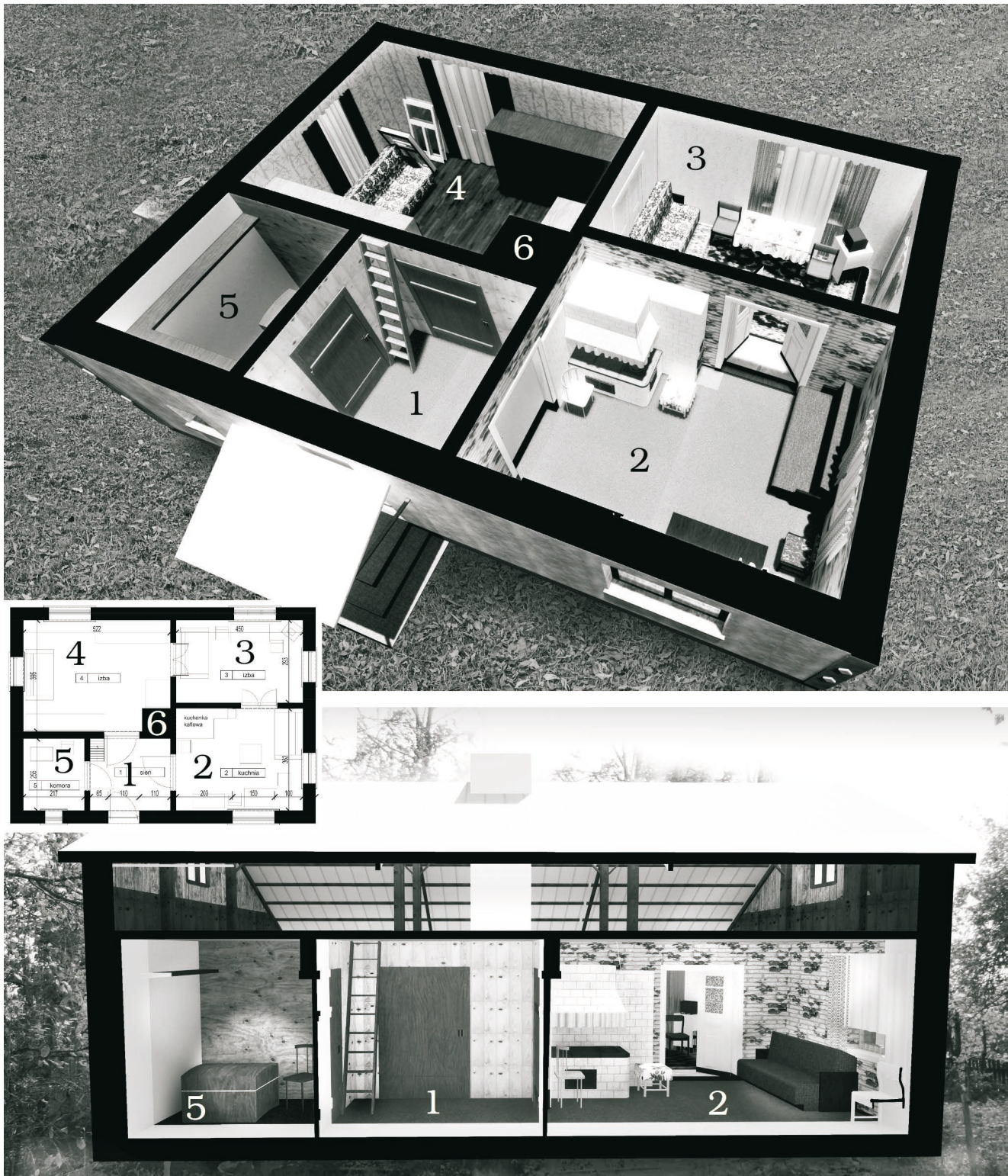


Fig. 8/a-c. House layout (plan and 3D schemes): 1 - hall, 2 - kitchen, 3 - sleeping room, 4 - living room, 5 - storeroom, 6 - stove and chimney; source: the authors, 2022

The internal aesthetics of the house are the result of a build-up of successive fashions and aesthetics from the time the house was built (woodwork, stoves, some furniture) until it ceased to be used, i.e. until 2008, but with a predominance of elements (furnishings, decoration, wallpaper) from 1970-1990 (Fig. 7). The oldest furniture was discarded in the garret and in the storage room (room 5 on the plan), although a typical sideboard from the 1950s can still be found in the kitchen.

4. LAYOUT AND FITTINGS

In terms of ethnographic typology, the examined house represents a wide-fronted asymmetrical type

with an all-round enfilade of rooms, with a layout similar to that of Podlasie-Mazovian three-roomed (Polish: *tro-jak*) houses. However, the order of rooms (storeroom-hall-living room-sleeping room), typical of three-roomed houses, was slightly extended here: the sleeping room was separated as a separate bedroom, the storeroom and the hall were reduced in size, and the living room was separated behind them. The chimney base, which is probably a relic of the old wide open-fireplace chimneys, the interiors of which used to be separate rooms, is somehow 'cut into' this guest room.³

The schematic drawings (Figs. 8, 9 and 10) relate the elements of the equipment to the plan; they are shown on the model, sections and photographs.

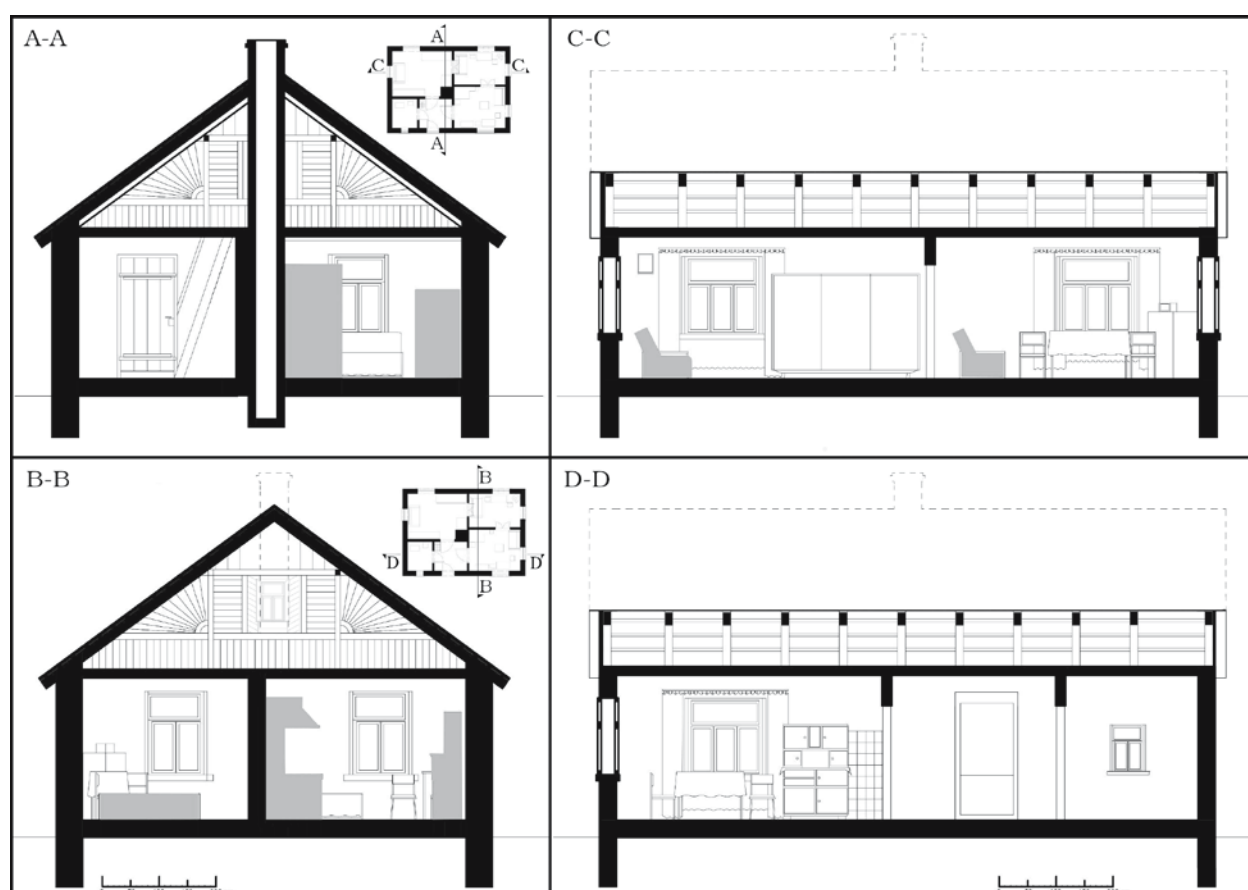


Fig. 9-a-d. Schematic section drawings with home furniture; source: the authors, 2022

³ Since the middle of the 20th century, brick chimneys in rural houses in Podlasie have had an external width of two bricks (about 52 cm including the joint), whereas the bases of the earlier (former) open-fireplace chimneys had a width of up to 2-3 m in the case of wide-fronted symmetrical houses (M. Pokropek, T. Strączek, 1993, p. 91) and a metre and a half in the case of triangular houses. In contrast, in the studied Olszewo house, the base of the chimney has a diameter of about 80 cm at the base and 52 cm at the top and at the mouth.

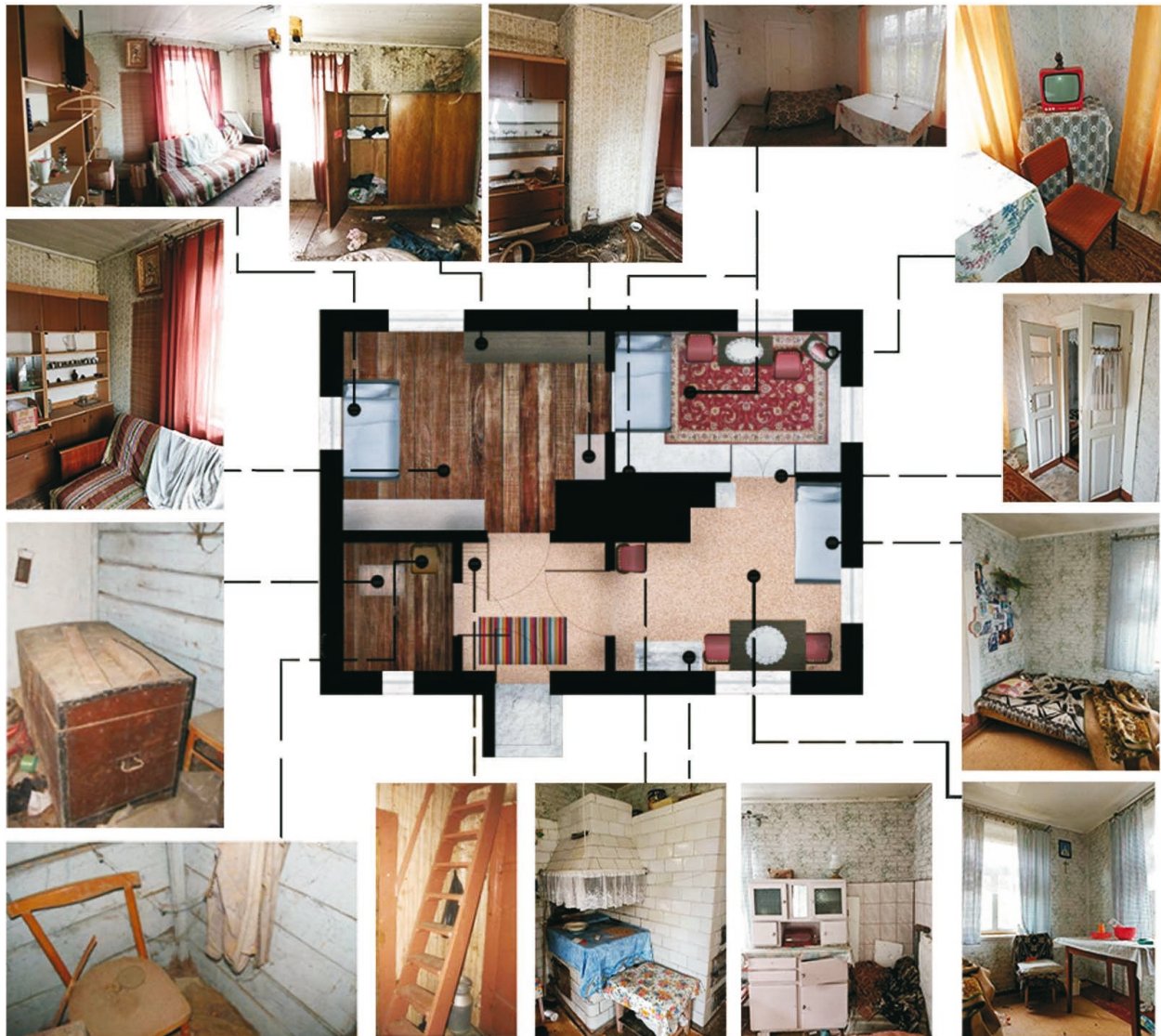


Fig. 10. Schematic section drawings with home furniture; source: the authors, 2022

5. SELECTED PARTICULARS

A thick floor earthen insulation made of sawdust and chaff mixed with clay has survived (Fig. 11/b). In the past, this method of insulating the ceiling was common, but it has been mentioned here in order to highlight the wide range of clay used in this building: in addition to the above-mentioned sawdust-clay earthen insulation and clay chimney walls, clay mortar was used to build the stove and the chimney, and originally also instead of a wooden floor there was a clay earthen floor – if not in the whole house, then at least in the storeroom and the hall.

The garret has also remained – as in many other old houses in the region – as a repository of old tools, furniture and rural craft equipment (cf. M. Ładny, J. Szewczyk, 2019, pp. 30 and 31; A. Antoniuk et al.,

2018). Fig. 12 shows selected relics of the past found in the garret: a weaving warp, a spinning niddy niddy, an old-type (handmade) rake and wooden moulds for making felt shoes (*valonki*). In addition to the objects shown in these four photographs, the garret also still houses an old trunk with linen and books (in any case, not the only one), wooden and metal buckets, parts of weaving reels, old leather school bags and numerous contemporary utensils, crockery, tools and appliances. In the garret, the chimney has been fitted with an inspection and smoking door (visible in Fig. 6/c), allowing both easy cleaning of the chimney and facilitating the hanging of meats in it. Interestingly, this is not a regular single door, but a set of double hearth and ash doors, already heavily rusted, probably removed from the hearth during some tiled stove repair. In this way recycled material was used for free.



Fig. 11. Garret floor construction (a – ladder descending to the entrance hall; b – earthen insulation); source: the authors, 2021



Fig. 12. Old artifacts of vernacular craft, left in the garret space; source: the authors, 2021



Fig. 13. A storage room with an old trunk and some old utensils; source: the authors, 2021

The storeroom, in turn, was secondarily separated from the hall by a wooden wall (not a clay wall; Fig. 13) and was also used for storage purposes, in which to this day – in fact, until the survey in December 2021 – are preserved, among other things, a trunk, a wooden mould for making *valonki*, a weaving warp hook and old-type shears for shearing sheep, and an old charcoal iron.

SUMMARY

The over 80-year-old Olszewo house, representing the three-bedroom house type (a wide-fronted asymmetrical house with an enfilade of rooms), was built using a rarely used construction of cordwood interlaid with clay. It is therefore a valuable witness to history, all the more so because its construction was the aftermath of famous war events (the battle of 13/14 September 1939); its furnishings, which have been preserved to this day, also bear witness to the culture and craftsmanship of the past (spinning and weaving tools, old chests, etc.). The article describes the house

in terms of material and construction type, layout, architectural form and ornamentation.

The authors put forward the thesis of the cultural essentiality of the described building as a multi-faceted commemoration of the past with its form, construction and ornamentation. The recent technical deterioration of the house proves the validity of its documentation to the memory of future generations.

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pages: 29 - 40

INDUSTRIAL OPEN-AIR MUSEUMS IN POLAND – ADAPTATION TO THE EXPECTATIONS AND REQUIREMENTS OF A MODERN AUDIENCE

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Abstract

The subject of open-air museums has been and continues to be extensively researched in Poland. The world's first open-air museum called 'Skansen' was established in 1891 on the Stockholm island of Djurgården. The oldest open-air museum in Poland, the Teodora and Izydor Gulgowski Kashubian Ethnographic Park in Wdzydze Kiszewskie, was founded in 1906. Initially, open-air museums presented exclusively heritage facilities related to rural culture. Gradually, the exhibitions were supplemented with examples of small-town, worker, manor and industrial buildings. Over time, industrial open-air museums began to be established. Open-air museums can be divided into three categories. The first comprises displays of ethnographic items with the focus on folk culture. The second category comprises museums of technology and industry. In the third group there are ethnographic museums with separate sections of industrial exhibitions as well as museums displaying industrial equipment and machinery against the background of ethnographic heritage facilities. The aim of this treatise is to present the diversity of Polish open-air industrial museums, classify them, present their activities, evaluate them and discuss the conditions to be met so that open-air industrial museums can be recognised as a tourist product. Polish museums of technology and industry in the open air or with industrial outdoor exhibitions can be divided into museums related to sailing, shipbuilding and fishing, military, aviation, railway, firefighting, road building, beekeeping and mining, and others. The financial standing of outdoor museums of technology and industry varies, but is usually bad. In order to make open-air museums profitable it is necessary to modernise their offer. Since the traditional, static model of presenting museum resources is the least attractive nowadays, it is necessary to shift away from passive displays towards active dissemination.

Streszczenie

Tematyka muzeów na wolnym powietrzu była i jest w Polsce przedmiotem szerokich badań. Pierwsze w świecie muzeum na wolnym powietrzu o nazwie „Skansen” powstało w 1891 r. na sztokholmskiej wyspie Djurgården. Najstarsze muzeum na wolnym powietrzu w Polsce, Kaszubski Park Etnograficzny im. Teodory i Izydora Gulgowskich we Wdzydzech Kiszewskich, został założony w 1906 r. Początkowo muzea na wolnym powietrzu prezentowały wyłącznie zabytkowe obiekty związane z kulturą wiejską. Stopniowo ekspozycje uzupełniano o przykłady budownictwa małomiasteczkowego, robotniczego, dworskiego i przemysłowego. Z czasem zaczęto tworzyć przemysłowe muzea na wolnym powietrzu. Muzea na wolnym powietrzu można podzielić na trzy kategorie. Pierwsza z nich to ekspozycje obiektów etnograficznych, skupione na kulturze ludowej. Drugą kategorię stanowią muzea techniki i przemysłu. W trzeciej grupie znajdują się muzea etnograficzne, w których wydzielone są kwartały ekspozycji przemysłowych czy też muzea prezentujące urządzenia i maszyny przemysłowe na tle zabytków etnograficznych. Celem pracy jest przedstawienie różnorodności polskich przemysłowych muzeów na wolnym powietrzu, dokonanie ich klasyfikacji, prezentacja realizowanych działań oraz ocena i podanie warunków pozwalających na uznanie przemysłowych muzeów na wolnym powietrzu za produkt turystyczny. Polskie muzea techniki i przemysłu na wolnym powietrzu czy też posiadające przemysłowe ekspozycje plenerowe można podzielić na muzea: związane z żegluga i przemysłem okrętowym, rybołówstwem, wojskowe, lotnictwa, kolejnictwa, pożarnictwa, drogownictwa, pszczelarstwa, górnictwa, inne. Muzea techniki i przemysłu na wolnym powietrzu są w różnej, najczęściej złej kondycji finansowej. Niezbędnym warunkiem uzyskania dochodowości przez muzea na wolnym powietrzu jest uwspółcześnienie ich oferty. Tradycyjny, statyczny model prezentowania zasobów jest dziś najmniej atrakcyjny. Konieczne jest odejście od biernego udostępniania na rzecz czynnego upowszechniania.

Keywords: open-air museums, industry, types of museums, profitability, attractiveness

Słowa kluczowe: muzea na wolnym powietrzu, przemysł, typy muzeów, dochodowość, atrakcyjność

INTRODUCTION

There is no unanimity among ethnographers, open-air museum experts and museologists as to who should be regarded as the forerunner of this field of museology, which is open-air museums. In many countries, regional initiatives were undertaken in parallel. Scandinavian researchers have been significantly active in this field. Artur Hazelius, the originator and founder of the Nordic Museum, made the 'decisive move', shifting from theory to practice. It was on his initiative that the world's first open-air museum called 'Skansen' was established on the hilltop of the island of Djurgården in central Stockholm today.¹ It was officially opened on 11 October 1891 (Fig. 1).

The oldest open-air museum in Poland, the Teodora and Izydor Gulgowski Kashubian Ethnographic Park in Wdzydze Kiszewskie, was founded in 1906.

Initially, open-air museums presented only historical artefacts related to rural culture. Gradually, the exhibitions were supplemented with examples of small-town, working-class, manor and industrial buildings. Over time, industrial outdoor museums began to be established.

Open-air museums have been, and still are, the subject of extensive research in Poland, the results of which are published, among others, in "Acta Scanse-nologica", "Etnografia Polska", periodical "Lud", and materials of the Folk Architecture Museum in Sanok. The works of Jerzy Czajkowski, Artur Gawło, Ewa Kasperska, Henryk Olszański, Robert Pasieczny, Roman Reinfuss, Anna Spiss, Jan Święch and others should be mentioned here.

At the International Open-Air Museum Conference held in Sanok in 1978, it was agreed that "[a]n



Fig. 1. 'Skansen' in Stockholm. Part of town-industrial quarter; source: photo by the author

¹ The name 'Skansen' is derived from the Swedish word for fortifications, or a skansen, which were located on the island of Djurgården at the site of the established museum.

open-air museum is a didactic and educational facility, organised on a scientific basis, purposefully, from historic and typical building and architectural facilities and other specimens related to traditional rural, small-town, working-class and manor house culture or technical and industrial facilities. An open-air museum is created by moving facilities to a specific location or leaving them and preserving them on site. Through its exhibitions, an open-air museum aims to recreate past living and working conditions as well as cultural and social transformations" [J. Czajkowski 1984, p. 2].

Their nature and significance is aptly defined by Wojciech Śliwiński of the Sąddecki Ethnographic Park, who writes that: *"open-air museum complexes are not just the sum of the value of the individual facilities (collected there). They have a value far greater than the original museum collection. For they are also a value in themselves, as a purposefully organised architectural and landscape ensemble, forming a large-scale, visual work of art. And regardless of whether an open-air museum has been composed in a free park layout or as a replica of rural historical layouts – an open-air museum should be treated as a separate work of art, which is most often in the process of creation"* [W. Śliwiński 2002].²

1. PURPOSE AND WORKING METHOD

The main objective of the treatise is to present the diversity of Polish industrial open-air museums, including: their classification, presentation of conducted activities and their evaluation; showing the tools allowing promotion, development and increase of profitability of the cultural institutions in question; referring to their offers, which may include various activities undertaken on the museums' premises; defining the scope of meeting the principles of universal design and good practices; and characterising the conditions allowing for recognising industrial open-air museums as a tourist product.

The demonstration of the potential and character of the facilities was based in large part on *in situ* research conducted by the museums themselves. The visits to the museums incorporated interviews conducted with their staff. These were not based on a codified questionnaire, but always covered the same thematic

areas – development plans, additional services on offer, information on regular events and forms of promotion. The study incorporated publications (books, articles) on open-air museums. Promotional publications – brochures, folders, maps, guidebooks – were also used. In addition to the observation of exhibitions, the condition and forms of additional services on offer – catering, accommodation, souvenir sales – were subject to verification.

An analysis was also made of the online activities of the museums and the up-to-datedness of the information contained on the websites and presented by the car navigation system.

2. TYPES OF INDUSTRIAL OPEN-AIR MUSEUMS

Open-air museums can be divided into three categories. The first comprises exhibitions typically focused on folk culture. The second category consists of technological and industrial open-air museums. These include facilities related to industry as well as railways, militaria and fortifications. The third group includes ethnographic museums with separate quarters for industrial exhibitions, such as the 'Skansen' (Fig. 1), and museums presenting industrial equipment and machines against the background of ethnographic relics.

According to the author, Polish industrial open-air museums, or those with industrial outdoor exhibitions, can be divided into museums of:

- shipping and the shipping industry,
- fishing,
- military,
- aviation,
- railways,
- firefighting,
- road engineering,
- beekeeping,
- mining (old mines),
- other (e.g. of oil industry – Fig. 2), some archaeological sites – ancient industrial centres³.

Historical articles and artefacts representing fishing: boats, nets, equipment, are displayed outdoors in fishing museums located in Hel, Sierosław and Gdynia-Orłowo. There are plans to establish a fishing museum in Niechorze. Some museums, such as the

² Rural studies (Latin: *rus, ruris* – village) – the science of the principles of spatial planning of villages and agricultural areas, the science of the emergence and historical development of rural settlement forms, a term meaning the design and shaping of open landscapes. The term is not defined exclusively as rural landscape design, as it also applies to the design of suburbs and open recreational areas. In Poland, more than 80% of the country's area is open space, i.e. not covered by typical urban development, which falls into the sphere urban planning.

³ Depending on the nature of the exhibition, they can sometimes be categorised into other thematic groups. For example, the archaeological site of the flint mine in Krzemionki Opatowskie should be placed in the group of open-air museums related to mining.



Fig. 2. Open-air museum of the oil industry in Sękowa. Part of the exhibition; source: photo by the author

Slovinian Village Museum in Kluki, have exhibits on local fisheries.

Museums dedicated to sailing and shipbuilding industry present free-standing vessels that serve as museum facilities, such as the ORP Batory and the ORP Błyskawica, and exhibit slipped warships among other sailing-related artefacts, as in the Maritime Museum of the Polish Arms in Kołobrzeg: the ORP Fala patrol ship, the ORP Władysławowo missile cutter, the remains of the scrapped ORP Burza destroyer and numerous exhibits related to maritime culture and the Navy. In the White Eagle Museum in Skarżysko Kamienna, the largest of the militaria on display (including cannons, tanks, aircraft and helicopters) is the torpedo boat ORP Odważny.

The outdoor exhibitions of military museums showcase specialised achievements in military technology. Military museums collect, scientifically develop and exhibit military-historical artefacts. They conduct, among other educational activities, lessons with exhibits, workshops and museum lessons. They enable the dissemination and popularisation of Polish military history. Of the numerous Polish military museums with outdoor exhibitions, the Museum of the Polish Army in Warsaw, the Museum of the Polish Navy in Gdynia and the already mentioned Maritime Museum of Polish Arms in Kołobrzeg can be mentioned.

Aviation museums exhibit both civil and military aircraft: aircraft, helicopters, gliders, motor gliders, their equipment and relics of aviation technology, as well as other aviation-related artefacts, such as anti-aircraft missile weapons or anti-aircraft guns (Fig. 3). Such centres cooperate with scientific units. Like many others, they conduct educational and publishing activities. Significant, symbolic aircraft are displayed on their premises, such as the Mi-8 helicopter in the

Polish Aviation Museum in Cracow, which was used in the pilgrimages of Pope John Paul II to Poland (Fig. 4). Aviation museums also host exercises of emergency services, such as the Air Rescue and the National Fire Service, among others. There are two aviation museums in Poland that can be considered an open-air museum: the Air Force Museum in Dęblin and the aforementioned Aviation Museum in Cracow. There are plans to establish an Aviation Museum in Poznań. Aircraft, their equipment and exhibits related to aviation are also displayed in military museums, while their accessories are displayed in other museums, such as the Museum of Parachuting and Special Forces in Wisła.

Railway-related museums are another thematic group of open-air museums. Some, such as the Museum of Coastal Defence in Hel, with working narrow-gauge railways running between the various exhibition facilities, combine various functions. Some open-air railway museums, including: Rogów – Rawa – Biała Narrow Gauge Railway (colloquially known as the Rogów Railway), the Narrow Gauge Railway Museum in Wenecja, the Steam Locomotive Depot in Wolsztyn, Rudy (railway station), and the Rolling Stock Open-Air Museum in Chabówka (Fig. 5) run tourist services and hire retro trains. The group of railway museums should include forest railway museums and industrial railway museums.

Firefighting museums exhibit antique fire vehicles, antique handheld firefighting equipment and pieces of equipment (Fig. 6). They present the history of the development of firefighting technology and equipment, whereas the buildings showcase the history of local firefighting units by means of uniforms and memorabilia (banners, documents, magazines, decorations, photographs). Some firefighting museums, such as the



Fig. 3. Polish Aviation Museum in Cracow. Fragment of the outdoor exhibition; source: photo by the author



Fig. 4. Polish Aviation Museum in Cracow. Mi-8 helicopter, which was used in Pope John Paul II's pilgrimages to Poland; source: photo by the author



Fig. 5. Open-air museum of railway in Chabówka. Part of the exhibition; source: photo by the author



Fig. 6. Central Museum of Firefighting in Mysłowice. Part of the outdoor exhibition; source: photo by the author

Przeworsk and Mysłowice firefighting museums, present the role of historical industrial plants involved in the production of firefighting equipment. Some facilities also conduct educational activities (museum lessons) on regional history and the history of local and Polish firefighting, as well as organise live shows.

Road engineering museums display antique, decommissioned road machinery and equipment, road infrastructure elements and milestones.

Beekeeping museums, which can be regarded as craftsmanship museums, display beekeeping accessories, the work of bees, the processes of obtaining beekeeping products, as well as tree beehives,⁴ log hives⁵ and beehives. These often include beehives and logs which are listed on the Register of Historic Monuments and are sometimes hundreds of years old, including basket straw beehives and figural beehives. In beekeeping museums, knowledge of the bee 'society', the nature of the everlasting relationship between man and bee, and the history of tree-beekeeping and beekeeping are presented in various forms. The largest beekeeping museums in Poland are: the Prof. R. Kostecki Open-Air Museum, the Beekeeping Museum in Swarzędz and the Beekeeping Open-Air Museum in Stróże. The Beekeeping Open-Air Museum in Pszczela Wola performs specific tasks, essentially catering to the needs of students of the local Beekeeping Technical School. Antique tree beehives, logs and beehives are also often on display in other, non-industrial, open-air museums.

A specific group of open-air museums comprises old mines led by the Wieliczka Salt Mine (Fig. 7) and those undoubtedly noteworthy facilities showcasing historic buildings, at the latest adapted to the stay of tourists: uranium mines and fortifications adapted for sightseeing, e.g. the Open-Air Fortification Museum – Oderstellung – Leśna Góra, the Open-Air Fortification Museum in Dobieszowice and the Międzyrzec Fortified Region. Sometimes historic mines, such as the Historic Silver Mine with the Open-Air Museum of Steam Machines in Tarnowskie Góry, combine various functions.

In the light of the conducted review of industrial open-air museums, the lack of forestry museums becomes quite noticeable. As previously mentioned, the existing forestry railway museums, like the industrial (factory) railway museums, fall into the group of railway museums. Exhibits on the history of forestry (e.g. forester's lodge, sawmills, gang saws) are mainly presented in ethnographic museums. Part of the exhibition is the only forestry construction sector in Poland, opened to the public in 2022, at the Museum of Folk Culture and Ethnographic Park in Kolbuszowa. It consists of a forester's lodge from the Zerwanka forestry near Leżajsk, a ground cover dryer from Pateraków, dating back to the 1920s, the only one in Poland built around 1860, seed extraction plant from Dąbrówki, a stable from Przecław, a barn and a well from Leżajsk, as well as a cellar, a toilet and a granary from the Zerwanka forestry. The seed extraction plant and the for-

⁴ Tree beehive – a hollow chamber made for bee keeping purposes inside a tree trunk. Hollows were mostly located in oaks and pines, and less frequently in hornbeams, beeches and lime trees. Natural hollows were used, but most of them were specially hollowed. Tree beehives could be cylindrical, trapezoidal (in vertical cross-section) or 'drawer'-shaped - similar to a cuboid.

⁵ Log hive – a beehive made from a section of chopped or fallen tree devoid of branches.

ester's lodge dating from the mid-19th century, as well as the building erected in the second half of the 19th century to house the offices and a flat of the controller of the Łańcut entail forests were inventoried during a student internship conducted by the author of this article in the mid-1990s, and the documentation was handed over to the Office of the Conservator of Monuments in Rzeszów at that time [M. Drożdż-Szczybura 1998]. The establishment of a forestry sector is also planned at the Folk Architecture Museum in Sanok.

Some open-air museums hold permanent or temporary exhibitions on the region's forestry traditions. They show, among other things, how forests were used over the centuries – gathering, hunting, beekeeping, felling and skidding. The forestry indus-

tries that were important in the 19th and first half of the 20th century – the extraction of products from the dry distillation (pyrolysis) of wood (charcoal, tar, turpentine, birch tar and others), or the use of forests for resin extraction – are presented in the form of 'forest' museum artefacts, such as tools for planting and tending trees, extracting resin from pine trees, or measuring and marking wood.

3. UNIVERSAL DESIGN AND GOOD PRACTICES IN INDUSTRIAL OPEN-AIR MUSEUMS

Industrial open-air museums minimally implement solutions that meet the conditions of universal design understood as: *"designing products, environ-*



Fig. 7. Wieliczka Salt Mine. A horse treadmill, one of the elements of the underground exhibition; source: photo by the author

ments, programmes and services so that they are usable by all to the greatest extent possible, without the need for adaptation or specialised design."⁶ It is based on the principle of equality to a greater extent than the concept of general accessibility for persons with reduced functionality.

The outdoor spaces of industrial museums are sporadically and to a limited extent useful and attractive to people of all abilities. Too often the condition of perceptible information is not met. More often than not, initiatives are taken to minimise the risks and negative effects of accidental or deliberate action. Mostly, the appropriate size and space provided for the approach, action and use of the product, regardless of the size, attitude or mobility of the user, is not maintained. Thus, museums do not meet the needs of all users. The independent movement of people with reduced mobility, including those with mobility impairments, is hindered. Museums with exhibitions displayed on several levels are not equipped with lifts. Rest benches are mentioned as an amenity for seniors. Neither manual nor electric wheelchairs for the disabled are available for hire. There is a lack of accessible toilets for people with reduced mobility. It is difficult or even impossible for visually impaired or blind people to visit industrial open-air museums.⁷ In addition to accepting admission with guide dogs, it is most often possible to explore the exhibits by touch. Sometimes audio description and tactile aids are available: mock-ups of museum artefacts and assumptions. Visually impaired or deaf people encounter difficulties in perceiving exhibitions. Museums do not have an offer adapted for people with intellectual disabilities. In addition to natural lighting and industrial acoustics, outdoor museums rarely provide natural stimuli as a form of information for people with the autism spectrum disorder.

There are no clear regulations in the law or literature that define the scope and selection of good practices. For the purposes of this paper, it has been assumed that: *"[a] good practice is defined as an action that produces tangible and positive results and contains some potential for innovation. It is sustainable and replicable and can be applied under similar conditions elsewhere or by other entities"* [M. Bednarek 2007, p. 161]. Definitions of good practices vary from country to country. They depend on the applicable

law, the economic situation, cultural norms and experiences.

As with universal design, good practices can focus on the topic of the presence of people with disabilities in cultural institutions and their use of cultural offerings, and refer to systems for the protection of tangible and intangible cultural heritage, community integration, the preservation of old crafts and the reactivation of old-day skills.

Used mainly to improve the standards of the conducted activities, good practices in the open-air industrial parts of museums commonly meet the criteria of legality, reproducibility and use of local human and material resources. According to the above definition, they are feasible and applicable elsewhere or by other entities. One tool here would be the sale of discounted tickets for the disabled, pensioners, families with children and children themselves.

Railway-related museums are another thematic group of open-air museums. Some of them, such as the Museum of Coastal Defence in Hel, with operational narrow-gauge railways running between the various exhibition facilities, combine various functions. Some open-air railway museums, including: Rogów – Rawa – Biała Narrow Gauge Railway (colloquially known as the Rogów Railway), the Narrow Gauge Railway Museum in Wenecja, the Steam Locomotive Depot in Wolsztyn, Rudy (railway station), and the Rolling Stock Open-Air Museum in Chabówka (Fig. 5) run tourist services and hire retro trains. The group of railway museums should include forest railway museums and industrial railway museums.

Of special attention are child-oriented activities of some facilities in the form of active museum lessons and demonstrations with the active participation of their participants. Prominent in this respect is the Wieliczka Salt Mine, which makes trails available to families with children⁸, the Polish Aviation Museum in Cracow, the Central Museum of Firefighting in Mysłowice, where part of the exhibition is a model made of building blocks popular with children. There is also an electronic device that arouses no less interest among adults, allowing them to virtually 'try on' various firefighter uniforms. The nautical and shipbuilding museums, as well as the military museums, offer an interesting range of activities. Retro train rides in railway museums are of great interest to children.

⁶ Convention on the Rights of Persons with Disabilities, Article 2, Journal of Laws of the Republic of Poland of 15 October 2012, item 1169, Convention on the Rights of Persons with Disabilities, drawn up in New York on 13 December 2006.

⁷ Few open-air museums introduce facilities for visually impaired visitors. The Open-Air Village Museum in Lublin has issued a publication entitled *Inne spojrzenie. Informator dla osób niewidomych i niedowidzących* [A Guide for the Blind and Visually Impaired], and in the Sąddecki Ethnographic Park there are tour regulations available in Braille alphabet.

⁸ The service also subscribes to the principles of universal design.

The presented description clearly shows that industrial open-air museums do not use universal design tools and good practices sufficiently.

4. STATUS AND METHODS TO INCREASE THE ATTRACTIVENESS OF INDUSTRIAL OPEN-AIR MUSEUMS

Industrial open-air museums are in varying, mostly poor financial condition, except for the most popular ones and those with other forms of activity – such as the Wieliczka Salt Mine. For open-air museums to become profitable it is vital to modernise their offer and adapt their form of communication with target groups to the needs of the market. *“However, this must be done while preserving their uniqueness not only as (...) a tourist product, but also as a kind of unique form of museum presentation.”*⁹ Additional activities carried out by industrial open-air museums include: educational, catering, hotel, commercial functions – selling, among other things, publications related to the museum’s activities and souvenirs, selling plants from botanical gardens, organising fairs and markets, exhibitions – exhibitions and vernissages, organising open-air events of various themes.

Thus, in addition to the traditional functions, directly derived from the Museums Act [E. Kasperska 2011, pp. 337-351], other functions of open-air museums involve:

- collecting monuments within the statutory scope;
- cataloguing and scientific processing of available collections;
- storage of collected artefacts in conditions ensuring their proper state of preservation and safety as well as their storage in a manner accessible for scientific purposes;
- safeguarding and conserving collections and, as far as possible, protecting archaeological immovable monuments and other immovable objects of material culture and nature;
- arranging permanent and temporary exhibitions;
- organising research and scientific expeditions, including archaeological ones;
- carrying out educational activities;
- promoting and carrying out artistic and cultural dissemination activities;
- making collections available for educational and scientific purposes;
- ensuring proper conditions for visiting as well as using the collections and gathered information;
- conducting exhibition activities.

In order to increase the popularity and profitability of open-air museums, it is necessary to introduce additional functions, sometimes as an extension of the statutory functions. These should include:

- cooperation with schools in the implementation of regional education programmes, especially in the area of building links with the so-called ‘small homeland’;
- cooperation with universities;
- participation in the creation of a regional tourist offer [T. Sadłowski 2002].

Although the invoked Museums Act states that ‘[a] museum is a not-for-profit entity,’¹⁰ there is nothing to prevent open-air museums from developing the following functions:

- ceremonial,
- recreational,
- catering,
- hotel,
- commercial.

A modern-day museum is an institution operating in a specific reality and, despite numerous objections from museologists, it is necessary to introduce marketing management that takes into account economic considerations, market requirements and customer expectations. One of the tools for increasing the attractiveness of open-air museums is the manner in which their resources are presented. Today, the traditional, static model of presenting resources is the least attractive. The attractiveness and profitability of industrial open-air museums can be increased by:

- museum workshops and lessons, including interactive ones, relating to, *inter alia*, the navy, the military, aviation, railways, fire-fighting, beekeeping;
- use of multimedia;
- presentation of occupations and demonstrations of work closely related to the exhibits presented with an appropriate historical background (e.g. period costumes);
- participation of visitors in re-enactments or presentations of bygone activities;

⁹ E. Kasperska (2011), *Muzea etnograficzne na wolnym powietrzu a ich wartość marketingowa dla regionu*, [in:] „Zeszyty Naukowe Uniwersytetu Szczecińskiego”, No. 663, *Ekonomiczne Problemy Usług* No. 75, pp. 337-351.

¹⁰ Notice of the Speaker of the Sejm of the Republic of Poland of 23 March 2018 on the announcement of the uniform text of the Act on museums, Polish D.U. of 12 April 2018, item 720.

- outdoor events – festivals and fairs held in the open air, various exhibitions;
- organisation of special events – patriotic events, concerts, performances, bonfire meetings, thematic competitions, open-air artistic events;
- organisation of shows, competitions, horse rides;
- exhibitions of domestic and farm animals;
- catering and hotel services;
- use of the museum premises as a film location for both documentaries and feature films, as well as for television special-purpose programmes;¹¹
- cooperation with universities, including student research clubs;¹²
- cooperation with tourist offices;
- inclusion of museum facilities in tourist itineraries;
- making the location of museums and access to them more visible and clearer.

The presented forms of displaying the industrial resources of open-air museums do not exhaust all possible activities that enrich the range of available services and attractions. Each museum is characterised by its own uniqueness and has or may have a very specific offer for visitors.

Industrial open-air museums contribute to the local tourism product, which, according to the principles of marketing management, should be offered to buyers while preserving utility, place, time, form and possession, and shape the tourist functions of the region. They are part of the more general trend of cultural tourism and represent one of the most significant attractions of rural tourism, in which (...) *“a ‘new type’ of folk culture is emerging – commercial folk culture serving a new purpose – tourism purposes”* [J. Mokras-Grabowska 2007, p. 258]. They can be incorporated into tourist routes and may present one of the most significant attractions for rural tourism. Initiatives to incorporate ethnographic open-air museums into tourist routes have been undertaken in Poland (e.g. the Białystok ‘Tatar route’ or the Sanok ‘Icon route’ and the European route for motorised tourists), but most often with mediocre results or have been abandoned [A. Stasiak 1996]. A few successful initiatives include the inclusion of the Central Museum of Firefighting in

Mysłowice to the Technical Monuments Route of the Silesian Voivodeship in 2006.

Not many industrial open-air museums offer catering services. Very few allow visitors to stay overnight on their premises. In many of them, on the other hand, a tourist can get to know the exhibits directly – touch them, try them out, learn how they work. In some, the presentation is strengthened by an auditory experience. Unlike ethnographic museums in the open air, industrial museums do not rent replicas of old vehicles. Railway museums organise excursions on retro trains or offer the opportunity to travel on a vintage railway along a specific route (e.g. the Żnin County Railway connecting Żnin with Gąsawa).

An open-air museum, due to its specificity – outdoor exhibition, usually large area, green areas – has a much greater attraction force than other museums. As a tourism product, such centres need to be tailored to both the audience’s expectations and their perceptual capacity. The recipient *“wants a finished product, a complete service, like a self-respecting customer of a car dealer’s office”* [M. Romanow-Kujawa 2002, p. 67].

SUMMARY

In marketing terms, industrial open-air museums are market players and are subject to the same laws as all market participants. They have to face the demand for their services and competition as well as the changing tastes of their customers.

Today, no one denies the existence of a self-respecting market participant on the Internet anymore. Every industrial open-air museum has its own website. Most of them contain only simple information about the offer, location, opening hours and prices, as well as an e-mail contact address. Unfortunately, there are some sites that contain outdated or erroneous information. There are also cases where car navigation provides the wrong location of the facility. It should be noted that this is a relatively common ‘ailment’ of car navigation. Also traditional information media – information boards, direction signs are sometimes not very legible or simply missing. There is a lack of information located on tourist trails.¹³

¹¹ Partly [after:] E. Kasperska, *Muzea etnograficzne na wolnym powietrzu a ich wartość ...*, op. cit., pp. 343-346.

¹² One example is the participation in 2019 of students of the Academy of Fine Arts in Cracow, Cracow University of Technology and the Pedagogical University of Cracow in the artistic and scientific project ‘Memory of the Sea’ organised by the Cracow Saltworks Museum. The students held an open-air workshop in the museum part of the Wieliczka mine and produced works inspired by its interiors, while the academics compiled scientific articles to comprise a publication entitled *Przestrzeń alternatywna dla działań artystycznych*, Wydawnictwo Naukowe UP, Muzeum Żup Krakowskich, Kraków-Wieliczka 2019.

¹³ It is difficult to state whether tourists of certain groups do not want to extend their sightseeing or simply do not know about additional offers in the area. When asked whether, after the opening of the Velo Czorsztyn cycling route, the interest of its users in the numerous cultural

Virtual museums are one way of using modern technology. These take two forms. They can be web-sites of museums that exist in the real world, which offer a virtual 'walk-through' of the museum. There are also virtual museums in the literal sense of the word, not existing in the real world, which aim to present a specific subject matter (e.g. the Virtual Museum of Polish Nursing or the Google Cultural Institute). In some of Poland's existing industrial open-air museums it is possible to take a virtual walk through their premises.

An interesting offer may be the so-called *"questing, (...) a method of discovering the heritage of a place that involves creating unmarked trails to wander along, guided by information contained in rhyming instructions"* [D. Zaręba 2008, p. 17]. It is an educational field game with elements of scouting trips. Hiking, cycling, water and other quests, divided into four groups – historical, cultural, natural and other – are organised by many institutions in Poland. Among ethnographic museums, only the Kielce Village Museum Ethnographic Park in Tokarnia offers such an offer to visitors. Some ethnographic museums distribute information about quests taking place in the region. They do not exist in any industrial open-air museum.

Events are of particular note among the promotional activities that can be implemented by industrial outdoor museums. According to marketing practitioner D. Kober, *"(...) event marketing (...) is one of the most promising developments in the way we communicate with consumers."*¹⁴ Static museum exhibitions do not always make it possible to display the cultural heritage of a given region or present it in an insufficiently attractive manner. On the other hand, events, such as those organised at the Wieliczka Salt Mine, the Central Museum of Firefighting in Mysłowice or the Polish Aviation Museum in Cracow, offer a whole arsenal of means of affecting the visitor's multiple senses.

Modern-day open-air museums must creatively and multidimensionally reformat the elements they contain *"in such a way that, creatively absorbed into contemporary culture, they continue to live on in their updated version. An open-air museum is not (...) a monument set on a pedestal before which one must bow one's head in respect or invoke the shadows of one's ancestors in contemplation. Instead, it is a place where both residents and tourists can learn about the cultural heritage of a particular region (province or country) and draw inspiration from it according to their*

needs and tastes, without destroying the resources it contains" [T. Czerwiński 2006, p. 71]. A museologist *"[rigidly] upholding ethnographic correctness (...) is actually a witness to its disappearance."*¹⁵ It should be assumed that the times of exhibits with a 'do not touch' sign are irrevocably gone. Today's museums, including open-air museums, regardless of the views of more or less anachronistic museologists, need to modernise their attitude towards their visitor-customers, including the form of presenting their collections. An increasing number of industrial open-air museums are striving for a comprehensive and diverse display of resources. It is vital to move away from passive provision to active dissemination. The offer should be adequately promoted, diversified and attractive to different audiences who wish to receive an attractive message and access information in a convenient way.

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attractions in the immediate area (including the church in Dębno, the castle in Niedzica, the open-air museum in Kluszkowce) increased, the respondents replied: *"[t]hey come by car, get on their bikes, cycle the route, pack up their bikes and leave."*

¹⁴ D. Kolber, *Event marketing – historia ...*, op. cit.

¹⁵ M. Wołodźko, *Muzea etnograficzne ...*, op. cit., p. 17.

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