

THE EXCAVATIONS ON THE CASTLE HILL IN PUŁTUSK NEW DIRECTIONS IN ARCHAEOLOGICAL RESEARCH

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Pułtusk is presently a small town 60 km north-west from Warsaw. A clear evidence of its rich historical tradition are numerous architectural monuments. The oldest of them are connected with the time of economic and cultural peak of the development of the town in mid-15 th century. One of the first remarkable buildings was the castle which was the residence of the bishops of Płock who owned the estates around Pułtusk. The castle was built on a hill in the eastern part of the town near the main bed of the Narew river (Zwolinska, 1969; Gołembnik, 1980; Grzybowski, 1977).

In 1974 this castle became the object of interest of the specialists from The Ateliers for the Conservation of Cultural Property (PKZ). This firm specialized in complex conservatory works has received an order of a thorough study of this old building and adaptation of its interior for accomodating hotel rooms in it. Teams of conservators and construction specialists, historians of arts and historians of architecture and, besides them, team of archaeologists began working in the area of the castle hill. The task of the archaeologists was to establish the chronology of the castle walls, to study and document the stratigraphy of the hill, and to study the finds discovered during this work.

The strictly defined tasks of the conservators team including the extent of the works and the term of their completion caused that the archaeological investigations have become a part of a far-reaching enterprise imposing on the archaeologists the necessity of completion of their work at term in the areas of the hill, where reconstruction works were conducted. The range and rate of these works called for maintenance of strict discipline with respect to the detailed analysis of finds and discoveries, and a parallel preliminary processing of data in a synthetic fashion.

In accordance with the principle of comprehensive research accepted in the PKZ the excavations were preceded by geophysical studies. The measurements were performed by two methods: geothermic and electric resistance determination. These works were carried out by the Enterprise for Geophysical Investigations in Warsaw (PPG). It was found that below the present level of the courtyard culture layers were lying containing large amounts of organic remains and wooden constructions. An important result of this work was the observation that in the area of the courtyard the disposition of these layers was in only small degree disarranged by the later enlargement of the brick-castle.

The archaeological investigations and supervision covered an area of 1800 m². In the sites where the virgin soil had been reached, the total thickness of the documented layers was about 7,5 m. This depth of the excavations in the vicinity of the walls of the castle made impossible uncovering of the virgin soil over a larger area. Thus the

primary configuration of the ground was difficult to reconstruct. In the light of the obtained data it may be assumed that primarily a small eminence was situated in the north-east part of the present hill, that is facing the main river bed. This area had a long tradition of settlements. Fragments of ceramics were found here dated back to the 5 th century before Christ. The stratigraphy of the earliest layers had been, however, destroyed by levelling, done for formation of a regular hill, which served as a ground for building a stronghold surrounded with earth rampart. The pottery fragments found

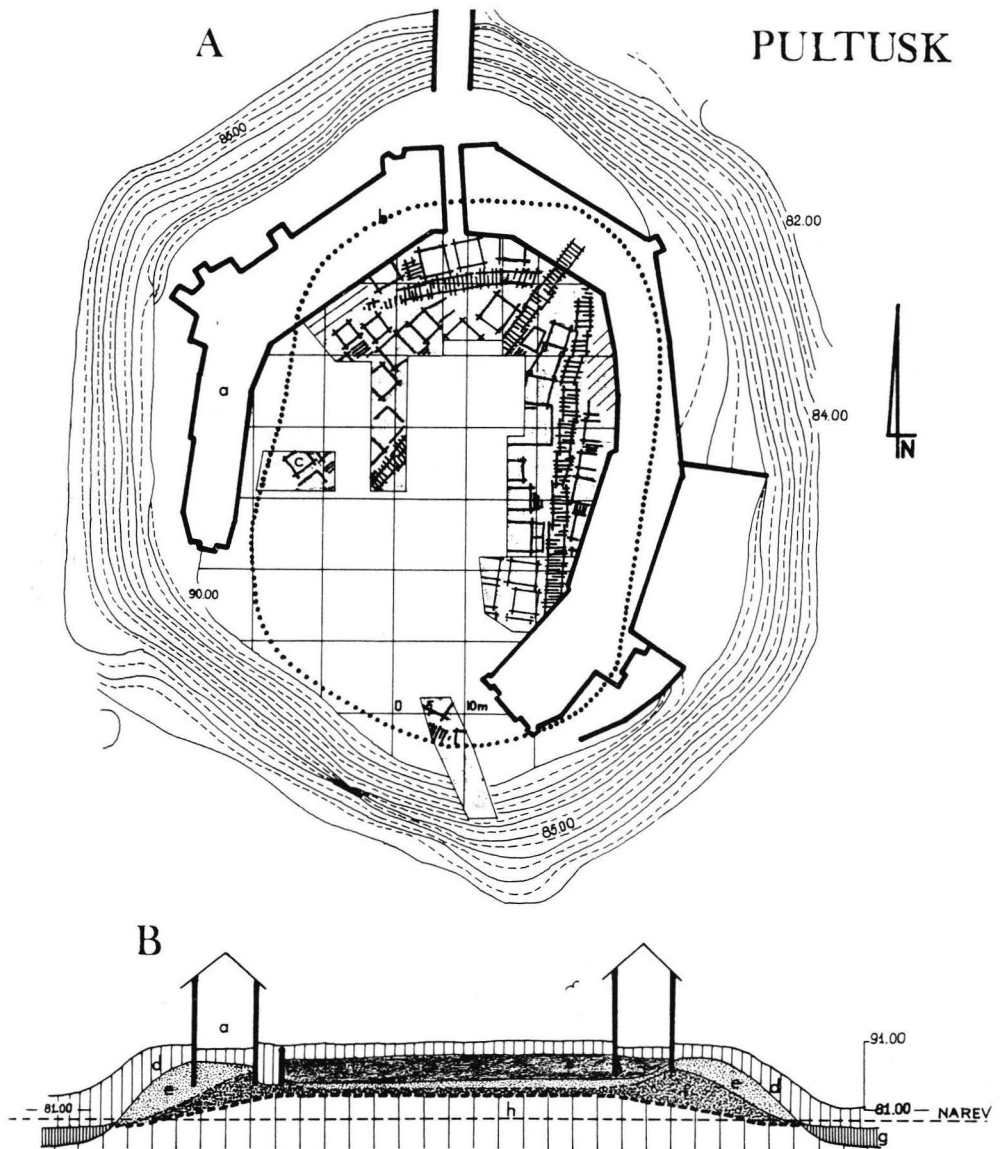


Fig. 1. Plan and section of the castle hill. The revealed timber constructions of the II settlement level. a/ walls of the brick castle. b/ the extent of the second stronghold. c/ cultural layers of the second stronghold. d/ cultural layers of the brick castle. e/ base of the rampart of the second stronghold. f/ levelled layers of the first stronghold g/ moat. h/ virgin soil.

there suggested that it was burnt down at the end of the 12th century. Levelling works done after this destruction made difficult determination of the type of this object. In view of absence of an occupation layers it may be assumed that it was a stronghold serving as a refuge for the population of a nearby settlement (Pela, 1979; Gołembnik, 1981). These levelling works were done probably immediately after destruction of the stronghold. The rampart was levelled and a considerable amount of soil was brought, increasing at the same time the depth of the moat around the stronghold. The hill was thus considerably extended and its height was raised by about 1 m. Thus a compact fortified settlement was created. In the mediaeval written documents the term »castrum» is used (Gawarecki, 1931). The total thickness of the culture layers related to the functioning of the »castrum» was about 3,5 m. A characteristic feature was a perfect preservation of the components of these layers. Another important fact for the field works and for future analyses was the condition and dimensions of wooden constructions. The presence of these well preserved constructions facilitated considerably the differentiation of the successive settlement levels. During the field works the number of recognized levels was accepted as six. The general principles of planning during the construction works at the first level were established. They presumed location of dwelling houses and farm buildings along streets (Fig. 1). These buildings together formed complexes composed usually of three objects differing in their functions. This principle is maintained also in successive levels. Only in levels IV and III deviations from this rule were observed after fires which destroyed completely the wooden constructions. This statement refers mainly to the situation of the streets in the western part of the »castrum». Some suggestions raise the supposition that after destruction of the constructions at the level V this part was rebuilt in a changed pattern. Probably the residential buildings were located there. It may be assumed thus that the other reconstruction works were the result of repair activities undertaken on a more or less far reaching scale. The observation that some construction elements obtained by dismantling of older buildings were used for repair works indicates the possibility of undertaking reliable reconstruction of wooden huts (Mierosławski, 1981). In the light of preliminary analyses it may be assumed that some of them had two storeys. The lower one served as a store and for other domestic purposes. The upper, propped up at the front by posts forming an eave jutting far forwards served as a dwelling. Most of the huts were built in corner construction. Other techniques accounted for only a small proportion of buildings at all levels. A characteristic feature of all objects was their small area and absence of any internal partitions.

The »castrum» was destroyed ultimately in 1368 during the last great incursion of Lithuanians. Deep traces of fire in the wooden constructions evidence the extent of destruction. It was not tried then to reconstruct the fortress in its previous shape, and a residence built of bricks and stone was constructed in its place. The layers related to the construction and later enlargement of the brick castle covered later with a nearly 2-metre thick cover the relics of the wooden buildings.

These preliminary results of archaeological investigations outlined here, of necessity, only briefly illustrate the complexity of problems met by the team of the PKZ from Warsaw. In this paper I want to present some actions undertaken for understanding our findings and for enrichment of the contents of our discoveries.

Our investigations were preceded by studies conducted by historians, architects and geophysicists. The results of these studies provided us with the concept of the general directions of the following research work. Strategies were outlined, and their detailed applications was realized in archaeological excavations. Attention was focused on two important problems: elaboration of an optimal method of documentation of the dis-

coveries, and creation of a programme for their multidirectional analysis. The first problem was put forward mainly as a result of an insight into the contents of layer observed during exploration. The traditional description was quite inadequate under the conditions in Pułtusk. With time, a formalized system of recording of archaeological observations was introduced and this method was used for description of the revealed wooden constructions and explored cultural layers (Gołembnik, 1982). The basic advantage of this system in field works was that it imposed the principle of a precise separation of these layers. This caused a greater activation of the attitude of the archaeologist in the excavation, the scope of his work and responsibility was extended.

The cultural layers become a fully valuable source if the rules of their analysis are set down very strictly. Unfortunately, as I know this very well from my own experience, it is very difficult for an archaeologist to establish in the excavation what is more and what is less important. The only solution thus is to record all what is possible under given conditions. Apart from localization and morphological description, the main task is to determine the causes and rules of layer increase, and to define the mechanical factors to which the layer was subjected in the past. Table 1 shows the extent of the observations made in Pułtusk (see Troels-Smith, 1955). The table contains the characteristic features of the layer groups separated during the basic field works: levelling, building, occupation and destruction layers.

Levelling (Table 1. a, b) preceded as a rule construction works. It was conducted in two directions. The layers were either removed or formed by heaping up. In practice these directions were strictly interrelated, since removal was as a rule connected with

Nr.	colour						shade	structure			elasticity	disposition			mineral composition						organical components																	mechanical factors																	
	black	grey	brown	green	yellow	orange		during exc.	after exc.	comparing		laminar	granular	moisture	compactness	horizontal	various	components	loam	clay	sand	gravel	stone	other	humification	human excrem.	animal excrem.	straw	grass	moss	grains	seeds	to stones	soil	leaves	twigs	chips	bark	rootlets	others	charcoal	ash	accumulating	spreading	throwing out	filtrating	mud	scorching	burning						
a	2	1	4	1		2	1			5	1	3	2		5	3	2					1		2	4		1											8	1																
b	1	1		4		1	1			5	2	4			5						1																																		
c	2	2		1		2	1			5	3	1	2		5	10	2					1																																	
d	1	4				3	2			5	1	4	1		5																																								
e	2	3				3	1	5				1	1	4	1	5	2						3																																
f	1	2	2			3	1	5		5	2	4	5		5	2	5	5				1																																	
g	1	1	4			1	5		5	5	1	5	5		5								10	5																															
h	3	1	1			4	2			5	1	2	2		5	4	3					1																																	

Nr.	situation											stage of the phase											localization																																		
	levelling	stabilizing	isolating	building	cleaning off	occupation	demolition	in situ	spread	removed	moat	mound	slope	hut	hut with stove	stove	arcade	courtyard	between huts	street	other	destruction	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire	fire										
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Table 1. The characteristic features of the layers. The system of description.

transfer of earth to another site. This was particularly important in the work at multi-layer sites. In the case of raking away of an occupation layer destroyed by fire, regular layers of charcoal appear at the new site. This situation was found, for example, after destruction of the first stronghold, and it may be a quite formidable stratigraphic problem at sites investigated by means of small excavations. I call this shifting of layers — arrangement levelling. Its successive step would be essential levelling, in which a layer is formed by bringing earth from another site. This levelling as a preliminary step for construction works contains purposefully formed layers of definite features. Their recognition during field works is of essential importance, mainly because they contain relics from outside the investigated site.

Strictly related to levelling were the building layers (Table 1. c, d). In each of the studied cases they were associated with the newly raised constructions. Their structure and composition were determined by the role assigned to them by the builders. The stabilizing layers were most clearly evident in the stratigraphic disposition. They included a regular plane at the sites where the foundations were laid for huts and joists for streets. In practice, besides the function of stabilization of the construction, they provided an appropriate humidity degree protecting the wooden construction against too fast rotting. Wood chips which are the main component of these layers came, probably, from processing of wooden used in the construction works. This processing was done outside the building area as evidenced by marking of construction elements for setting down the sequence of their later assembly. It should be assumed thus that the stabilizing layers were composed also from materials brought from outside the building area. This shows that the finds from these layers can be only with caution and criticism included into the general analysis. The remaining construction layers are as a rule devoid of finds. Their main components are minerals: sand, gravel, stones and clay. They provided insulation, draining off and strengthened the construction of stoves.

The occupation layers (Table 1. f, g) carried the greatest number of information pieces. They are a direct evidence of the activities of man in his own household. The material and organic contents of these layers are documents providing us with an insight into the conditions of his life and its level. During the study many types of these layers were distinguished. They formed three main groups: garbage heaps, production heaps and accumulation heaps. In their recognition an essential role was played by their position with respect to the buildings, their composition and, in the first place, the character and disposition of archaeological finds. The experience in excavation areas show that for a reliable assessment of this group of layers it would be indispensable to prepare a planigraphic presentation of the finds and their quick detailed inventory. A planigraphic study demonstrating the mode of layer formation (e.g. heaping up or raking away) could be very useful in trials of reconstruction of huts (for example: localization of windows). The analysis of the stratigraphy of occupation layers and also an assessment of their material contents must be carried out very carefully. During the work tidying of the area of the settlements occurred not infrequently, with removal of the accumulated layers.

The last group comprised destruction layers (Table 1. h). This group included particularly the upper part of the occupation layers with traces evidencing sudden destruction. In view of the presence of charcoal and construction elements with traces of fire the separation of this layer group was relatively simple. All observations were made with particular carefulness, and owing to that and to the considerable extent of excavations it was possible to establish the direction from which came the devastating attack, the extent of destruction, and the direction of fire spread. Much attention was given to an accurate collection of finds. Their abundance increases the probability of more

accurate dating. Of considerable interest may be also a comparison of the results of these analyses with the informations contained in written sources. Informations were found in them on the destructions of the Pułtusk stronghold by the Lithuanian army in the years 1324, 1336 and 1368.

The preliminarily estimated per cent proportions of the cubatures of various layer groups is as follows: levelling layers 21 %, building layers 19 %, occupation layers 58 % and destruction layers 2 %. This comparison shows that only in slightly more than half the layers their material contents could be useful for direct chronological analysis. This is a striking evidence of the necessity of strict determination of the origin of culture layers, which enables us to understand the whole stratigraphy and to select material relics, and also gives us clues as to the direction of further investigations — I think mainly of the cooperation with scientists from the field of natural sciences.

This is the second problem on which the interest of the investigators was focused. It is a good tradition of the PKZ that specialists from other disciplines are invited to participate in the works conducted by this enterprise. The currently available results of special investigations and analyses inspire the activities of the archaeologists. I know also that the suggestions of the archaeologists prompted the activities of the cooperating specialists: archaeozoologist, paleobotanician, ichthyologist and dendrologist. (The programme of works includes also C^{14} determinations and dendrochronological analysis. Trials of age determination by the C-14 method gave unconvincing results. As yet I have no results of the dendrochronological investigations.) These investigations were carried on in three basic directions: facilitation of archaeological interpretation of the discoveries made in the excavation, definition of the ecosystem of the Pułtusk region in the Middle Ages, and extension of the source providing basis of different scientific disciplines.

This may be an example of the cooperation during work at the archaeological sites. During excavations attention was aroused by the evident difference in the forms and technology of pottery from the 12th and 13th centuries. This observation served for the formulation of the opinion that the population of the settlement destroyed at the end of the 12th century was taken as prisoners by the invaders and led away, while the settlement was later reconstructed by settlers brought here specially for this purpose (Gołębniak, 1983). The comparison of the bone remains from the settlement with those from the building layers of the new stronghold demonstrated also an evident change (Table 2). Of particular interest was a fall in the number of bones of domesticated animals with a parallel rise in the number of wild animal species. The pattern of animal husbandry in these compared time periods was also different (Table 2. columns III and IV). This observation may suggest many interesting conclusions confirming this hypothesis. I stress, in the first place, a sudden increase in the number of horse bones, not observed in other layers, and, moreover, these bones were consumption wastes (Table 2. col. IV). The supposition arises thus that the settlers wandering with all their belongings ate after some time their pack-animals. These suggestions of the archaeologist will be supplemented in a short time with the results of other analyses, and, perhaps, new interesting data will be obtained on the unknown happenings at the turn of the 12th century.

The problem of definition of the natural environment is closely connected already with the works processing the results of the investigations. A reliable and extensive body of archaeological and naturalistic data together with information obtained from written sources for confrontation of these sources, and its result should be a comprehensive concept of the mode, degree and principles of exploitation of the natural environment. A further step is determination of the consequences of this exploitation

EXC. X	I %	II %	III %	IV %	V %
DOMESTIC.	144 - 96,0	320-97,0	284 - 95,9	152 -86,4	193-85,8
WILD	6 - 4,0	10 - 3,0	12 - 4,1	24 -13,6	22-14,2
	150	330	296	176	215
CATTLE	84 - 58,3	139-43,4	113 - 39,9	57 -34,9	107-55,4
PIG	33-22,9	88-27,5	71 - 25,1	29-19,1	34-17,6
SHEEP/GOAT	21- 14,6	86-26,9	79 -27,9	23 -15,1	36-18,6
HORSE	6 - 4,2	7 - 2,2	20 - 7,1	43-28,3	16 - 8,3

Table 2. Determination of the bone material form the excavation X. I/ early Middle Age. II/ levelled layers of the first stronghold. III/ levelling layers of the second stronghold. IV/ building layers of the second stronghold. V/ the first settlement level of the second stronghold. (elaborated by A. Lasota-Moskalewska).

for the material culture, and for this purpose the archaeological sources are of the first rate importance. In this way it is possible to extend the archaeological interpretation for including patterns of human activities. Further possibilities of pursuing this direction seem limitless (Chenu, 1953; Eliade, 1970; Gott, 1970; Guriewicz, 1976), and they place mediaeval archaeology as a central plane in the field of historical geography (Hensel, 1971).

The awareness of conducting investigations at a site with remains from the Middle Ages frequently quite extensively documented by written sources must, of necessity, cause that the archaeologist is faced with even new problems and tasks. Since the documents describe facts, which in the exploration of sites related to older epochs require troublesome searching, the archaeologist is obliged to verify them, enriching in this way the knowledge on them. Strictly defined rules of exploration and documentation of discoveries are absent as yet, which is due to differences between archaeological sites of exploration, differences in their character, in the state of preservation of relics, and in the conditions of exploration. These factors are the cause that every archaeologist conducts his exploration according to own possibilities as well as enforced conditions and technical resources. The awareness, however, of the possibilities of discoveries hidden in mediaeval stratifications should be an incentive for a continuous search for new improvements in our research methods. I hope that the culture layers from the castle hill in Pułtusk are a good example of this.

REFERENCES

- Chenu, M. D. 1953. L'homme et la nature, Perspectives sur la Renaissance du XII e siècle. In. Archives d'histoire doctrinale et littéraire du Moyen Age, R. 27.
- Eliade, M. 1970. Sacrum, Myth and History, Warszawa.
- Gawarecki, W. H. 1931. Wiadomości Historyczne Miasta Pułtuska (Historical Data on the Town of Pułtusk. Le Goff, J. 1970. The Culture of Medieval Europe. Warszawa.

- Gołębniak, A. 1980. Badania archeologiczne na Wzgórzu Zamkowym w Pułtusk (Archaeological investigations on the Castle Hill in Pułtusk). Sesja Naukowa PTAiN (referaty), Ciechanów-maj, pp. 3—14.
- Gołębniak, A. 1981. Średniowieczny gród w Pułtusk—rezultaty archeologicznych prac wykopaliskowych prowadzonych w latach 1976—1980 (The Mediaeval Castle in Pułtusk — results of archaeological excavation works conducted in the years 1976—1980). In *Drewniany Gród na Wzgórzu Zamkowym w Pułtusk—XIII/XIV w.*, Studia i Materiały PP PKZ, Warszawa, pp. 1—7.
- Gołębniak, A. 1982. Medieval wooden stronghold in Pułtusk, Organization of investigation and documentation system of archaeological findings. Dokumentasjon ved Bygravninger i Norden, Riksantikvarens Rapport 3, Øvre Ervik, pp. 22—30.
- Gołębniak, A. 1983. Some aspects of medieval pottery in Poland, based on the Pułtusk material. *Mangahanda Slags Karl Finnas Hos Nordborna*, Riksantikvarens Rapport 8, Øvre Ervik, pp. 25—28.
- Grzybowski, M. 1977. Lustracje zamku pułtuskiego (Inspections of the Pułtusk Castle). Ciechanów.
- Guriewicz, A. 1976. Categories of Mediaeval Culture. Warszawa.
- Hensel, W. 1971. Wzajemne zakresy metod mikrogeograficznej oraz makrogeograficznej w badaniach archeologicznych (Overlapping of microgeographic method and makrogeographic method in archaeological studies). In *Archeologia i Prahistoria, Studia i Szkice*, Wrocław, Warszawa, Kraków, Gdańsk, pp. 460—465.
- Mierosławski, M. 1981. Wstępna próba analizy średniowiecznej zabudowy drewnianej odkrytej w latach 1976—79 na zamku w Pułtusk (A preliminary trial of analysis of the mediaeval wooden buildings discovered in the years 1976—79 in the Pułtusk Castle). In *Studia i Materiały PP PKZ*, Warszawa, pp. 11—29.
- Pela, W. 1979. Informator Archeologiczny, badania 1978, Warszawa, p. 197.
- Troels-Smith, J. 1955. Karakterisering af løse jordarter. Danmarks Geologiske Undersøgelse, Rakke IV, Bd 3, Nr 10, København.
- Zwolinska, J. 1969. Pułtusk w średniowieczu (Pułtusk in Middle Age). In *Pułtusk Studia i Materiały, z dziejów miasta i regionu*, vol. 1, Warszawa, pp. 25—61.