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## BURIAL MOUND IN KARNIOWICE – A STRUCTURE OF THE 21<sup>ST</sup> CENTURY, PART 1

### KURHAN KARNIOWICKI – BUDOWLA XXI WIEKU, CZ. 1

#### Abstract

This paper discusses an unconventional final resting place called a burial mound, built in Karniowice near Trzebinia. This is the first such structure in Poland and Europe which fulfils both sacral functions for celebrating masses and predominantly acts as a burial place of the dead. The aim of the construction was to limit the cemetery area, which constitutes a significant worldwide precursor in the field. The burial mound gives, in comparison with the traditional cemetery, a 30-fold saving of space and after special treatment that will mineralize bodies, as much as 100-fold: 1 600 burials in five ares of land. This unique structure can be a good future option to build cemeteries in cities where there is not enough space in the existing ones. Because of its uniqueness and prototype character, only the design basis has been presented, which in the construction phase was partially modified. The changes will be described in detail in Part 2.

*Keyword: burial mound*

#### Streszczenie

W opracowaniu omówiono niekonwencjonalne miejsce spoczynku zmarłych zwane kurhanem, wybudowanym w Karniowicach koło Trzebini. Jest to pierwszy w Polsce i w Europie obiekt, spełniający funkcję sakralną, gdzie można odprawiać Msze Św., ale przede wszystkim pełniący funkcję pochówku zmarłych. Celem budowy było ograniczenie powierzchni cmentarnej, co stanowi godne uwagi prekursorstwo na skalę światową w tej dziedzinie. Kurhan, to w porównaniu z tradycyjnym cmentarzem, 30-krotna oszczędność miejsca, a po specjalnych zabiegach, które spowodują mineralizację ciał, nawet 100-krotna: 1600 pochówków na 5 arach ziemi. Ta unikatowa budowla może być w przyszłości dobrym rozwiązaniem budowania cmentarzy w miastach, w których brakuje miejsc na cmentarze. Ze względu na swoją unikatowość oraz prototyp, przedstawiono jedynie założenia projektowe, które w fazie budowy zostały częściowo zmodyfikowane. Zmiany zostaną opisane szczegółowo w części 2.

*Słowa kluczowe: kurhan*

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## 1. Short overview of the history of burial mounds

A burial mound is a building often called a mound-shaped, conical or semi-circular grave. Most often it was a burial mound constructed of earth or stones, with elements of wood, stone or wood and stone. It was constructed above the grave (or graves), measured several meters in height and contained a chamber for inhumation or cremation. The tomb chambers, often very complex, were usually stone or wooden structures, sometimes forged in solid rock. The genesis of building round mounds is connected with communities colonizing mainly steppe areas of south-eastern Europe, Asia and America in the Neolithic and Iron Age (e.g., Unetice, Trzciniec or pre-Lusatian culture, and also some local groups of the Lusatian culture). Less commonly they were also found in Roman and early medieval cultures. The term “burial mound” in Eastern Europe corresponds to the word “tumulus” in Western European languages [1].

## 2. General characteristics

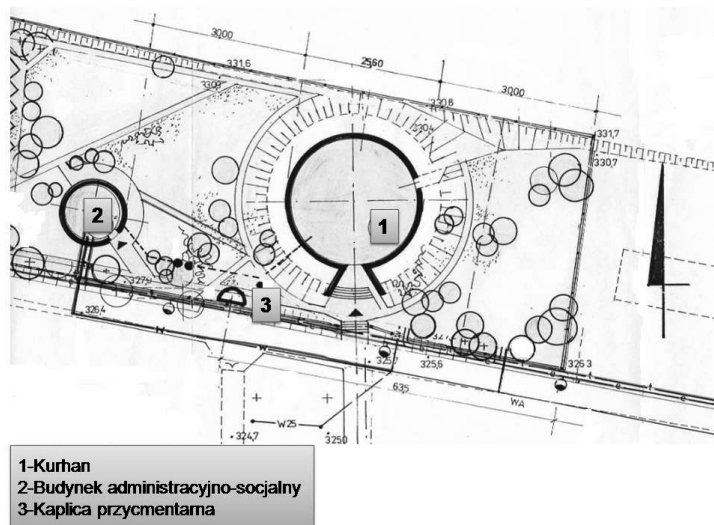
### 2.1. Introduction

The founder and creator of the first Polish Parish Memorial Centre (Ill. 1), where the burial mound discussed in this article remained a focal point, was the priest Stanislaw Fijałek, a very modest man, but stubborn as highlanders often are. He was an excellent organizer, able to win over and convince the people. He also initiated the construction of several churches, including the church in Laliki near Koniaków, church in Górna Kamesznica and the church in Karniowice, where he also built the first clay house in this area. He initiated a centre for the deaf-mute in Pcim and was the inventor of several patents, including an ecological oven. What is more, he founded two cemeteries, but the one in Karniowice, as he claimed, is the culmination of his priesthood.

### 2.2. The founder’s ideological concept concerning the burial mound

The parish, when fulfilling the mission of the Church, provides special care to the suffering and ill people offering them spiritual comfort: the sacramental ministry. From the moment of one’s death, it takes over the body and moves it to a special crypt in the burial mound. The body is then moved from the above crypt to a suitable space in the facility building located next to the mound, where through the specialized equipment of vacuum pumps a trained doctor (holding a certificate) mineralizes the body (thanatopraxy). As a result, the body is dehydrated and the lymph is replaced with special chemical solutions, which embalm and mineralize the body. As a result of this process, the body retains the look of the living, sleeping person, which is particularly important in the Christian culture where family says goodbye to the deceased. After mineralization and cosmetic treatments, the dead body is clothed black and purple vestments and a ceramic medal is placed on his/her neck. The medal contains a five-digit code precisely pointing to the burial place in the Centre of the Dead. What is more, the digital code makes it possible to obtain further biographical information about the deceased person, stored in a computer memory. A collection of all the data of the

deceased will in the future become a reliable source of ethnographic research on the culture of the region. When the body is prepared, it is placed into the metal coffin, which together with flowers is then put in the central place close to the altar where the funeral mass will be conducted.



III. 1. Part of the land development plan of the Parish Memorial Centre in Karniowice

The coffin will be covered with a specially for the occasion prepared cloth adorned with religious and national emblems. Its role will be to make all the lying dead materially equal. The mourners taking part in this sad ceremony, will be able to leave their cars in the car park near the burial mound. They will be able to pay their respects to the deceased and in a special facility room solidify memories, view photographs, images, recall the biography and other memorabilia/or even drink tea or coffee with their loved ones.

After the funeral the coffin will be carried to the family crypt on a special trolley. The coffin will be placed on the appropriate shelf made of reinforced concrete and will be capped with a plate made of the same material. The plate will be then sealed with clay so that the mineralized remains could be transferred in a few years to a common urn, located in the depths of the tomb. It should be noted that due to the mineralization process, the body will completely powderize after five years and it will be possible to transfer it to the above-mentioned family urn. Powderizing of bodies will greatly prolong the life of the tomb and the epitaphs written on it will show a genealogical tree of each family. The chapel inside the burial mound will consist of the ground floor and two upstairs choirs through which the relatives of the deceased will be able to reach the deceased person's resting place and on a special plate below the epitaph they will be able to light oil lamps and leave potted flowers. The epitaph will be inscribed in gold letters on a black marble plate. It will contain the name of the deceased and the dates of his birth and death and optionally, include a ceramic picture.

Epitaphs and altars with burning lamps and flowers will form the inner wall of the chapel, and the ground floor and upstairs choirs will enable visitors (after turning around) to participate in the holy mass (Ill. 2).



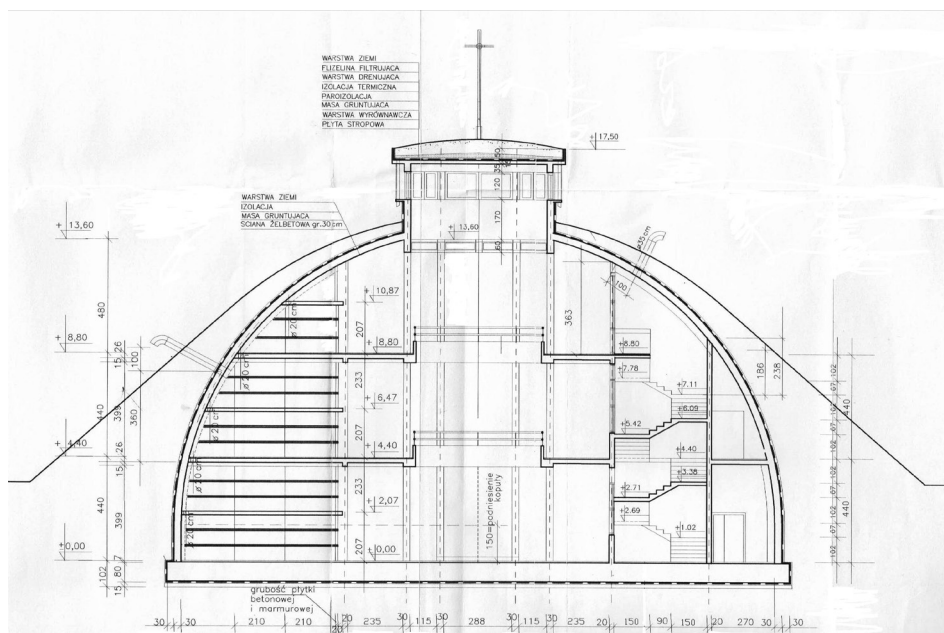
Ill. 2. A part of the mound's interior showing the epitaph on the chapel's wall

The interior of the chapel is decorated in such a way that it will attract families of the deceased to visit their loved ones and participate in the mass liturgy. Spherical reinforced concrete construction containing the chapel and crypt will be covered with layers of loamy earth and flowers, which will make the burial mound both ecological and very economical. The star-shaped window in the ceiling will naturally light the interior of the mound – regardless of the rich artificial lighting – and due to this solution it will remain in harmony with both the altar cross and the cross located at the top which also acts as a vent. The property will be fenced with a hedge in which ceramic statues of saints will be placed every three meters. The area between the fence and the walls of the mound will be covered with grass and planted with low ornamental shrubs, and the building will look like a big bouquet of flowers.

### 3. Functional layout according to the design

The Parish Memorial Centre is modelled after ancient catacombs and burial mounds. It will fulfil all requirements for burial and storage of the dead as well as for celebrating masses. In the middle of the wide and spacious ground floor area of about 100 m<sup>2</sup>, a chapel with an altar, catafalque and benches for people taking part in the funeral have been designed. At the main entrance there will be rooms for the preparation of the bodies and thanatopraxy with a sanitary unit for the staff and storage of coffins, and at the rear: the sacristy. All three storeys surround the crypt for burial and are arranged on a number of levels between the bearing walls. In the niches of the balconies there are spaces for urns and storage. The transportation of coffins to upper floors will be provided by a manually-operated lift, located behind the altar. At the top of the dome there is a circular stained glass window filled with religious themes. Such a way of storing corpses around the chapel provides high liturgical cult of

the dead and a huge space saving: 3 coffins on 1 m<sup>2</sup> of the mound, while at the municipal cemeteries a simple tomb takes about 4 m<sup>2</sup>. This fact clearly shows the undeniable superiority of a burial mound over a traditional cemetery. The additional elements of the mound in the second stage, are the facility object and an existing field altar for the more massive religious celebrations. The facility will contain rooms for the memory of the dead, a café and public toilets, all designed for the participants of funerals.

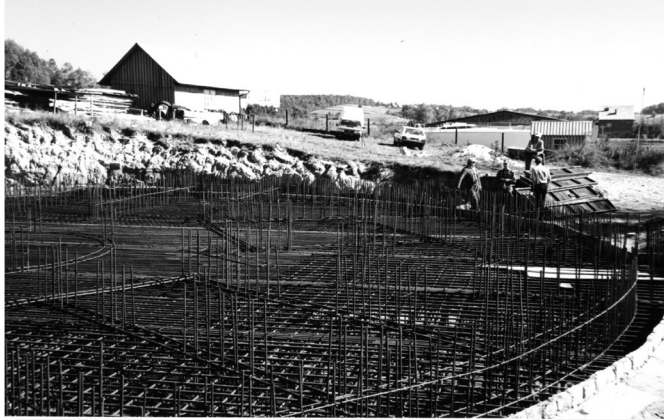


III. 3. Vertical section of the designed burial mound

#### 4. Architectural and construction layout according to the design

The construction of the burial mound was designed in the form of a spherical dome with an internal diameter of 25 m (III. 3). At the bottom of the mound's pit 25 cm of dry concrete will be placed. A circular foundation of a reinforced concrete slab with a diameter of about 26 meters is designed for the previously prepared ground. Due to fourth category mining damages, the slab is 80 cm thick (III. 4), locally thinned to 60 cm in order to include the plumbing installation below the ground floor. The materials used were concrete class B25 and reinforced ribbed steel Class A – II of a total weight of 120 tons.

On a slab prepared in this way, a reinforced concrete ring plate of 1.5 m in height and a length of about 81m has been designed to encircle the structure. On the ring plate a reinforced concrete dome will be constructed using a method derived from American technology. A polyvinyl balloon filled with air (III. 5) will be strengthened with foam in which steel anchors will be attached to secure the subsequent reinforcement of the dome.



III. 4. Reinforcement of circular foundation slab under the burial mound

Then, by means of compressed air at a pressure of 20 atm., the steel structure will be covered with concrete consisting of several layers which will eventually stiffen the whole structure of the dome. For sealing and the protection of concrete, a micro-mortar WANDEX-SUPER was used, which is based on special cement activating chemical constituents of the concrete. This eliminates the penetration of liquid water, but allows water vapour. The preparation also protects the concrete from chlorides, nitrates and sulphates as well as carbon dioxide which causes the carbonation of concrete and is responsible for the loss of the anticorrosion capacity of reinforced steel. The outer 30 cm thick dome-shape will be made and reinforced with bars arranged parallelly and meridionally. The layer will be supported with 30 cm thick concrete outer walls and in the inner part with reinforced concrete posts. The walls and posts are also the bearing elements for ceiling of each 20 cm thick storey plate. The dome is surmounted with large skylight windows giving natural light inside the burial mound. The internal cubature amounts to as much as 5000 m<sup>3</sup>. The ceiling, after the appropriate finishing with plasterboards and lighting, gives a vivid picture of a star and remains in harmony with the interior of the mound and altar cross. Outside the building, wide steps together with a ramp for the disabled lead to the entrance and then the entrance hall of the mound. On the right side of the entrance hall a staircase has been designed. Due to the shape of the dome the staircase is slightly set back from the construction line which gives easy access to every storey. Due to the fire hazard category, the staircase is surrounded from three sides by walls of reinforced concrete and from the central part of the mound it is separated by fire-resistant glass ( fire resistance of 60 min.). Such a solution provides natural lighting of the staircase and maintains high aesthetics appropriate for the liturgical character of the interior.

The interior has been divided into three storeys separated by 20 cm thick reinforced concrete floors, based on six concrete posts with a diameter of 30 cm, arranged in a circle of 6.08 m in diameter and 30 cm thick bearing walls.

The first and second floor were designed in the balcony system, which provides natural light for all three storeys of the mound from the top window. All storeys surrounding the crypt are made of 6 cm thick reinforced concrete walls with an inner section of 60 to 70 cm.



Ill. 5. Air-filled polyvinyl balloon creating the later shape of the burial mound

They are enclosed with concrete and marble tiles containing the names of the dead. After applying adequate insulation to the reinforced concrete dome, it is covered with a layer of clay loam and fertile earth. The layer of earth covering the dome is suitable for a special type of grass, flowers, ornamental perennials and low growing shrubs thriving well on steep slopes, and due to the dense root system, preventing the ground from slipping.

## 5. Conclusions

The design of the burial mound was ready in August 1998. The work began in April 1999 and the construction was completed in 2006. The first burial took place in 2006. However, the original plan of using thanatopraxy was eventually not approved by church authorities. In this situation, it was decided that the crypt will contain urns with the ashes of the dead after cremation. This was not in line with the original intention of the priest Fijałek who suggested that the bodies should undergo thanatopraxy and be put to the mound's alcoves in coffins and then after the total mineralization stored in a smaller urns. At the moment however, this is the only possible solution.

*Parish materials and photographs have been used in the text.*

## References

- [1] Makarowicz P., *Kurhany i obrządek pogrzebowy w IV–II tysiącleciu p.n.e.*, Kraków, Warszawa 2011.