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3rd Annual *millPOLstone* Workshop

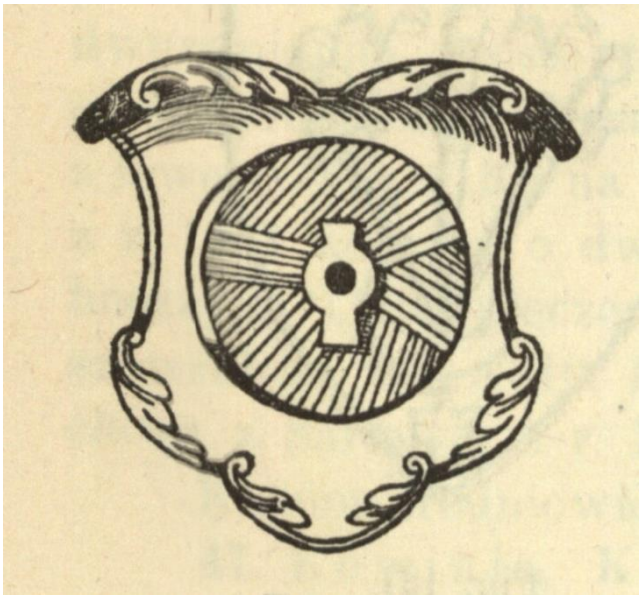
‘Millstones in churches of Eastern Germany’

as part of the implementation of the NCN grant No. 2019/35/B/HS3/03933

NATIONAL SCIENCE CENTRE POLAND

Golßen, 6-7 September 2023

edited by Dariusz Brykała & Piotr Lamparski



Organising Committee:
Dr. Dariusz Brykała (Institute of Geography and Spatial Organization PAS) - co-chairman, PI of the Project
Dr. Olaf Juschus (State Office for Mining, Geology and Raw Materials of Brandenburg) - co-chairman
Dr. Piotr Lamparski - Workshop secretary

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'The memory of stones. Origin, use and sacralization of millstones embedded in walls of Gothic churches within the Southern Baltic Lowlands'.
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Workshop Programme

Wednesday – 06.09.2023

12.30	lunch for the Workshop participants
13.30 – 14.00	registration of the Workshop participants
14.00 – 14.30	**Dr. Dariusz Brykała** (Polish Academy of Sciences, Institute of Geography and Spatial Organization) – *Aims and objectives of the millPOLstone project and Workshop in Golßen*

Session I – Chair: Dr. Dariusz Brykała

14.30 – 14.50	**Dr. Olaf Juschus** (State Office for Mining, Geology and Raw Materials of Brandenburg, Cottbus) – *A brief introduction to the landscape south of Berlin - natural and cultural history*
14.50 – 15.10	**Dr. Andreas Börner** (State Agency for Environment, Nature Conservation and Geology of Mecklenburg-Vorpommern, Güstrow) – *The historical use of boulders and millstones with focus on so-called 'Feldsteinkirchen' (boulder churches) and the protection of giant erratic boulders as natural monuments in NE Germany*
15.10 – 15.30	**Dr. Tilo Schöfbeck** (Bauforschung – Archäologie – Dendrochronologie, Schwerin) – *Medieval fieldstone churches in north-eastern Germany*
15.30 – 16.00	Discussion
16.00 – 16.30	coffee break

Session II – Chair: Dr. Olaf Juschus

16.30 – 16.50	**Dr. Stefan Wenzel** (LEIZA Leibniz Centre for Archaeology, Mayen) – *The export of querns and millstones made of Rhenish lava to eastern Germany and to Poland from Roman to Late Medieval times*
16.50 – 17.10	**Dr. Eva Becker** (Independent Researcher, Prenzlau) – *The Mystery of the Hünenhacken*
17.10 – 17.30	**MA Joanna Piotrowska** (National Institute of Cultural Heritage of Poland, Olsztyn Department), **Dr. Dariusz Brykała**, **MA Robert Piotrowski** (both Institute of Geography and Spatial Organization PAS, Toruń) – *The millstone in the visual arts - an attribute of the saints and a tool in the typological story* ~~**Dr. Esther Wipfler** (Central Institute for Art History, Munich) – *The Image of the Eucharistic Mill: An Allegory of Transformation*~~ **- cancelled**
17.30 – 18.00	Discussion
19.00	dinner

Thursday – 07.09.2023

WORKSHOP EXCURSION – leading: Dr. Olaf Juschus, Dr. Dariusz Brykała

Start: app. 8:30 from Golßen/Hotel

Stop 1: church in **Falkenhain**, app. 8:45 am

Stop 2: church in **Gießmannsdorf**, app. 09:45 am

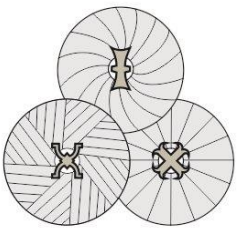
Stop 3: church in **Brück-Rottstock**, app. 11:30 am

app. 12:30 **lunch time** in **Rottstock** (until 1:30 pm)

Stop 4: church in **Miersdorf**, app. 2:30 pm

Closing of the Workshop, app. 3:15 pm

The location of the church in Miersdorf is very well connected to the centre of Berlin - from the church it takes about 20 minutes by walk to Zeuthen station: S-Bahn line S8 or S46.



Webs of the Project:

https://www.ncn.gov.pl/sites/default/files/listy-rankingowe/2019-09-16/streszczenia/463791-en.pdf

https://www.igipz.pan.pl/project_en/events/3_7840.html

Twitter: look for the acronym of our grant #millPOLstone

Aims and objectives of the millPOLstone project and Workshop in Golßen

Dr. Dariusz Brykała

Polish Academy of Sciences, Institute of Geography and Spatial Organization

The project funded by the National Science Centre in Poland entitled 'The memory of stones. Origin, use and sacralization of millstones embedded in walls of Gothic churches within the Southern Baltic Lowlands' (Grant No. 2019/35/B/HS3/03933, project acronym: **millPOLstone**) is an interdisciplinary scientific endeavour. Its aim is to investigate a specific phenomenon in architecture and culture – the placement of querns and millstones in sacred spaces. In the project, 19 scholars from 12 research institutions (Fig. 1), representing both the humanities and natural sciences (Fig. 2), seek to answer the questions: why, in which area, and when the querns and millstones were placed in the walls of Christian churches?

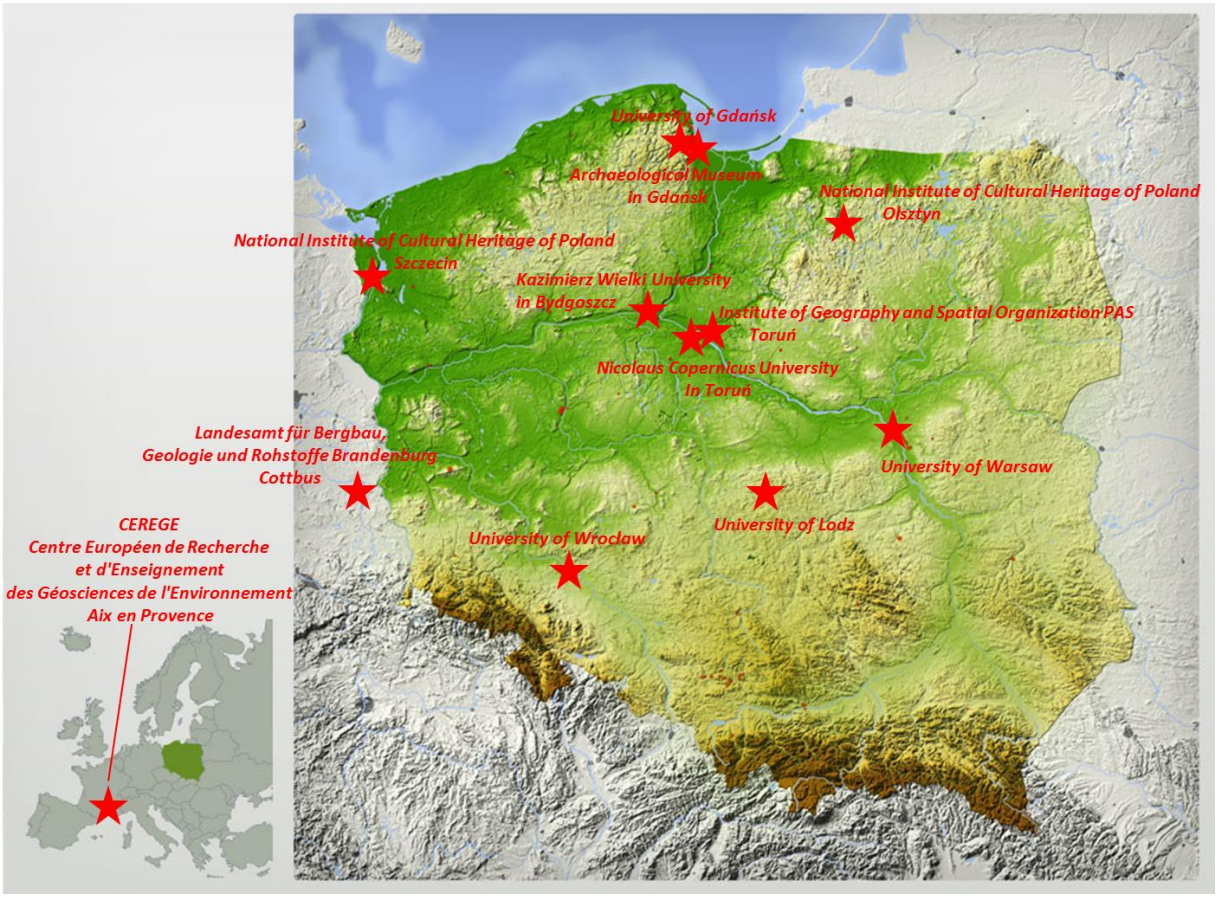


Fig. 1. Scientific institutions participating in the millPOLstone project

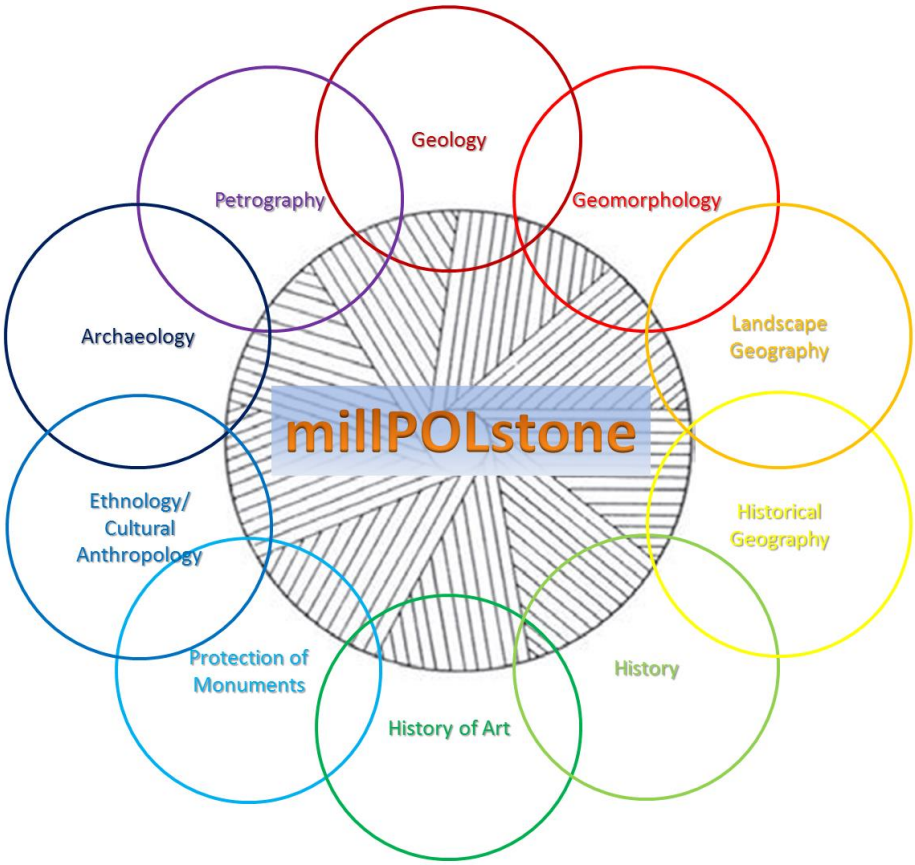


Fig. 2. Interdisciplinarity of the millPOLstone project research team

The practice of using old millstones for construction of medieval churches in villages indicates that already then in their neighbourhood there were many grain mills, where the stones originated from (Szatten et al. 2023).

Earlier research has pointed to several areas where such medieval churches (with millstones in their walls) were the most numerous. These include in Poland the regions West Pomerania (Jędryka 1994), Pomerania, Warmia-Masuria, Lubusz Land, and Masovia (Brykała 2023), while in Germany, the states Mecklenburg-Vorpommern and Brandenburg (Herzberg 1994). In 2021, during a meeting in Koszalin (Mosakowski 2022a), we discussed various conditions and specificities of a group of Gothic churches with millstones exposed in their walls. In 2022, during a workshop in Olsztyn (Mosakowski 2022b), we analysed the distribution of churches with millstones in the area of the former State of the Teutonic Order. Proceedings of the meetings in Koszalin (Brykała & Lamparski 2021) and Olsztyn (Brykała & Lamparski 2022) are open access on the RCIN platform.

In eastern Germany before Reformation the idea of the so-called Eucharistic Mill was well-known. In Mecklenburg-Vorpommern, some prominent examples of altars with images of this allegory have been preserved. Also in Brandenburg in the church in Tremmen, a fragment of a fresco depicting the so-called *Hostienmühle* has been discovered (Fig. 3).

Moreover, in eastern Germany and the Polish part of Pomerania, so-called *Trogmühlen* or *Hünenhacken* embedded in church walls can be found. They were often used as holy water fonts (Fig. 4). However, can their origin be truly linked with grain milling, like in the case of millstones?

Fig. 3. Fragment of a fresco in the church in Tremmen (Brandenburg), showing an Eucharistic Mill (photo by Dariusz Brykała)

Fig. 4. Holy water font created with the use of *Hünenhacke* (photo by Dariusz Brykała)

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Session I

A brief introduction to the landscape south of Berlin - natural and cultural history

Dr. Olaf Juschus

State Office for Mining, Geology and Raw Materials of Brandenburg, Cottbus

Southern Brandenburg is located in the southern part of the North German Lowlands. It was shaped, like the whole of Brandenburg, by the waxing and waning of Scandinavian Ice Sheets during the Pleistocene. Thus, the landscape around Golßen consists mainly of meltwater sands and till (boulder clay). Several end moraines, outwash plains and Ice marginal valleys of different age run through the area from east to west.

While the deposits of the oldest ice advance during the Elsterian Ice Age are deeply buried, the sediments and landforms of the Saalian Ice Age (ice advance about 135,000 years ago) dominate the shape of the entire area until today. This is also valid for the area reached by the Weichselian/Vistulian glaciers about 20,000 years ago. The thickness of the Weichselian/Vistulian deposits is remarkably low (around 10 m). So, the general relief was already formed during the Saalian Ice Age.

The border between the old moraine landscape in the south and the young moraine area further north runs through the region and is an important landscape boundary. The border is mainly situated along the southern edge of the Głogów-Baruth Ice marginal valley. The town of Golßen lies exactly on this border.

The old moraine area of the Fläming and the Lusatian Wall consists of undulating ground moraine and meltwater areas with many but rather shallow dry valleys. As a special feature, there is a stripe of sandy loess stretching from west to east. Surface waters are rather rare. Only near the northern edge close to the Głogów-Baruth Ice marginal valley there are springs and small rivers. The villages Falkenhain, Giessmannsdorf and Rottstock are situated within such a situation near a brook.

North of Głogów-Baruth Ice marginal valley there are ground moraine areas, but they were extensively covered by meltwater deposits. Thus, the present relief represents a mosaic of island-like ground moraines and extensive ice marginal valleys. The largest ground moraine islands is called "Teltow". In the eastern part of "Teltow", there is the village of Miersdorf, today a district of the town of Zeuthen.

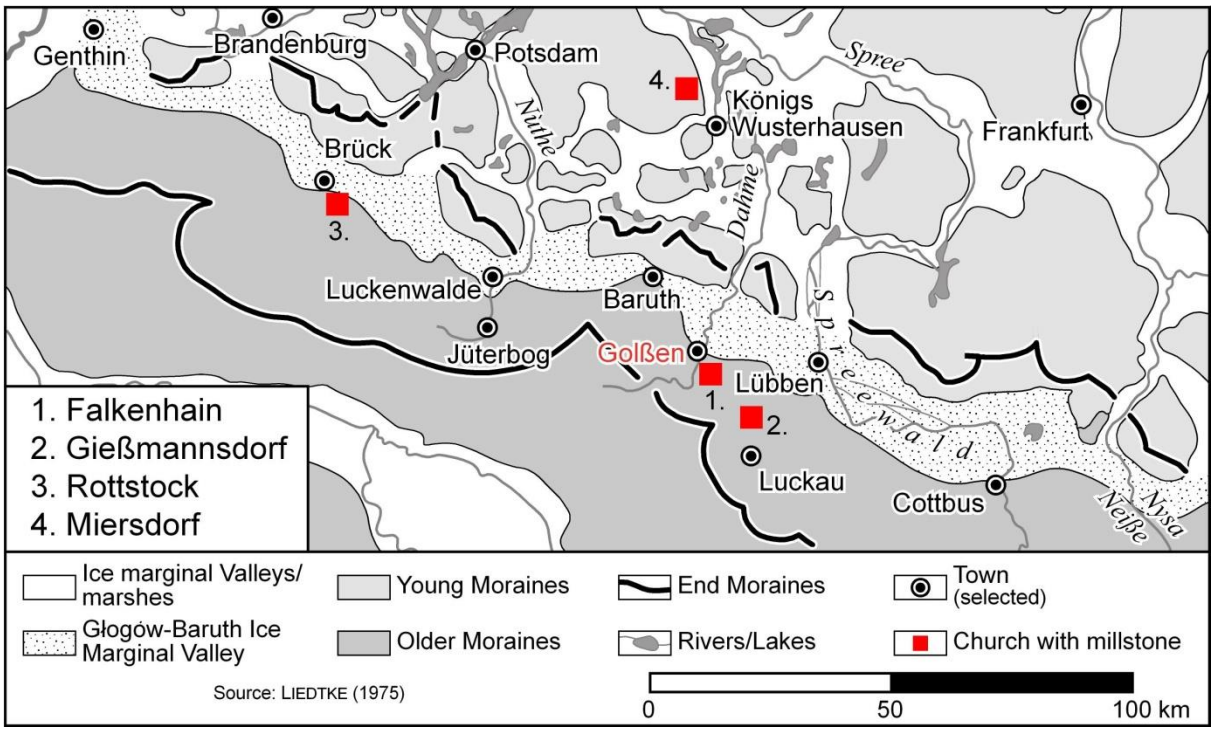

Fig. 1. Location of churches with millstones on the background of a geomorphological map

Only few river names (e.g. Spree, Dahme) survived as elements of the time before the Slavonic settlement in course of Migration Period. In spite of that, many testimonies of the Slavonic period can be found as settlement names until today. The Slavonic Period lasted in the area approximately from the 6th century to the 12th century. From the 12th century, the area increasingly came under German influence and subsequently formed a border region between Brandenburg, the March of Meissen (the precursor of today's Saxony) and the Archbishopric of Magdeburg. While the town of Golßen as well as Falkenhain, Gießmannsdorf and Rottstock were parts of the March of Meissen/Saxony for a long time, Miersdorf always belongs to Brandenburg. Only since the Napoleonic Wars in 1815 the entire area belonged to Brandenburg/Prussia. This history is also reflected by the millstones of the 4 churches: The former Saxonian villages used the same white sandstone. It does not occur in this size within the ground moraines (Fig. 1). They are probably cretaceous sandstones from the Elbe Sandstone Mountains. For the church of Miersdorf a reddish, Scandinavian granite was used, as it is often found as erratic boulder.

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The historical use of boulders and millstones with focus on so-called 'Feldsteinkirchen' (boulder churches) and the protection of giant erratic boulders as natural monuments in NE Germany

Dr. Andreas Börner

State Agency for Environment, Nature Conservation and Geology of Mecklenburg-Vorpommern, Güstrow

The increasingly intensive exploitation of our planet and its resources, and the growing need to maintain and protect the environment in which we live, mean that geosciences are becoming increasingly important for solving the problems associated with development. It is important for geoscientists to improve public awareness about the ability of geoscience to provide reliable predictions and concepts for our planet. Geotopes represent earth-historical formations of inanimate nature that provide insights into the development or past life on earth. The geotopes are documents of special value for science, research and teaching and protected by law if they are distinguished by their special geological significance, rarity or uniqueness. In Germany the geotope conservation is organized by the Geological Surveys of the Federal States following a general guideline (Ad hoc AG Geotopschutz 1996).

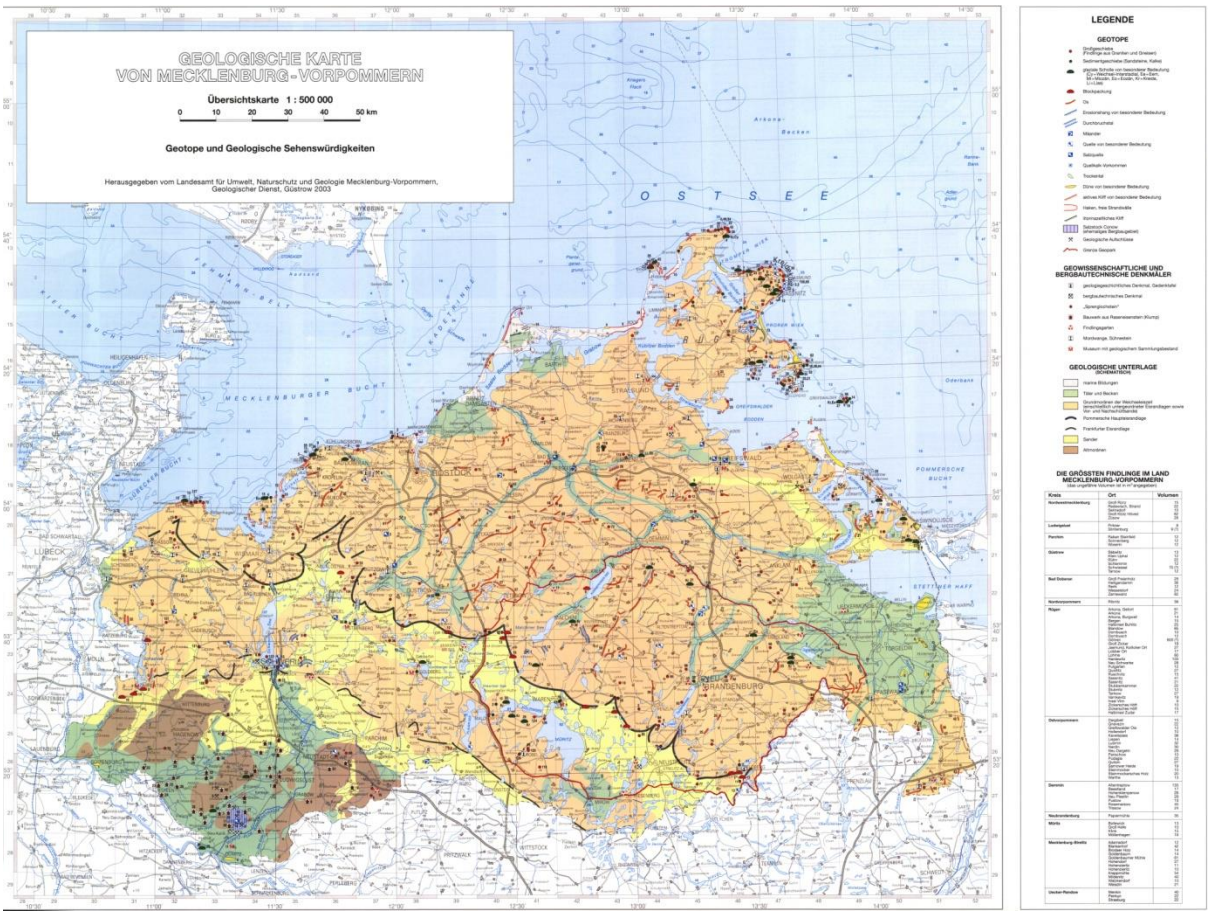

Fig. 1. Geological map of geotopes and geological sights Mecklenburg-Vorpommern 1:500.000. (Schulz & Schütze 2003)

Protected geotopes by nature conservation law (NatSchAG M-V 1998) in Mecklenburg-Western Pomerania:

- Giant Erratic blocks,
- Esker landforms,
- Springs, dry valleys and calcareous tufa deposits,
- Open inland dunes and perimarine beach dunes,
- Selected cliff sections and perimarine beach hooks.

Protected erratic boulders in Mecklenburg-Western Pomerania:
(Appendix 3 to § 20 para. 2 of the State Nature Conservation Law: LNatG M-V 1998)
An erratic boulder represents a block of rock transported by the inland ice (Schulz & Schütze 2003, cf. Fig. 1). Erratic boulders are protected by law if they reach the following minimum sizes according to the natural distribution:

- Erratic crystalline and metamorphic rock boulders of last glaciated area (Weichselian) are protected with a minimum volume of 10 m^3 and minimum length of 3.5 m.
- Erratic crystalline and metamorphic rock boulders at pre-Weichselian landcape are protected with a minimum volume of 5 m^3 and minimum length of 2.5 m
- Erratic blocks made of sedimentary rocks (limestones, sandstones, quartzites etc.) with length > 1 m in are generally protected.
- The protection of boulders does not exclude their relocation in individual cases.

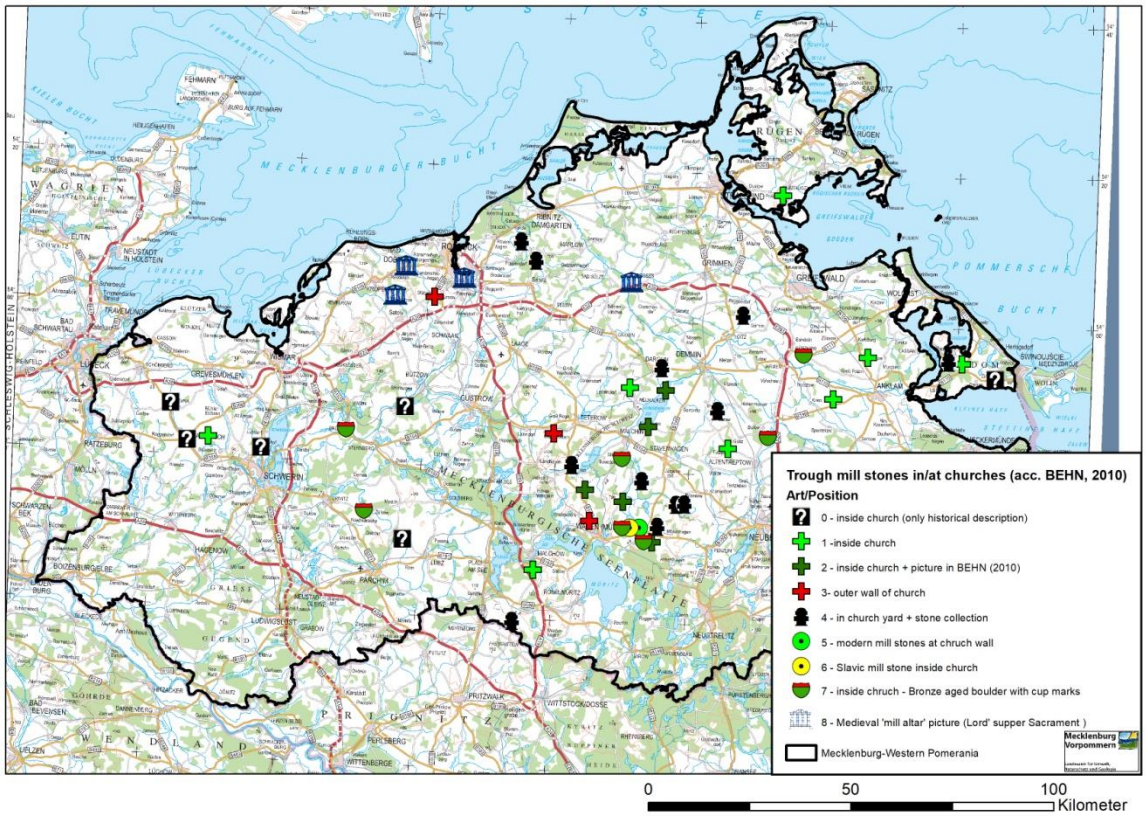

Fig. 2. Position of trough mills or millstones and 'mill altar paintings' in churches and church yards in Mecklenburg-Western Pomerania

The presentation of millstones and trough mills in churches in several churches of Federal state Mecklenburg-Westen Pomerania you can find next to the entrance, which are thought to be holy water as holy water basins from the pre-Lutheranian Reformation period (Behn 2010).

Besides the originals, which can be found in some churches (cf. Fig. 2), there are also historical records or descriptions of former basins of this type (Fig. 2: legend ID #0). The description is highly suggestive of a highly suggestive of a walled Bronze Age millstone, i.e. a trough mill. It cannot be assumed that a mill was deliberately because of its historical use as a mill was deliberately chosen, especially as it cannot be whether the function of these stones was known in the Medieval Ages (Behn 2010). According to Behn (2010) it would be more reasonable to assume that the reason for the use of these historical trough mill stones for use as an extremely durable holy water bowl or vessel.
The regional occurance of trough mills in churches are mapped in fig. 2 (based on: Behn 2010):

- In the some places trough mills were found inside churches where a holy water basin were walled-in wall niches (Fig. 2: legend ID #1-2),
- In other cases, the trough mills had been walled into the outer wall of a church, as it were at the entrance to the access to the church before entering (Fig. 2: legend ID #3),
- In some cases a trough mill is built into the cemetery wall (Fig. 2: legend ID #3),
- In other churchyards are single mills or group of through mills collected, often to be safed or protected from theft (Fig. 2: legend ID #4),
- The relationship between millstones and churches is in the church at Schloen, where a Slavic millstone of considerable height as well as a large "modern" millstone in the basement, generaly made from erratic boulders, at the northern side are visible (Fig. 2: legend ID #5),
- Also in Groß Dratow, close to Schloen village, a combination of a Slavic millstone and a Bronze aged boulder with cup marks (*Schälchenstein – Näpfchenstein*),
- In some churches are used Bronze aged boulder with cup marks (*Schälchenstein – Näpfchenstein*, Fig. 2: legend ID #7)

Fig. 3. The millstone at the basement of Schloen outer church wall (Zeitz 2022)

In four bigger churches so called "sacrament mills" including a figuratively explanation of the Lord's Supper sacrament can be found in Mecklenburg-Western Pomerania (Fig. 2: legend ID #8). At these "mill altars" from late 15th century the message were represented something like "picture books" and the Bible words were illustrated. For example according to Bluhm (2013) at the mill altar of Retschow village the four evangelists, John (eagle), Mark (lion), Matthew (angel), and Luke (bull), represented by their symbols. Each evangelists documented the life of Jesus Christ in their gospels. Each of these gospels begins with different words and these words are recorded on the banners that the evangelists pour into the mill in the picture.

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Medieval fieldstone churches in north-eastern Germany

Dr. Tilo Schöfbeck

Bauforschung – Archäologie – Dendrochronologie, Schwerin

It is well known that there is a lack of rock as a natural building material in the North German Plain. The reaction to this is, on the one hand, wooden constructions such as stave churches, half-timbered churches or log buildings. But in the Middle Ages, there were only two alternatives for erecting permanent solid buildings: fieldstone churches and brick churches. In the course of the German settlement in the east, hundreds of village churches were built east of the Elbe within a few decades.

Where the ice age left enough fieldstones, these were the number one building material (Fig. 1), but as they were mostly very hard rocks such as Swedish granite, they were laborious to work. The lecture gives an overview of fieldstone buildings, starting in the 12th century in the Altmark or on the Fläming up to late Gothic churches in Mecklenburg and Pomerania.

Millstones were only used extremely rarely, usually recycled in a new function or in some areas decoratively walled into the façade. Most prehistoric trough mills, however, only found their way into churchyards secondarily, either as reading stones for the construction of the cemetery wall or (especially in eastern Germany) through the preservation of archaeological monuments.

Fig. 1. Fieldstone-church of Möllendorf, Altmark (photo by Tilo Schöfbeck).

Session II

The export of querns and millstones made of Rhenish lava to eastern Germany and to Poland from Roman to Late Medieval times

Dr. Stefan Wenzel

LEIZA Leibniz Centre for Archaeology, Mayen

In the lava flows of the Bellerberg volcano near Mayen, „basalt"-like lava (phonotephrite; short: lava) has been quarried since the Neolithic period. This rock is an ideal material for the production of querns and millstones because of its vesicular structure and its abrasion resistance. Due to the advantageous location of the rock deposit near the Rhine, the Moselle and the Lahn, saddle querns found a supra-regional distribution from the Late Bronze Age (ca. 1200 – 800 B.C.) and rotary querns from the Middle Latène Period (ca. 250 - 150 B.C.) onwards.

In the Roman period, the export of millstones made of Mayen lava experienced a significant expansion. The standard product of the Mayen workshops from the early imperial period onwards were querns, which were given the appearance of branded products by a special decoration with grooves. In addition, various types of millstones were also produced. The distribution area of Mayen quernstones in the early and middle imperial period reaches from Scotland to the northern foothills of the Alps, from Burgundy to the German North Sea coast, sporadically also to Carinthia, Thuringia and Brandenburg. In Late Antiquity and in the Early Merovingian Period, this distribution area was somewhat reduced.

In the Younger Merovingian period, quernstones and millstones of lava in the form of flat discs were introduced. The export of vesicular lava experienced a marked expansion, going now to Jutland (Ribe) and to the southeastern coast of the Baltic Sea (Groß Strömkendorf / Reric). Flat querns with a collar around the eye of the runner became common from Carolingian to High Medieval times. In the Carolingian period, in addition to Mayen new quarries were opened in nearby Niedermendig. The export area of Rhenish basalt-like lava was enlarged. Fragments of querns now can be traced as far as Quentovic, Kaupang, Birka, Wolin and Neuzelle.

Pot querns were produced since High Medieval times. Large flat cylindrical millstones for operating water mills appeared in the late Middle Ages. In the High Middle Ages as well as in the Late Middle Ages, millstones made of Rhenish lava can be found mainly along the Baltic coast, but occasionally also in the inland. This material has been documented in the Slavic fortresses of Brandendenburg and Drense. There are also rich written sources from the late Middle Ages on the import of Rhenish millstones, especially to the castle of the Teutonic Order in Malbork.

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Fig. 1. Hakenberg (Brandenburg), village church. Medieval pot quern of basalt-like lava (diameter 39 cm), secondarily used as baptismal font and since 1875 bricked in the tower (photo by Dariusz Brykała)

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The Mystery of the *Hünenhacken*

Dr. Eva Becker

Independent Researcher, Prenzlau

Everywhere in the Uckermark region you can find large trough-like stones, whose trough like deepening sometimes exceeds 20 cm. These stones are always called in German "*Mahltrog* - grinding trough" or "*Trogmühle* - trough mill", because it is assumed that they were used for grinding grain. These artifacts are far from being trough mills in scientific sense.

These objects, called *Hünenhacken* in the 1st half of the 19th century in Mecklenburg, are mostly elongated stone objects closed on three sides, one transverse side is always open, so they are not a trough.

The *Hünenhacke* is also not a mill, because it does not consist of two round stones.

The *Hünenhacke* has various characteristics that distinguish it greatly from querns.

The *Hünenhacken* have various characteristics that suggest an "industrial" production of these objects.

The use of the *Hünenhacken* as a device for grinding grain is opposed primarily by the following consideration: Why should such an elaborately made stone be used for grinding grain when simpler stones also serve this purpose?

What were the *Hünenhacken* used for, if not for grinding grain? An excavation from the 1930s on the Shetland Islands could provide information.

The millstone in the visual arts - an attribute of the saints and a tool in a typological story

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Like many other items characterized as both common and important for supporting human existence, the millstone has become not only a material element of reality, but also a vehicle of symbolic meanings. It appears in this aspect also in the visual arts.

Besides, a millstone or quern-stone appears in a typological context. It is depicted in an illustration of one of the stories of *Speculum humanae salvationis* (**Mirror of Human Salvation**). *Speculum…* is a strictly codified type of a medieval typological book. Typology is the way of theological thinking and interpretation derived from biblical studies in late antiquity, but it developed especially in the Middle Ages. According to that doctrine, the events of the New Testament or other themes carrying a theological sense are connected with either events of the Old Testament or, less frequently, with ancient and miraculous stories. The typological core is created by the inner sense analogies. In the Middle Ages these sophisticated comparisons were accompanied with images. In *Speculum…*, chapter XXXVIII, we can see the story of the treacherous king Abimelech. During the siege of Thebez, his skull was crushed by the upper part of a quern-stone, thrown by a women from city walls (Judg 9: 50-54). This short story is the forecast of Virgin Mary protecting sinners and mediating for them before Christ. Virgin Mary protects us from the haughty devil and from mundane temptations, just like the Thebez woman protected her city by killing Abimelech. The millstone became here the sign of the brave woman compared to Virgin Mary. Mary is seen here also as the type for the Church (*Ecclesia*), constantly attacked by evil powers and protected by piety at the same time. The humiliating death caused by an ordinary female working tool is the type for the advantage of *Maria-Ecclesia* over demons.

To this day there exist many examples of medieval biblical images with millstones. They will be briefly described during our oral presentation. Apart from references to events from the Old and New Testament, millstones in iconography are used as attributes of some saints (Fig. 1). Most of them died in the period of persecution of Christians, with a millstone tied around the neck (e.g. Saint Florian). However, this attribute sometimes allowed them to flee miraculously from their persecutors (e.g. Saint Anthony of Rome – a saint of the Orthodox church).

An interesting example of a saint with a millstone as his attribute (in the context of their value for culture-creation and identity of a local community) is Saint Piran, regarded as the patron of Cornwall. For his preaching of the Gospel, he was tied to a millstone and thrown into the sea but surprisingly he did not drown but instead arrived on the shores of Cornwall. His feast, celebrated on 5 May, is a manifestation of unity of the community for which Saint Piran is one of the foundations of cultural identity and the feeling of separateness. Saint Piran is a patron of tinners but his name is given to schools and sports clubs, including SAINT PIRAN Professional Cycling Team, established in 2018. Images of this saint surfing on a millstone or carrying it under his arm appear of labels of beer known as St Piran's Ale. Also St Piran's rum and coffee are sold. In 2018, his 3.5-metre-high sculpture was made by David Paton and Stephane Rouget, showing the saint with a millstone tied to his neck. It was transported to Brittany and now can be seen in the Valley of the Saints in Poher (former

county). Thus Saint Piran crosses the boundary between holiness and unholiness, as he is both the patron of Cornwall and an important 'attribute' for building a sense of separateness and a recognizable 'brand' of the region.

Fig. 1. Statue of Saint Vincent with a millstone, in the altar of St. George's Church in Wismar (photo by Cezary Kardasz)

The Image of the Eucharistic Mill: An Allegory of Transformation

Dr. Esther Wipfler

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The image of the Eucharistic Mill was created around 1400 probably in Prague as a completely new allegory in order to visualize the Roman Catholic doctrine of transubstantiation, the transformation of the substances of wine and bread into the substance of blood and body of Christ in the Eucharistic offering, affirmed in the Fourth Council of the Lateran in 1215.

With the help of the image of the wheat mill the image shows the process of the transformation of the word of God into the body of Christ present in the Eucharist (represented as child, Eucharistic host and chalice).

The allegory was an apologetic reaction to the teachings of the Oxford theology professor John Wyclif (d. 1384). According to Wyclif, the doctrine of transubstantiation has no biblical fundament; bread and wine of the Eucharist are to be regarded as signs instituted by Christ in which he could spiritually encounter any receiving lay person. Wyclif's ideas were spread on the continent around 1400 through his disciples coming from Bohemia. The Council of Constance (1414-1418) determined to burn Wyclif's writings and declared him a heretic in 1415.

Fig. 1. The Eucharistic Mill on the middle panel of an altarpiece of the first quarter of the 15th century in the former Cistercian Church St. Mary in Doberan (Mecklenburg-Vorpommern). (photo by Dariusz Brykała)

Only 26 representations of the Eucharistic Mill in all artistic genres from the early 15th century to the second half of the 16th century are known, almost all are located in Germany (Wipfler, 2003, 2018).

Monastic orders such as the Cistercians defended the doctrine and finally even prohibited in 1437 the use of the chalice by the altar servers. Therefore it is not surprising that the Cistercians spread the motif of the Eucharistic Mill along the Baltic coast. It can be assumed that the dissemination there took its starting point from the Cistercian monastery in Doberan (see Fig. 1). This will be one focus of my presentation which is going to analyze the structure and the elements of the image whose framework is modeled after a mill of the early 15th century.

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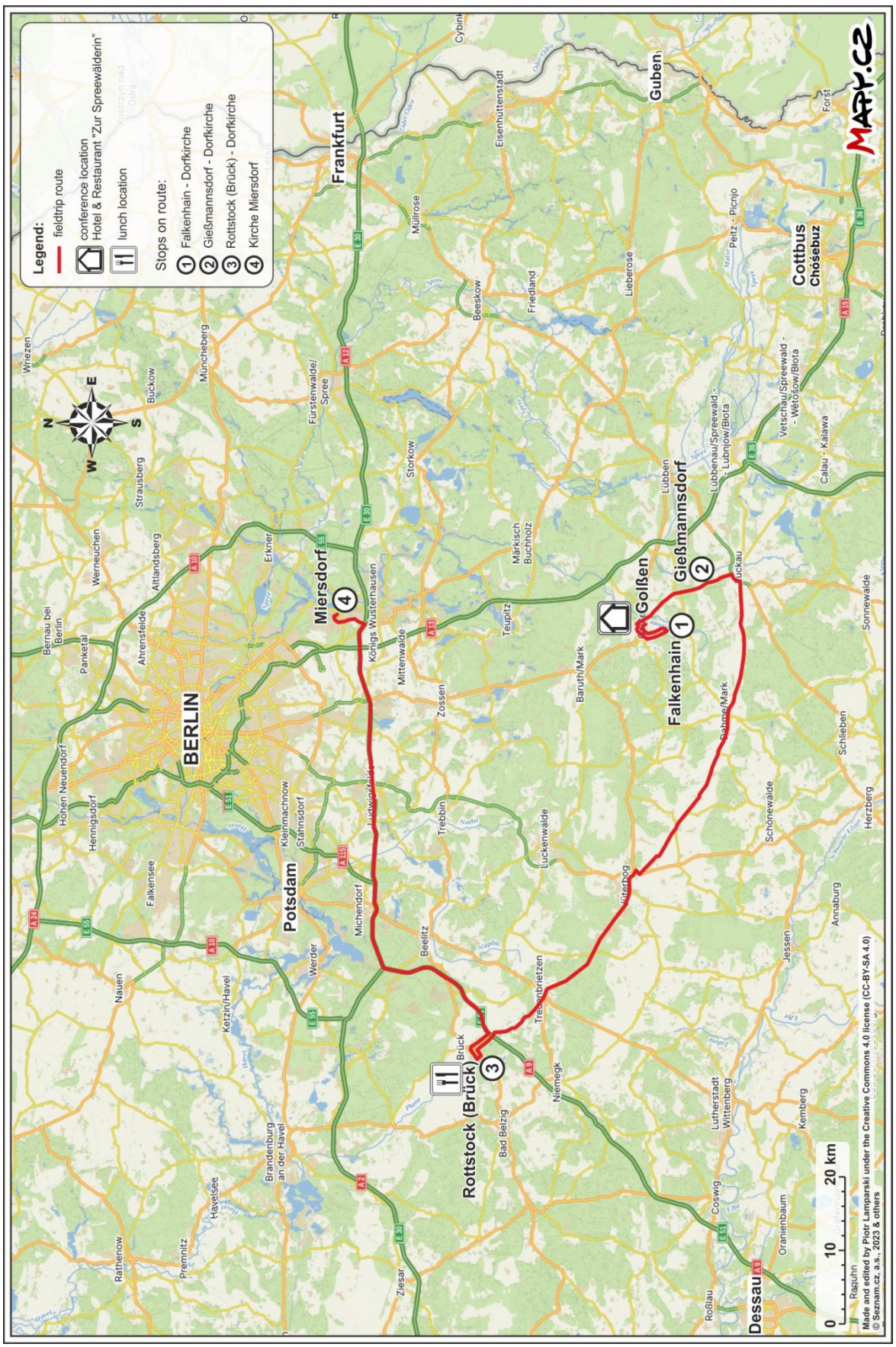
WORKSHOP EXCURSION



Examples of churches with millstones in Southern Brandenburg (Germany)

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Introduction

In the 10th century the areas along the rivers Elbe and Saale were governed by kings from a Saxon lineage of Ottos. At that time, both the state and the Church were dominated by the Holy Roman Empire. The strengthening and spread of Christian faith helped to glorify the emperor and the other way around: his rule had to bring benefits to the spread of Christianity. Thus the empire had to be expansive both in terms of politics and the Church. It expanded eastwards, to the Slavic lands on the left banks of the rivers Elbe and Saale.

To confirm their dominion and Christian faith in the conquered territory, the Holy Roman Emperor Otto I in 948 created two bishoprics: in Brandenburg and Havelberg (and the third one in 1133 in Lebus). Initially they were supervised by the Archbishop-Elector of Mainz, but in 968 he created the archbishopric in Magdeburg. Also newly established Franciscan and Cistercian cloisters played an important role in Christianization of the local people. These were the milestones of Christian expansion in the region inhabited by Slavic tribes.

Since the mid-13th century, large-scale colonization was started by settlers from Lower Saxony and Westphalia, Rhineland, and the Netherlands, in the sparsely populated or depopulated areas of present Brandenburg. The Fläming region (in south-western Brandenburg) is named after the Flemish settlers. Some of the settlers inhabited Slavic villages, while others created new ones. The immigrants were followed by priests, and parish churches were built. In this way, Christianity appeared in the country as the faith of colonists. To this day, many Slavic names of villages, etc. have been preserved in Brandenburg, Mecklenburg, and Vorpommern.

Village churches in the former March of Brandenburg

The greatest architectonic achievements certainly took place at the beginning, in the first period after the arrival of German colonists (1190–1250). This interesting architectonic period of transition from the late Romanesque style to the early Gothic style can be admired because of the large scale of works realized in many villages. The buildings were most often made of fieldstone. They still dominate in the landscape, with their broad towers and tall roofs. Only rarely a chronicle or another document includes information about their establishment. Anyway, it is known that near Doberlug most of the churches existed as early as in 1253.

Fieldstone was used in all the places where other building materials were unavailable or hardly accessible. Erratic boulders were found in large numbers on fields. The first so-called *Feldsteinkirchen*, built of granite blocks, are evidence of the craftsmanship of the builders. Such architectonic constructions could not be built by simple peasants. The churches are clearly results of an advanced technology, which could be implemented exclusively by skilled stonemasons. In this region, bricks were more and more commonly used in the following ages, but still fieldstones (although much less processed) were utilized for church

construction till the 16th century. We will visit several such churches built of fieldstone during a field trip in the southern part of Brandenburg.

Falkenhain

The village church in Falkenhain (Fig. 1) is late Gothic, probably from the late 14th century (Vinken et al. 2000). The western tower was built later, on a plane of a slightly? transverse rectangle, with a hip roof. It was built mainly of poorly processed fieldstones, with many pieces of bog iron ore in the mortar (Fig. 2). The northern part of the main nave of the church is completely devoid of windows. High on that wall is the door to the patron's box upstairs, but the outer stairs leading to it have not been preserved.

Fig. 1. General view of the church in Falkenhain (photo by Dariusz Brykała)

In the inner eastern wall of the presbytery, there is a niche with a late Gothic, wooden *sacramentarium*. On its inner walls, a colourful painting has been preserved, showing floral ornaments and simple white, red, and black rhombi. In the outer eastern wall of the church, six mural monuments of the Leopard family are located (five from the 17th century and one from the early 18th century), with partly preserved cartouches and coats of arms.

On the church tower there are two bells. The northern bell (80 cm across), with a preserved two-line inscription, was cast in 1595, whereas the southern bell (67 cm across) was cast in 1910 in Apolda.

A millstone was placed in the southern wall, above the only portal of this church (Fig. 3). In the brick frame of the portal, there are so-called *scratch marks* (Fig. 4) – in Polish: *dołki pokutne* or *świdry ogniowe*; in German: *Näpfchen* (Jünemann 1977, Hochleitner 2002, Weertz et al. 2014, Pauch 2017). In the local community of Falkenhain, some people still remember that the powder from the scratched bricks of the church walls was supposed to have healing properties, since it came from a 'holy place'. Particularly noteworthy is also a very old, oak door with a latch and a medieval lock in a wooden box.

Fig. 2. Piece of bog iron ore in the mortar of the church in Falkenhain (photo by Dariusz Brykała)

Fig. 3. Location of the millstone above the portal of the church in Falkenhain (photo by Dariusz Brykała)

Fig. 4. The scratch marks on the portal of the church in Falkenhain (photo by Dariusz Brykała)

Gießmannsdorf

The village was created in the 13th century and was one of the Golßen properties. The village church in Gießmannsdorf (Fig. 5) is an early Gothic hall church, probably from the early 14th century, with a rectangular tower added on the western side in the 15th century (Vinken et al. 2000). On the inner eastern wall of the presbytery, a *sacramentarium* framed with bricks has been preserved, with a lattice door made of malleable iron. The main building material was field stone, poorly processed, varying in size. A geomorphological curiosity is the occurrence of traces of wind erosion on some of the embedded erratic boulders (Fig. 6). They are so-called ventifacts (in Polish: *graniaki*, in German: *Windkantern*) (Nitz 1965, Antczak-Górka 2005, Knight 2008, Durand & Bourquin 2013).

The church has two portals in the southern wall of the main nave. The main entrance now is the portal dating back from the 17th century, situated on the side of the presbytery. The portal is covered by a porch, which is a half-timbered construction, created in the mid-18th century, later dismantled and reconstructed in 2012. Above the smaller portal (close to the tower), a large millstone is embedded (Fig. 7). It is in an identical position as in the case of the church in Falkenhain. It cannot be excluded that on both sides of the portal two halves of the same millstone were embedded. Now only a fragment of a half-round stone is left on the right-hand side of the entrance. Another interesting specimen is a stone with a checkered pattern, embedded in the south-western corner of the tower.

Fig. 5. General view of the church in Gießmannsdorf (photo by Dariusz Brykała)

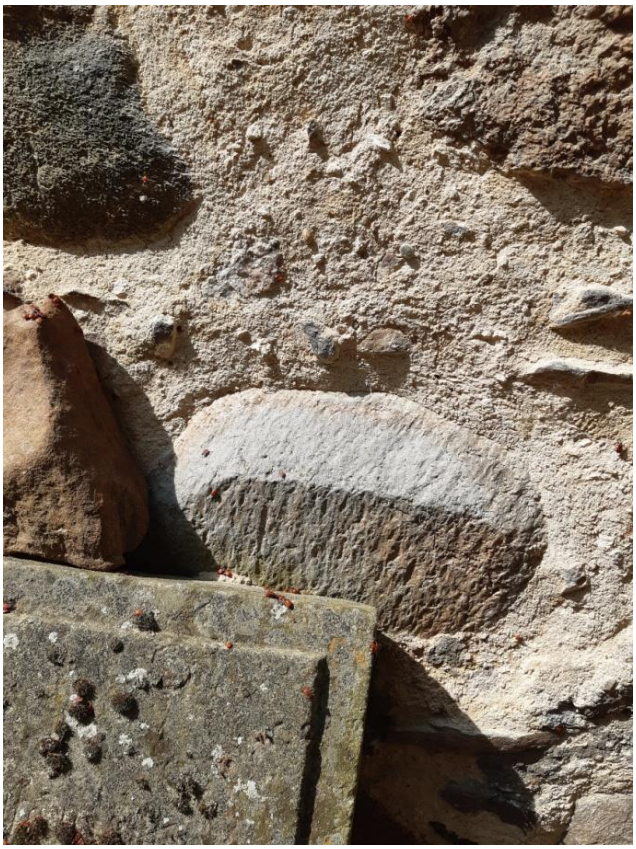

Fig. 6. Example of a ventifact, embedded in a wall of the church in Gießmannsdorf (photo by Dariusz Brykała)

Fig. 7. Location of a millstone and a fragment of a putative half of another millstone embedded in a wall of the church in Gießmannsdorf (photo by Dariusz Brykała)

Rottstock

The first known written record about this village dates from 1251 and says *molendinum Rodestock*, so it refers to an already existent mill. It was one of the oldest mills in this area (Wernicke 1931). The place name Rottstock probably derives from the Slavic word *roztoka*, denoting a deep valley with a stream or the stream itself. The settlement was situated at the fork of the stream Rottstocker Graben. Such places were preferred for location of watermills (Brykała & Podgórski 2020). In 1349 its name was Rotstock and it was a church village. In 1383 its name was *Czu Rostock*, and in 1873, Alt-Rottstock.

The late medieval village church in Rottstock (Fig. 8) is exceptional in the Fläming region. The building is oriented, with a semi-circular back of the presbytery. The walls surrounding the nave are built of fieldstone varying in size, mostly unprocessed, with the use of bricks in some places (especially in window frames). The main entrance to the church is situated in the southern wall of the main nave. The nave has two middle-sized windows on the southern side, three on the northern side, and a small one above the main entrance. The eastern part of the church was built in the Gothic style in the early 16th century. In the north-

eastern wall of the presbytery there is the so-called *sacramentarium*. The timber roof truss of the main nave was dendrochronologically dated to 1434 or 1435 by Dr. T. Schöfbeck and Dr. K.U. Heussner.[1]

Fig. 8. Fieldstone-church in Rottstock (photo by Dariusz Brykała).

The church tower was added on the western side slightly later than the main nave, probably around 1482 (dendrochronological dating by Heussner and Schöfbeck).[2] The massive, nearly square tower (Fig. 9), is slightly narrower than the nave. The bell storey has two acoustic openings on the eastern and western sides each and one acoustic opening on the northern and southern sides each. The tower has a very high, octagonal pyramid roof. This is exceptional among the Gothic village churches in the study area (Gericke 1977). It is topped with a tower ball carrying a wind vane and a star. The wind vane is marked with the year 1905. According to written sources, the building or renovation works on the tower with the millstone were carried out in 1520, 1720, 1820, 1902, 1904–1907, 1947, 1955–1959, 1985, and 1988–1989.

Two brass bells are located on the tower (Vinken et al. 2000): one from 1248 (56 cm across), with an inscription *AnnoMCCXL.VIII*, and the other from 1504 (89 cm across), with a Gothic inscription *In honorem Sancte Marie virginis* (= In honour of the Blessed Virgin Mary). The former bell is one of the oldest preserved bells in the state of Brandenburg, so in Rottstock the church could initially be built in the late Romanesque style. This hypothesis seems to be confirmed by the presence of a Romanesque baptismal font made of sandstone.

[1] http://userpage.fu-berlin.de/~engeser/potsdam-mittelmark/index.html

[2] http://userpage.fu-berlin.de/~engeser/potsdam-mittelmark/index.html

Fig. 9. Tower of the church in Rottstock: view from the south (photo by Dariusz Brykała)

Fig. 10. Millstone embedded in the tower of the church in Rottstock (photo by Dariusz Brykała)

The millstone (Fig. 10) is embedded in the southern wall of the tower (Wulfert 1942), at about half its height. There are no source materials explaining why this was done. However, in the memory of local residents, information about it has been preserved: Wilhelm Schiering, owner of the mill in Gömnigk, in the early 20th century donated a large sum for the construction works in the church in Rottstock. He then asked to embed a millstone from his mill in the tower as a memento of him. That wish has been fulfilled. Moreover, he supposedly was given the right to burial (for himself and his family) at the cemetery beside the church. Another possible use of the millstone in the tower of the analysed church was suggested by Friedrich Bamberg (1918). In his opinion it could serve as the dial of a sundial.

Yet another cause of the placement of the millstone in the tower of the church in Rottstock was found in a folk source. A book of tales and legends from the Zauch-Belzig district, published before the 2nd World War (Brachwitz 1937, Hesse 2018), includes an interesting story. A miller from the above-mentioned village of Gömnigk asked a devil for help in his business. The devil agreed and ensured his success in exchange for the miller's soul. After some time, the devil asked for the miller's soul but the man requested the devil to allow him to see the neighbourhood for the last time. However, when the miller crossed the door, he quickly escaped to the church in the nearby village of Rottstock. The furious devil grasped a large millstone and threw it towards the miller. Fortunately the stone did not hit him but the tower of the church, where it still remains.

Fig. 11. Millstone on the grave of a miller from Gömnigk, located in the cemetery near the church in Rottstock (photo by Dariusz Brykała)

In the cemetery near the church, there is also an interesting gravestone made of a used millstone. It is the grave of a master miller Max Kahmann (1937–2009). His family owned the mill in Gömnigk from the 1920s to 2002. The grave is located in the northern part of the cemetery (Fig. 11).

Miersdorf

The village was first mentioned in 1375, in judicial documents of Holy Roman Emperor Charles IV, as *Mirenstorpp* (in later records also as *Mirenstorf* or *Myrenstorp*). The Slavic name of this village probably derives from the Slavic name *'Mirosław'* (Schlimpert 1972). Already at that time the parson's income included part of the profits from a nearby mill. From 1440 the village, known then as Myrenstorff, was owned by the von Enderlein family.

Fig. 12. General view of the church in Miersdorf (photo by Dariusz Brykała)

The first village church was built most probably in the early 14th century. From that period of existence of the church, a beautiful sculpture *'Maria von Miersdorf'* has remained (created around the year 1370). Wooden statues of Saint James and Saint Barbara date from the early 15th century.

The church was reconstructed and/or extended several times. Most probably the hall church, made of poorly processed fieldstone (Fig. 12), was built before the Reformation, in the late 15th century or the early 16th century. Its characteristic feature was a very steep gable, typical of late Gothic churches. It was slightly lowered during a later reconstruction. The current external shape was created in 1710. The walls of the main nave were then elevated with bricks, a wooden tower was built above the western gable of the church, while windows and doors were enlarged (Vinken 2000).

Fig. 13. Millstone embedded next to the portal of the church in Miersdorf (photo by Dariusz Brykała)

In 1993, the ground level around the church (the former cemetery) was lowered to the level of the floor of the church, so thanks to this some basal fragments of the walls were exposed. In the basal part of the western wall of the church, to the right of the current main portal, a millstone is embedded (Fig. 13). It was certainly visible to the people entering the church also before the lowering of the ground level around the building (Spatz 1912).

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