GRAVE ORIENTATION IN THE MIDDLE AGES

A Case Study from Bled Island

Benjamin Štular

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CONTENTS

1 INTRODUCTION

1. 1 INTRODUCTION TO THE SECOND EDITION

The aim of this book is to demonstrate the importance of grave orientation for the archaeology of Medieval death and burial. In doing this, I want to emphasize two key points. First, grave orientation was an important, and in some cases the most important, conduit for the symbolic meaning of burials in the Middle Ages. Second, for an archaeologist to reconstruct this meaning, the analysis must be conducted with methodological rigour, and inferences must take the broader context into account.

To this end, the book addresses three interrelated issues. First, the state of scholarship on grave orientation studies; both in this case study and in the literature, the topic is intertwined with church orientation. Second, the methodology for analysing grave orientation; since the case study is based on old excavations, special attention is given to the reuse of the legacy data. Third, the Bled Island case study.

Bled Island is an islet on Lake Bled (Slovenia). It has a special meaning for today's Slovenian population and it held a special meaning for the local populations since prehistory. It is thus not surprising that the two Medieval cemeteries and the church on the islet are imbued with symbolism. And much of this symbolism was expressed through the orientation of the individual graves, grave groups, and the church building.

The embedded symbolism is best illustrated by the example. In the first decade of the 11th century, a single interment occurred on Bled Island. The deceased woman was placed in the grave with jewellery according to the centuries-old burial rites of her pre-Christian ancestors. However, her burial differed from all previous ones in one single feature: The grave was oriented parallel to the Christian church-to-be. More precisely, the church building must have been at least partially built, otherwise the grave could not have been aligned with it. But the church could not yet been dedicated, otherwise the "pagan" burial in the consecrated churchyard would not have been allowed. Thus, this was a biritual burial, following both pre-Christian and Christian rites. This grave is one of the rare archaeological finds that testify almost exactly to the point in time (in reality weeks or perhaps months) when the population of the small region of Bled was (at least ostensibly) Christianised. Archaeology was able to capture one of the very first reactions of a community to the new religion in one of the most intimate moments for any community, the interment of a beloved member. And this insight was only possible because the grave orientation was analysed in detail and studied in the context of the cemetery, the church, and the *zeitgeist*.

I hope that this exciting example will be enough to encourage you to read the book, which is divided into three parts: Methodology, Analysis and Interpretation. The methodology (*Chaps. 2* and *3*) will be of interest to archaeologists who are themselves struggling with legacy data. The analysis of stratigraphy (*Chap. 4*) is only relevant to this particular case study, although some innovative solutions are presented on how to extract stratigraphic information from non-stratigraphic excavations. The building analysis (*Chap. 5*) of the church is an integral part of the context of the cemetery. The analysis continues with the core chapters of this book dealing with the orientation of Medieval churches and graves (*Chaps. 6* and *7*) and the closely related spatial organisation of the Early Medieval cemetery (*Chap. 8*). This is followed by the spatial analysis of grave attributes (*Chap. 9*) and the closely related absolute chronology (*Chap. 10*). All the information gathered is then discussed in the archaeological interpretation *(Chap. 11*).

The catalogue of the graves is available in the first edition (Bitenc, Knific 2020b), but the plates with the drawings of the grave goods are reproduced for convenience.

1.2 WHY THE SECOND EDITION

This book is the second edition of the core chapters of the book "Srednjeveški Blejski otok v arheoloških virih / Medieval archaeology of Bled Island" (*Chaps. 3*

to 8). More or less. Thus, a few words need to be written about why I felt that this text needed to be republished after only two years.

The first edition was an edited volume resulting from several research projects. The focus of the projects involved was to investigate the Early Medieval past of the Bled Island and, in particular, the possibility that there was an Early Medieval sanctuary there. Like many such edited volumes, the book tried to be too much for too many people. It strove for a concise analysis of the Medieval cemetery, the Early Medieval artefacts, and the Early Medieval mythical landscape. These three goals are, on the one hand, too diverse for the interest of most readers but, on the other hand, very specific to the place, the Bled Island. Moreover, the book was presented as a book about the Bled Island and was thus of immediate importance only for those who were already familiar with Bled, archaeologically or otherwise.

The number of potential readers for that book was thus very small. As we undeniably live in an age where more scientific texts are written on a given subject than a single researcher can read, there has always been a danger that individual subjects in the book will be overlooked by the scientific community. One such subject, deeply buried in the chapter titled *Morphometric analysis of the site*, was grave orientation.

This was a part of my contribution to that book. I mainly focused on the spatial analysis of the cemetery, which is surprisingly often overlooked in modern research of Medieval cemeteries. The most important result that came from that analysis, in my opinion, was the grave orientation. Grave orientation is a venerable topic in Early Medieval archaeology, but despite some very convincing results it is currently not considered important. Most modern studies may mention it briefly, but rarely build their conclusions on it. However, the Bled Island case study demonstrates that, with appropriate methodological rigour, grave orientation can provide crucial insights for an understanding of a Medieval cemetery.

For this reason I have decided to republish my text in the form of a monograph book. This edition offers only modest additional scholarly insights compared to the first edition, but the text has been stylistically completely rewritten. In the process, I found that the original structure of the text, which followed the scheme of method-result-discussion-conclusion, was not suitable. Too many strands of inquiry were opened up at the same time for a reader to be comfortable with. For this reason, the structure of the book was changed with two objectives in mind. First, to reinforce the importance of grave orientation. Second, to minimise the number of threads opened at the same time.

I have also taken this opportunity to significantly improve the references. In addition to adding new bibliographic units, there have also been some publications since 2020 that I have been able to use to noticeably improve some of the conclusions.

I hope that in its present form the book will raise the awareness of how important grave orientation was in some Medieval contexts.

1.3 FOREWORD TO THE FIRST EDITION

The book you are reading was written within the framework of three research projects. The idea was conceived and the analysis of archaeological data was performed within the scope of the seminal research project *Sanctuaries. Blejski otok* (Bled Island), an island on the Lake Bled, seemed one of the most promising sites for finding evidence of an Early Medieval sanctuary. It turned out, however, that a comprehensive and in-depth analysis of the site as a whole would be needed. The work was therefore finished within the framework of research projects, entitled *The settlement of the Southeastern Alpine region in the Early Middle Ages* and *Inventory, analysis and evaluation of the primary and secondary sources of Slovene researchers on 'the old faith in the region of Soča river'*. Cemetery analysis took place within the programme *Archaeological research*.

Such a book would normally be expected to contain a consolidated archaeological and anthropological analysis, an analysis of written sources, and a confrontation of the findings in the conclusion. But, when it comes to Bled Island in the Middle Ages, this is not possible. The most comprehensive archaeological sources are those from the 10th century, and the events of the 11th and 12th centuries cannot be identified with much accuracy. Due to the excavation method, there is no contextualised archaeological data from the 13th century onwards. When it comes to written sources, the situation is reversed. The earliest direct written source for Bled Island dates to 1185 and is followed by two brief mentions in the 13th century. Only from the 14th century onwards do written sources become informative enough to enable the creation of a continuous interpretation.

There is a second, perhaps even more significant difference between the written and archaeological sources for the Early and High Middle Ages. The vast majority of the former are biased writings produced by the extremely narrow and isolated social class of monks and priests. The latter are exactly the opposite: they were unwittingly – or at least without the knowledge that one day they would be readable – produced by all people. The consequences are well known: medieval historiography – at least when it comes to the study of the discussed area – focuses on the study of a sequence of legal acts (*cf.* Chapter 8.1.1). Archaeology focuses on the study of material culture (*cf.* Chapter 2), on the

stories of individuals and individual communities within the context of long-term processes (*cf.* Chapter 8.1.2).

Here, we have stumbled upon an unexpected dichotomy between the archaeology of material culture per se and the archaeology of individuals and communities. This volume contains an outstanding example of the first approach, written by T. Knific and P. Bitenc, and an example of the second approach, written by me. During the process of the creation of this book, I have come to a realisation that might be of a broader significance for archaeology: there is no better and worse method; even less so a right and wrong method, as it is taught by some university programmes. What we are seeing are two distinct scientific fields of archaeology that ask different questions of the same archaeological record about the same people from the past. More questions result in more answers and our knowledge of the studied past is therefore enriched.

The above realisation had a key effect on the structure of this book. Individual analyses were conducted in parallel with, and independently from, each other. The original separation of tasks into a cemetery analysis (Knific, Bitenc) and a stratigraphic and building analysis (Štular) proved infeasible. The intertwined archaeological record forced everybody to investigate everything. Our intent was to merge the two final products into a homogeneous whole. Soon, however, it was found that duplications were the exception rather than the rule, and the advantages of two different approaches were immense. Both the cemetery and the structures analysis are therefore presented intact. Naturally, both exploit the same catalogue of graves, plates with artefacts, and reproductions of original documents.

The very poor state of preservation of the bone archive meant that an anthropological analysis could not be included in the process of interpretation of the site on an equal footing with archaeological data (Leben Seljak).

This is followed by taking a broader perspective, where the new findings are placed in the context of the archaeological landscape of the Bled micro-region (Pleterski).

Important for the book are the findings of the excavations near the village of Bodešče (Modrijan).

1.4 DESCRIPTION OF THE FIRST EDITION

The book Srednjeveški Blejski otok v arheoloških virih / *Medieval Archaeology of Bled Island* presents the results of a state-of-the-art archaeological analysis of data from archaeological excavations carried out in 1962 to 1964.

Polona Bitenc and Timotej Knific analysed the archaeology of material culture, while Benjamin Štular focused on the archaeology of individuals and communities. The very poor state of preservation of the bone archive meant that anthropological analysis could not be included on equal footing with archaeological data in the process of interpreting the site (Leben Seljak). This is followed by a broader perspective that places the new findings in the context of the archaeological landscape of the Bled micro-region (Pleterski). Important for the book are the results of the excavations near the village of Bodešče (Modrijan).

Two key scientific questions are posed in the book: Was there a pre-Christian sanctuary on Bled Island? What was the chronology of the churches?

It can be established that the supra-local object of pre-Christian worship on the Bled Island was a spring. Judging by analogies from written sources, the spring was surrounded by a grove or at least lay in the shade of a tree. Ritually connected to the spring was a nearby place marked with a rock. There is no direct archaeological data on when this situation arose, but it can be assumed with a fair degree of certainty that this part of the Bled Island had a special meaning already in prehistoric times.

At the beginning of the 10th century, a small community began to bury their dead on the island. The original organization of the cemetery symbolically connected it with the spring that was worshipped on the island and with the central place of the Early Medieval mortuary landscape, the Višelnica bonfire site. The graves of the first generation were carefully placed near a fireplace, where the fire burned for at least part of the burials. The following three generations buried their dead according to changed rules: The graves were arranged in rows, some were oriented towards the cardinal east and testified to considerable astronomical knowledge. The last grave in this cemetery was dug in the first decade of the 11th century and its orientation corresponded to that of the first church.

In the first decade of the 11th century, probably after the formal acquisition of the property by the Bishopric of Brixen in 1004, a small wooden church was built on the island, dedicated to St Mary of the Assumption. A grave under the threshold, the guardian of the entrance, provided symbolic protection for the church. Despite the apparent modesty of the church, its construction incorporated some cutting-edge architectural and astronomical knowledge for the time. After only a few decades, the original wooden church was demolished and replaced by a slightly larger and more beautiful building. This church was also protected by the guardian of the entrance. To the west of the church, in the shadow of the sunrise on the day of the Assumption, a very small congregation of mixed gender and age began to bury their dead. The community was orthodox and conservative, as reflected in the strict observance of the same rules for Christian burials for almost two centuries. These characteristics,

together with the exceptional position of the cemetery on the island, place this community in the circle of people who were part of the administrative and defensive apparatus of the Bishops of Brixen.

After almost a hundred years, perhaps in the second decade of the 12th century, the wooden church was demolished and the construction of a new stone church began. This was a relatively ambitious Romanesque architecture that completely changed the appearance of the island of Bled: an island with a small church near a spring in a grove became a church on an island. Immediately east of the altar of the new church, in the holiest place in the Christian world (usually reserved for saints or at least bishops), a nonadult was buried. The continuity with the old church is reflected in the burial of the third guardian of the entrance and the other burials to the west of the church.

The archaeological data agree well with the historians' interpretations, which refer to the deed of donation of 1004 and the consecration of a church in 1142. However, it should be noted that a high degree of agreement between archaeological and historical interpretations does not make any of them more solid. Since these interpretations are based on completely different sources, they remain separate, and each is only as solid as the arguments that support it.

2 DATA: DOCUMENTATION* FROM THE 1962 TO 1964 EXCAVATION

2.1 INTRODUCTION

In the following, I will briefly present the method of archaeological excavations that occurred on Bled Island in 1962 and 1964. A more detailed history of the excavation was written by Bitenc and Knific (2020a).

For modern analysis, the most important information is that the so-called *planum* or arbitrary excavation technique was used (Šribar 1974, 7–8). Using this method, the archaeological record is excavated in arbitrary levels or spits rather than feature by feature in the reverse stratigraphic sequence. The choice of this method was in line with the archaeological practices of the time, that is, before the introduction of single context recording (Harris, Ottaway 1976; Barker 1977) and stratigraphic excavation (Harris 1979). The excavations on the Bled Island were in fact among the first in Slovenia (and the then Yugoslavia) to introduce the *planum* method, which was thus a methodological novelty at the time (*cf.* Šribar 1974, 8).

The quality of the *planum* excavation depends on the following parameters: The depth of arbitrary levels, the number of control sections (i.e. profiles), and accuracy in the xyz recording of artefacts.

Each of the listed parameters has a direct influence on the quality, but also – in inverse proportion - on the speed of excavation. Digging arbitrary levels 0.1–0.2 m thick, making control sections every 4 or 5 m, and collecting artefacts within 4 or 5 m quadrants later became an established practice in Slovenian archaeology (*cf.* Šribar 1969, passim; Evis, Hanson, Cheetham 2016, 178). Unfortunately, these parameters were far less precise in the excavations on Bled Island. An arbitrary level thickness was between 0.4 m and 2 m (0.2 m inside the church), there were no control sections and the xy coordinates of the artefacts were not recorded. This means that the way the method was applied was all but precise.

2.2 PLAN DRAWINGS OF HORIZONTAL SURFACES

The main focus of the documentation was on textual descriptions of the surfaces of arbitrary levels and plan drawings of the same. The textual descriptions were recorded in the archaeological field diary in which the head of the excavations described and interpreted the archaeological record (which he did not excavate himself). According to contemporary practice, the diary was supplemented by occasional photographs and sketches of the situation.

In contrast to the above mentioned unprecise excavation parameters, the plan drawings were recorded with a high degree of accuracy. They were drawn on a scale of 1:20 or 1:50, which was a methodological advancement for Slovenian (and Yugoslavian) archaeology at the time (see the excavations of the Župna cerkev cemetery in Kranj in 1953 and 1964–1966 for the standards at the time: Štular, Belak 2012; Štular, Belak 2013). Scale and orientation are not noted on the drawings. For my analysis, only the copies of the original drawings were made available. The copies contained the following data: Context numbers, descriptions of the stratigraphic contexts in the margins, absolute elevation above sea level, drawings of at least two corners of the church building, and (only in excavation area IP 1/1) drawings of the measurement grid.

The quality of these drawings and their purpose can best be illustrated by the example of Planum 1 (***Fig. 1***). It documents the situation before the top soil was broken and it lists grass vegetation species and shows contours at 0.05 m intervals. Mapping grass vegetation species is surely not important for archaeology and the spacing between contours is misleading, as such accuracy would require at least 20 elevation measurements per square metre. No such measurements are marked in this plan drawing, while for other plan drawings about 0.01 elevations per square metre were measured. The actual measurements were thus about 2000 times less accurate than the precision of the plan drawing leads us to believe. That the precision of the contours is not based on the

* All artefacts and documentation are kept in the National Museum of Slovenia (NMS).

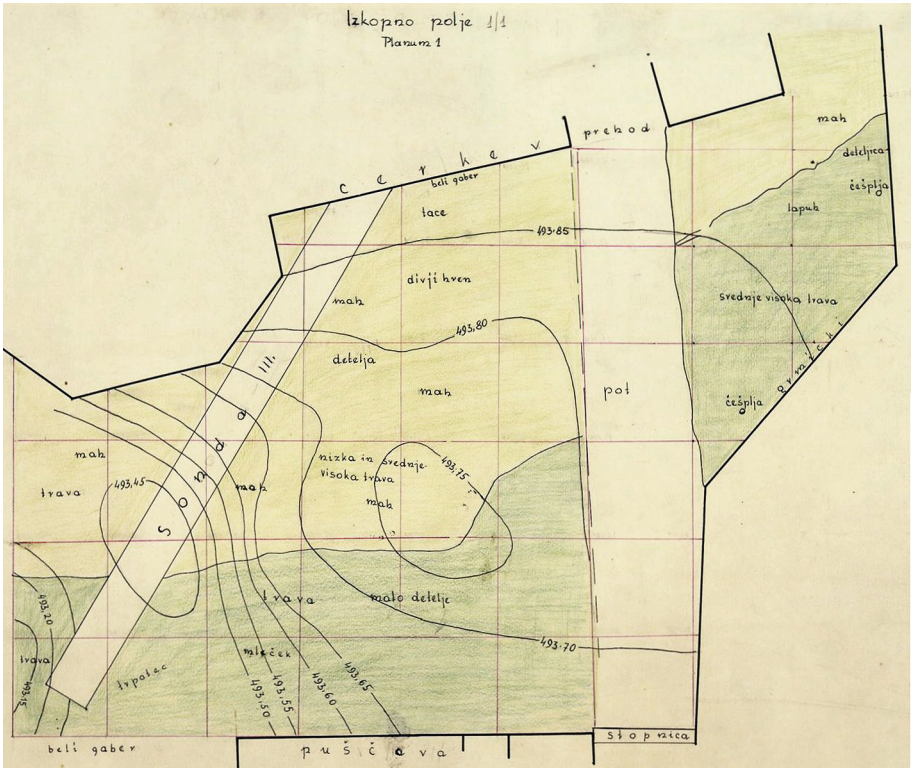

Fig. 1: Bled Island, trench 1/1 before 1962 excavation; the plan drawing is oriented according to excavation grid (data source: NMS archives AO Rn 222/1).

accuracy of the measurements is also apparent from the shape of the contours, which should be much more "jagged" (*cf.* ***Fig. 13***). Methodologically, the dichotomy between the presumed accuracy of the recording, on the one hand, and the excavation of 2 m thick arbitrary levels, on the other, is simply inexplicable. It seems that the accurate recording of the archaeological record was not the only, perhaps not even the most important goal. The authors were obviously trying to leave an impression on the onlookers.

The method chosen for the documentation had an important effect on the quality of the information. Unfortunately, the elevation measurements recorded on the plan drawings are almost without exception the elevations of arbitrary levels. They merely recorded how accurate the horizontal excavation of each level was. The only informative measurements are the elevations of the skeletons in the graves.

In summary, the existing plan drawings are of limited value for stratigraphic analysis.

2.3 SECTION (PROFILE) DRAWINGS

The analysed documentation contains 35 section (profile) drawings which are supplemented with descriptions of the recorded stratigraphic contexts. However, these are not strategically placed control sections but profiles of the edges of the trenches (***Fig. 2***). North of the present church building, the stratigraphy recorded in the sections cannot be matched with the stratigraphy recorded on the plan drawings due to discrepancies between the textual descriptions and the drawings. Inside the present church building, sections were placed along the edges of the trenches that abutted the walls; thus, the sections are adjacent and parallel to the walls. In the upper part, these sections only record the standing wall and its foundation, in the lower part the stratigraphy parallel to the walls. These sections are thus meaningless as far as the stratigraphic relationships between the archaeological strata and the standing walls are concerned; this would require sections perpendicular to the walls (***Fig. 3***).

In summary, the existing section drawings are of limited value for stratigraphic analysis. The methodological mistakes made by the excavators are due to the inexperience that accompanied the introduction of a new methodology.

2.4 ARTEFACTS (SMALL FINDS)

Artefacts found outside the graves were not systematically recorded. During the excavation of the test trenches in 1962, artefacts within the trenches were recorded only approximately according to arbitrary levels, for example, planum 4/5 (Šribar 1966, 1–19). In 1963 and 1964, no xyz information was recorded for the artefacts found outside the graves. For the artefacts from

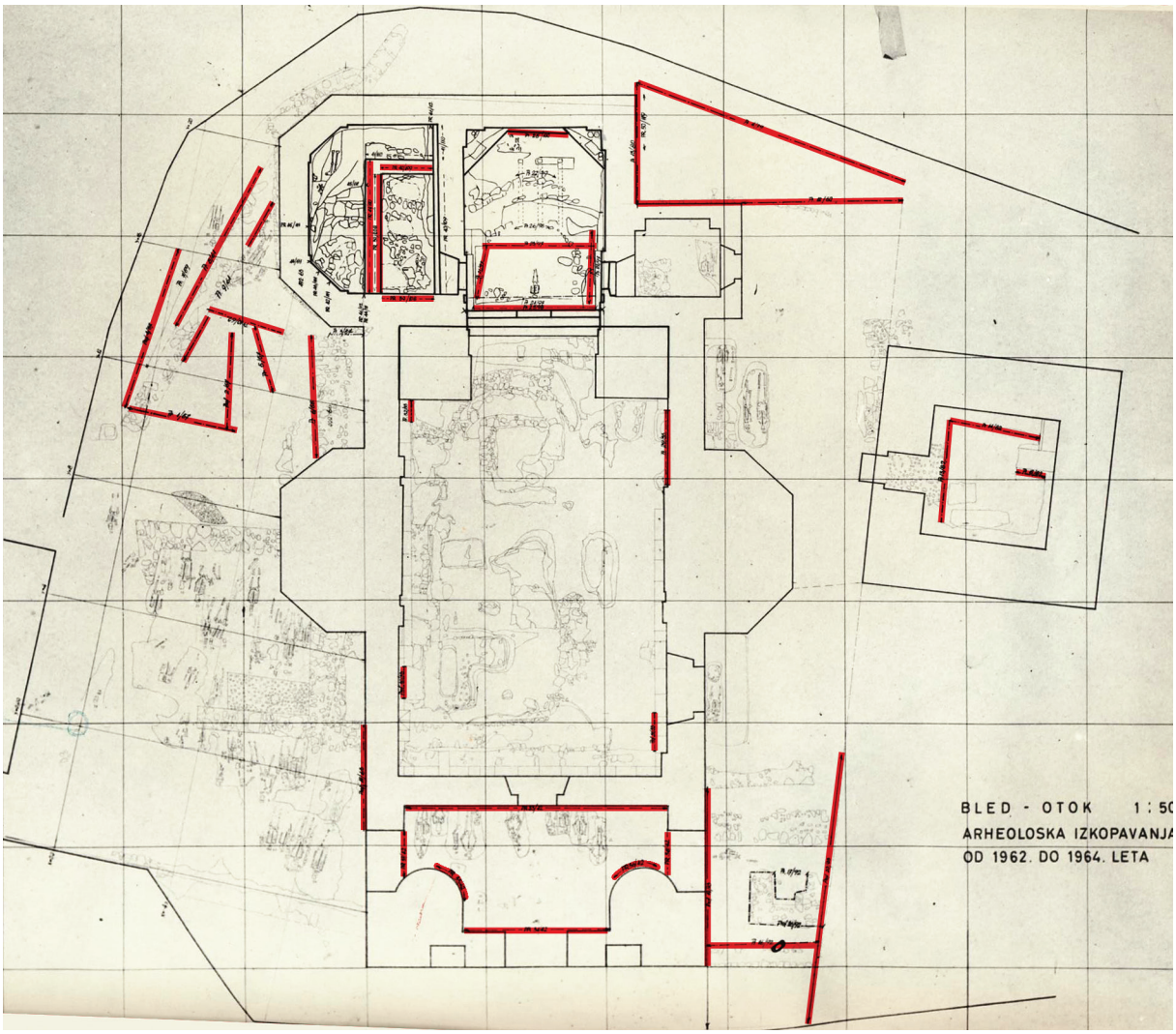

Fig. 2: Bled Island, location of sample sections (red) on the plan of all trenches of the 1962–1964 excavation; the plan drawing is oriented according to excavation grid (data source: NMS archives AO Rn 235).

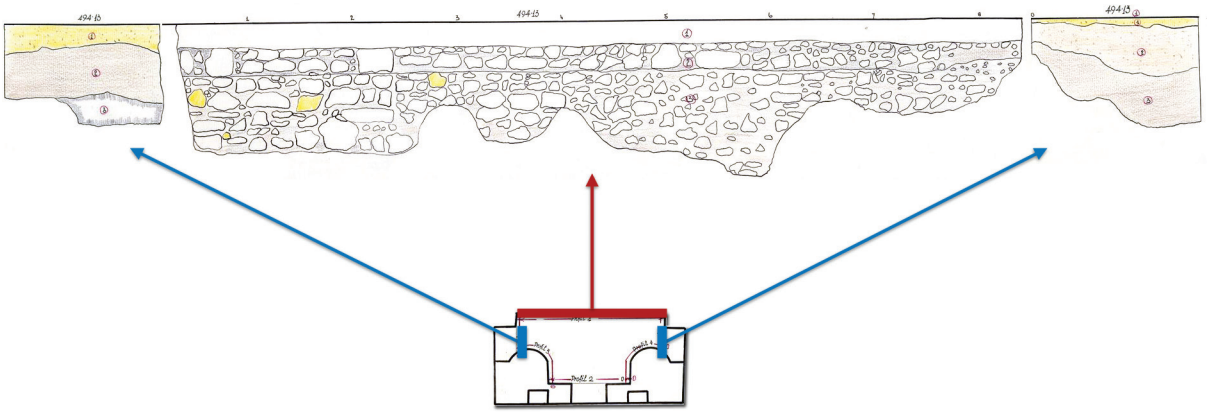

Fig. 3: Bled Island, section drawings of the narthex trench; top – section drawings, bottom – location of sections. Not to scale (data source: NMS archives AO Rn 222/29).

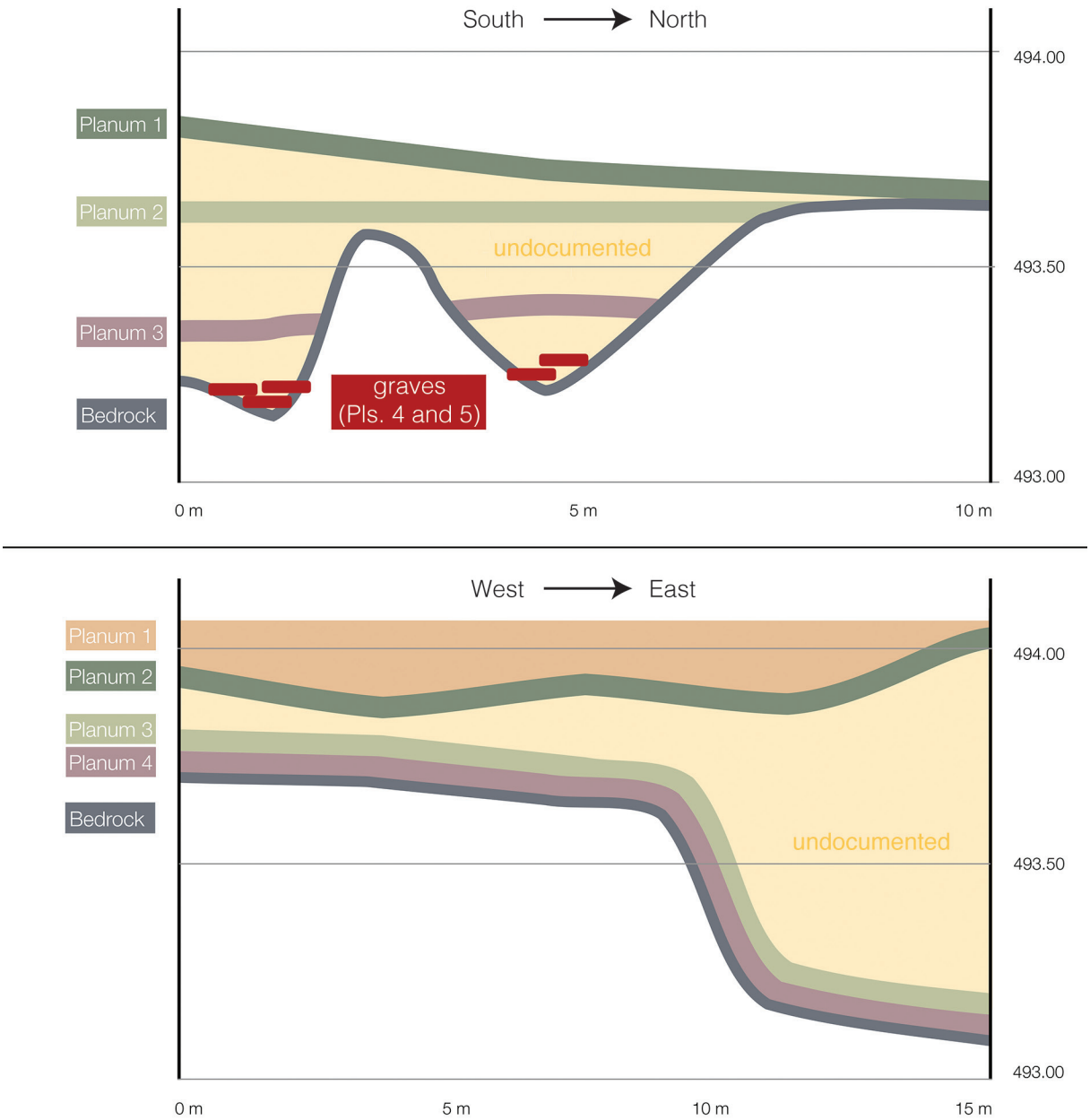

Fig. 4: Bled Island, idealised sections; above – the cemetery north of the present church, below – the interior of the present church. The scale between height and length is distorted.

the excavation area north of the present church, the xy information is given at the grid quadrant level, but the z information is not available (Šribar 1966, 56–58, 88). The location of artefacts from the interior of the church is recorded descriptively, usually without giving any z information (for example, in the corner between the two apses and the southern side altar; Šribar 1966, 119–123, 139–140, 155–156). The situation is similar in the area south of the church (Šribar 1966, 178–179; Šribar 1966b).

The inventory cards for the artefacts now kept in the National Museum of Slovenia do not contain any spatial information either. Due to the very small quantity of artefacts, which contrasts with the descriptions in the field diaries, it can be assumed that the artefacts were subjected to a strict selection process during the excavation. This corresponds to the common practice in archaeological excavations in Slovenia until the mid-1980s, where artefacts dated as later than the Early Middle Ages were discarded, except for a few "beautiful" pieces (e.g., Štular 2009, 18–19).

In summary, the artefacts found outside the graves are of limited value for modern archaeological analysis.

2.5 THE VALUE OF DOCUMENTATION FOR STRATIGRAPHIC ANALYSIS

For the stratigraphic analysis of any arbitrary excavation, it is crucial to estimate the proportion of stratigraphic relationships recorded.

In the method of arbitrary excavation in *planums*, neither (1) the stratigraphic relationships between stratigraphic units recorded within the same *planum* nor (2) the stratigraphic units excavated simultaneously within a single *planum* (spit) are recorded.

For sites with uniform, mostly horizontal contexts, the first deficiency can be partially remedied by the control sections. As described above, this was unfortunately not the case for the Bled Island site. Additionally, the stratigraphy of the site is extremely uneven and undulating in places. In such cases, even systematically recorded control sections could only mitigate the shortcomings of the planum technique to a limited extent.

At sites with predominantly horizontal strata, the second deficiency is less pronounced when the thickness of the arbitrary levels is close to the thickness of the stratigraphic layers. At the Bled Island site, the thickness of the levels was at least twice the average thickness of the strata. Thus, the pavements inside the church were up to 0.05 m thick and the levels 0.1 m or more thick. In the area with the highest grave frequency, the horizontal levels were up to 0.4 m thick and the depth of the grave pits was between 0.1 and 0.2 m.

We have quantified this loss of data for arbitrary Levels 2 and 3 within the church nave of the Bled Island site. Based on the super-position of Levels 2 and 3, 79 stratigraphic relationships could be reconstructed from the available records. However, there were 137 units in the plan drawing of Levels 2 and 81 in Level 3 for which the stratigraphic relationships could not be reconstructed. Therefore, only 79 of the 297 stratigraphic relationships were recorded. Furthermore, the reconstructed section shows that due to the thickness of the soil removed within a single level, more than half of the archaeological record was removed without being recorded (***Fig. 4***). So, it can be assumed that another 297 stratigraphic relationships have been lost. The total estimated number of stratigraphic relationships in the archaeological record between Levels 2 and 3 is therefore 594; 79 or 13% of which were recorded during excavation. Thus, for the archaeological site on the Bled Island, it must be assumed that about 87% of the stratigraphic relationships and 50% of the stratigraphic contexts were not recorded.

This result is comparable to the results of a study that measured the efficiency of modern forensic arbitrary excavation. This study used 0.1 m thick levels and recorded 51% of the actual stratigraphic relationships (Evis, Hanson, Cheetham 2016). The difference between 13 and 51% of the relationships recorded is due to thinner levels. A more important difference is that in the above study, experienced archaeologists systematically searched for stratigraphic relationships and recorded the excavations at the same time the layers were removed. None of the excavators on Bled Island except the site manager was an archaeologist and the stratigraphic relationships were not recorded while the layers were being removed, but only after the plan drawing was completed. Thus, it seems that my estimate of 13% of the stratigraphic relationships actually recorded is realistic compared to this study.

Although 13% may seem small share, the stratigraphic relationships that were detected are "real" and can be used for archaeological analysis as such.

2.6 CONCLUSIONS

Overall, it can be said that the quantity and quality of the data recorded during the archaeological excavations on Bled Island between 1962 and 1964 do not meet today's standards. But this is understandable since the excavations occurred more than half a century ago. The biggest shortcoming was certainly the great thickness of the arbitrary levels: A thickness of, say, 0.2 m outside and 0.1 m inside the church, which would be in line with the standards of the time, would allow a much better interpretation of the archaeological record. Otherwise, I can only feel sorry for the archaeologists of the time: Without the basic tool of modern archaeology, the stratigraphic excavation method, they were at a loss in the face of such complex site with complicated geomorphological and stratigraphic conditions.

3 METHODOLOGY

3.1 INTRODUCTION

Interpreting archaeological excavations is most efficient when it is done immediately after the excavations. The more time that elapses between excavation and interpretation, the greater the risk of loss of information. Two other causes of information loss are the absence of excavators in the interpretation process and when the interpreter has no practical experience with the method used in the excavation being interpreted. When all three conditions are met the excavation archive transforms from information to data[1] and one is then dealing with an archival excavation. In archaeological practice, the change from "normal" (i.e., non-archival) to archival excavation analysis is often reflected in the use of the term excavation archive instead of excavation documentation.

A modern interpretation of archival excavations can be roughly divided into four steps (*cf.* Štular 2008; Pleterski 2008, especially 27–40; Štular 2009, especially 39–46): Digitisation (converting field diaries, drawings, photographs, etc. into digital data), datafication (transferring digital data into information, for example plan drawing into GIS geodatabase), data analysis, and archaeological interpretation.

The first two steps are typical activities for creating a digital archive. Compared to non-archival excavations, these are additional steps in which the basic methods of historiography are applied (Grafenauer 1960, for example, gives a concise description of a method that is still relevant for my purpose).

In the third step, the tools to analyse information from archival excavations differ from standard methods. The standard tools need to be complemented by additional procedures aimed at "translating" archival data into information suitable for modern tools. This process can be illustrated by the example of spatial data: In modern excavations, spatial data are already georeferenced in a modern absolute coordinate system. However, in archival excavation additional steps are required so that the archival data (for example plan drawings oriented to the excavation grid) can be georeferenced and transformed into spatial information (GIS database positioned in a modern coordinate system).

The fourth and last step is no different from the archaeological interpretation of non-archival excavations.

The following three subchapters describe the tools and methods used in the analysis of the archival excavations on Bled Island.

3.2 GEOREFERENCING

The starting point for the spatial analysis was the consolidation of the spatial data in a single geodatabase. This was implemented in the GIS environment[2], in the coordinate system D96/ TM. First, the excavation data were georeferenced. During the excavation 68 plan drawings were created in different relative coordinate systems, which were designed *ad hoc* for each excavation area individually. During the post-excavation analysis in the 1970s, an amalgamated plan drawing was created by merging the plan drawings into yet another quadrant grid, which covers the entire excavation area (***Fig. 2***).

Photographs of coloured in copies of plan drawings were acquired for my analysis (I was not allowed to scan the originals because of their historic value). Sixteen photographs of plan drawings of graves were acquired in full resolution; the remaining photographs had only been available to me in a lossy compression format and in reduced resolution. The numbers and letters in these photos were poorly legible or not legible at all. The exact method by which the drawings were photographed was not known to me and I did not have access to the metadata. The only information available was that high-quality equipment had been used and the distortion of the camera lens had been corrected in the Adobe Photoshop software. Under these circumstances, it would not have been advantageous for me to further process the data for distortion or noise removal.

[1] Data are the facts or details from which information is derived. Individual data are rarely useful in themselves. For data to become information, it must be placed in a context.

[2] ArcGIS 10.5, ArcMap module.

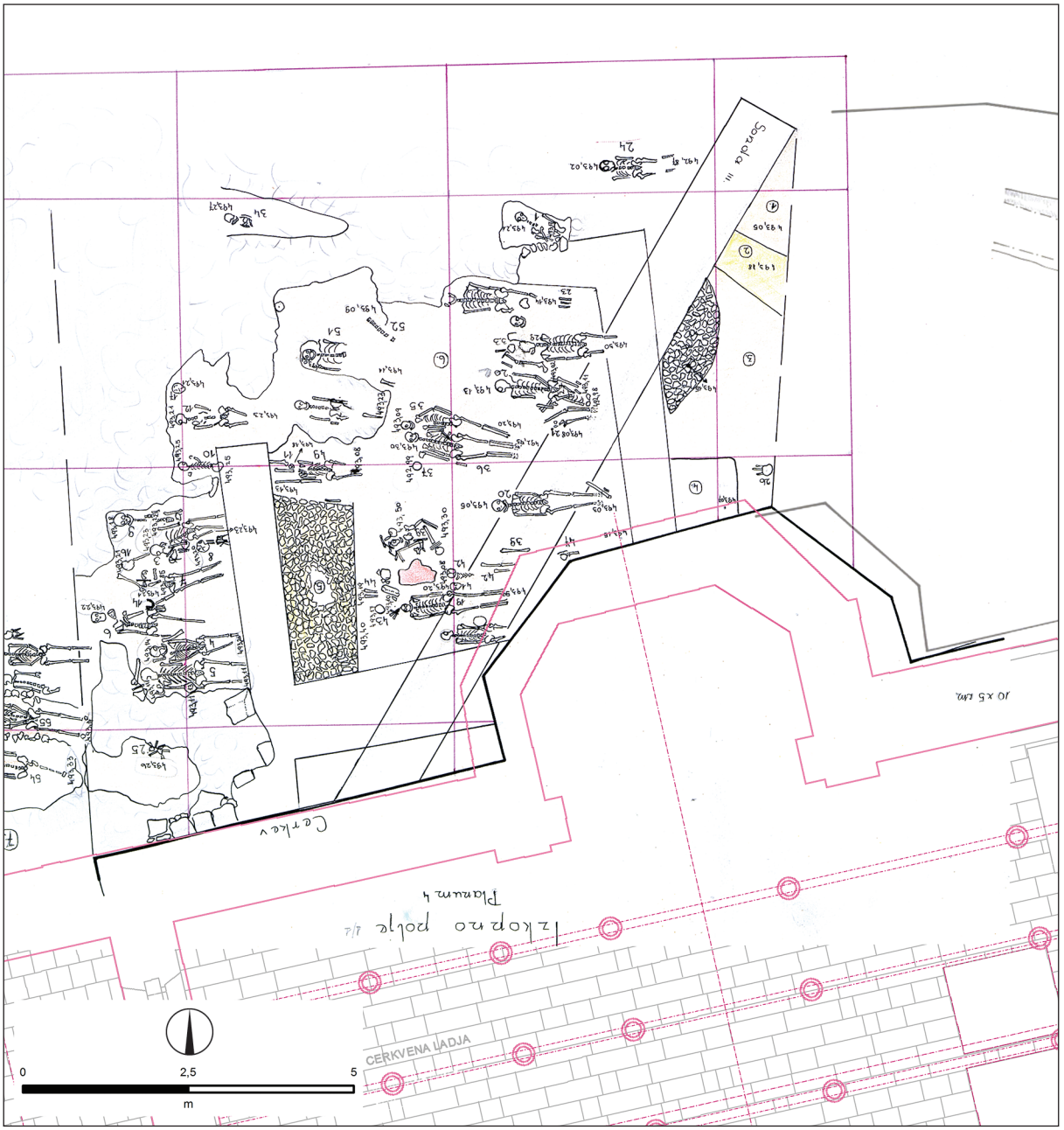

Fig. 5: Bled Island, plan drawings of the graves north of the present church, georeferenced with the grid reconstruction method. The residual error of georeferencing can be seen when comparing the modern plan of the present church (red) with two plans from the 1962–1964 excavation (black, grey); the plan drawing is oriented to the north.

To georeference plan drawings in the absolute coordinate system, the method previously developed for the archaeological excavations of the Župna cerkev cemetery in Kranj was first tested. That method is based on a reconstructed grid of quadrants on which individual archaeological drawings are georeferenced (Pleterski, Štular, Belak 2016, 25–26). However, it did not provide satisfactory results with the Bled Island data and had resulted in errors of the order of meters (*Fig. 5*). Analysis of the results revealed that the error in the original drawings increased with the distance from each starting point of the grid set up in the field. Furthermore, this error does not occur in the grid drawn in the plan drawings of Excavation area 1/1. This was because the aforementioned grid was laid out with stakes only in the excavation area north of the church, but the stakes were not retained and were replaced by strings (*Fig. 6*). The laying out of the grid with stakes was later abandoned altogether. Thus, a homemade measuring device (*Fig. 7*) was used to take measurements for plan

Fig. 6: Bled Island, a view of the trench north of the present church; after the removal of the grid stakes the grid was marked with strings (source: NMS archives OA film No. 5839).

Fig. 7: Bled Island, view of the trench north of the present church; during the plan drawing, measurements were taken with a self-made measuring device (source: NMS archives OA film No. 8531).

drawings. An improvised protractor was used in the narrow church space where the architectural elements served as the basis for the measurements (Bitenc, Knific 2020a, Fig. 1.22).

From what has been said and taking into account the methods of recording plan drawings at that time (Šribar 1969; Šribar 1974; Šribar 1976; Šribar 1977; Šribar 1981), it can be deduced that there were systematic errors in all measurement methods used during the excavation and that the error increased with the distance from the starting (zero) point of the measurement grid. Since the same kind of systematic errors also occurred in maps from the 19th century, the plan drawings were georeferenced in GIS using the method developed for georeferencing such maps (Štular 2010; *cf.* Conolly, Lake 2006, 86–89): Each plan drawing was georeferenced by its location relative to the church building. This was possible first because of the fortunate circumstance that the excavations were carried out within and in the immediate vicinity of the church to which no structural changes had been made since the excavations; and second, because the rules of good practice were observed in the field and each plan drawing contains at least one church wall with at least two corners.

Since a sufficiently detailed geodetic plan of the church that could be integrated into the modern coordinate system (D96/TM) was not available, I used the method of raster pyramids, in which small-scale information is gradually extrapolated to increasingly detailed scales (***Fig. 8***; *cf.* Internet source 1). From the smallest to the largest scale, the following data were used: Processed and visualised airborne LiDAR data (method according to Štular, Lozić 2016; processed by E. Lozić), digital orthophoto image DOF025, geodetic plan of the church from 2009, and archaeological drawings.

Airborne LiDAR data was used to create a rough 3D model of the exterior of the church. A digital orthophoto image is four times more accurate, but is only suitable for the south wall due to the oblique perspective. These data were used to georeference the geodetic plan of the church (Berk, Boldin 2017) in the modern coordinate system (D96/ TM). The latter was the background template onto which the plan drawings were georeferenced using the rubbersheet method, in which plan drawings were moved, rotated, and scaled (but not skewed or distort)[3] as required to fit the map by selecting a series of source-destination point pairs.

In this method, each drawing is georeferenced independently of the others. However, for archaeological analysis of spatial documentation, the accuracy of the correspondences between the individual drawings is more important than the absolute georeferencing error of the individual drawings. Thus, a further step was

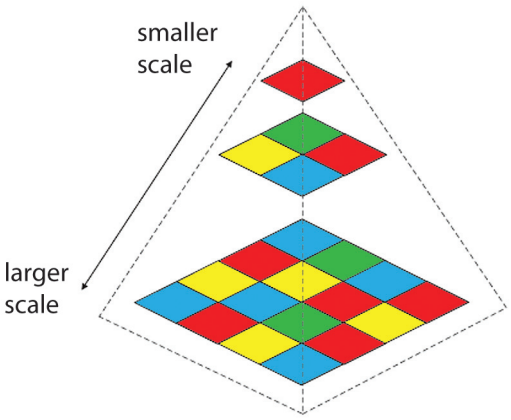

Fig. 8: The raster pyramid method.

necessary. A visual inspection of the drawings showed that another rule of good practice was followed in the field: Fixed points in space, in this case church walls, were measured only once and copied into later plan drawings. Thus, for each excavation area, the first of the plan drawings – the master – was rubbersheeted onto the church; the others were rubbersheeted to the master. The procedure described for georeferencing plan drawings in the absolute coordinate system was optimised in such a way that the internal proportions of each plan were distorted as little as possible, and at the same time an optimal overall accuracy was achieved.

All 68 plan drawings were georeferenced using the method described above. Working in the GIS environment offers advantages such as the combination of plans from different excavation areas, smooth transitions between different plan drawings, and working in the absolute coordinate system. This makes labelling of excavation areas and quadrants redundant.

Next, all walls, paved walking surfaces, and pits were vectorised for spatial analysis. The vectorisation was carried out in a two-dimensional (2D) GIS environment at a scale of 1:20. In this way, the precision of the original plan drawings was maintained. The main purpose of the vectorisation was to enable stratigraphic analysis in a 2D GIS environment.

Elevation data was included as an attribute so that each context (wall, pavement, pit) could be displayed in a 3D space. However, the individual contexts were displayed horizontally because in most cases only one elevation per context was recorded. The result is thus not a true 3D model, for which about 1000 times more elevation measurements would be required. The simulation of the elements in 3D space nevertheless gives an idea of the

[3] ArcGIS 10.5 software package, the Georeferencing tool, transformation of the 1st order, i.e. affine.

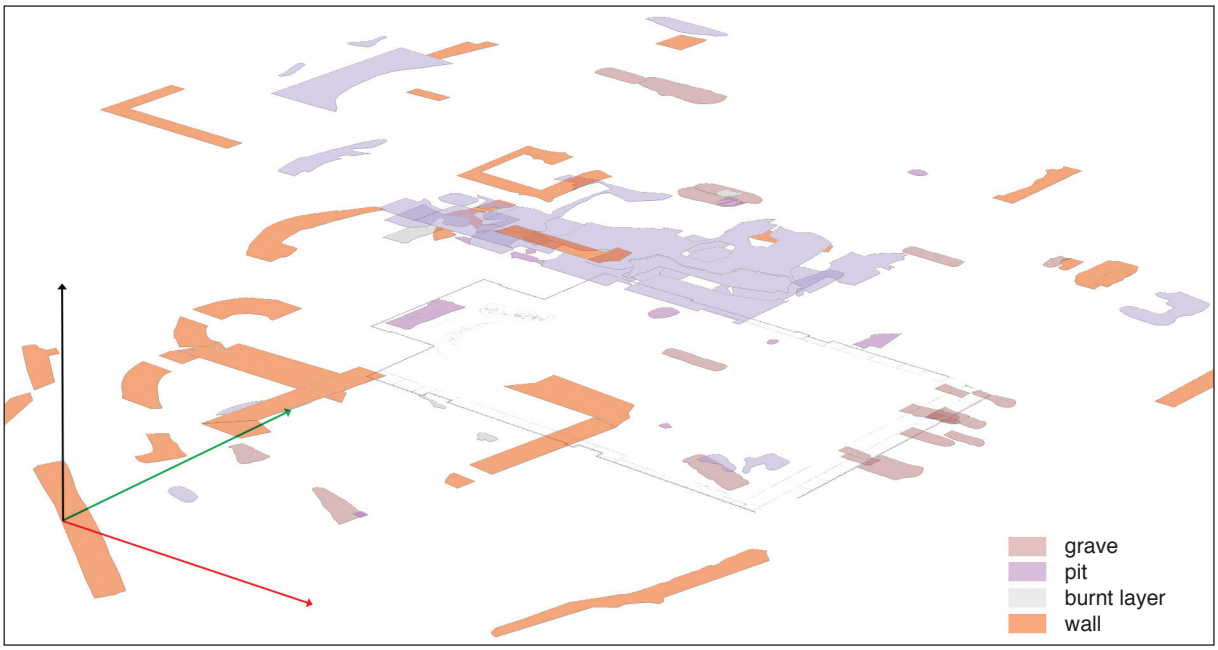

Fig. 9: Bled Island, axonometric projection of selected stratigraphic contexts: graves, pits, burnt layers and walls. Height differences are shown in 10-fold scale.

relationships between the individual contexts in space, including those excavated in different years (***Fig. 9***).

For the purpose of spatial analysis of the cemetery, each grave was treated as a point. For those graves where the position of the head could be reconstructed, the point was positioned at the joint between head and neck. Poorly preserved graves were mapped to a point located in the geometric centre of the skeletal remains.

If the state of preservation of the skeleton permitted, the cartographic azimuth was measured to the nearest degree. Cartographic azimuth is the deviation from north in the national coordinate system (D96 in the Mercator projection) and should not be confused with the astronomical azimuth (see *Chap. 7*).

3.3 GEOMORPHOLOGY OF BLED ISLAND

The geomorphology of the Bled Island has changed considerably in recent centuries. The main feature of today's islet is a Baroque church surrounded by a viewing platform, with a staircase leading down to the southern shore (***Fig. 10***). For archaeological analysis, it is thus of utmost importance to obtain all possible information about the geomorphology of the islet before these changes.

So, I developed a method to fuse the recorded elevation data for the bedrock beneath the Baroque buildings with airborne LiDAR data of the surrounding area. I relied on two pieces of information. First, the reconstruction of the bedrock surface within the excavated areas. Second, the information from the recorded sections which testified that the occupation or occupation surface, at the time of the cemetery north of the present church was about 1 m above the bedrock (***Fig. 4***).

136 elevation measurements of the bedrock were recorded in the plan drawings (***Fig. 11***). Unfortunately, only 63 of those are direct measurements of the elevation of the bedrock. I was able to obtain data for a further 50 indirect measurements and 23 reconstructed ones. The former include measurements of soil layers in the immediate vicinity of the bedrock, while the latter include measurements of skeletons lying directly on the bedrock. These can deviate from the actual situation by up to 0.1 m, but this is negligible given the required scale of the final result.

In the next step, I used the thus obtained 136 measurements to interpolate the digital surface model within the excavated area. The best interpolation method in such cases is kriging (Chaplot et al. 2006). Due to the small number of measurements, the value for each cell was calculated based on all measurements.

Next, the information on the present-day surface outside the area of the church platform was obtained with the analysis of the airborne LiDAR data (for the method see: Štular, Lozić 2016; analysis: E. Lozić; ***Fig. 12***).

By comparing the two sources of data, the estimate that the occupation level was about 1 m above bedrock was found to be satisfactory. This means that after integrating the data from both sources and adding one metre to the reconstructed bedrock surface, the transition between the areas of each data source was smooth.

Fig. 10: Bled Island, view from the shore to the western part of the island (photo A. Pleterski).

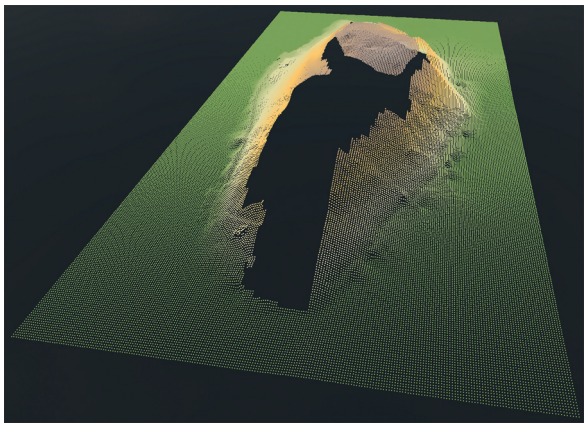

Fig. 12: Bled Island, point cloud of ground points of the unbuilt area (by E. Lozić, method according to Štular, Lozić 2016; source: airborna laser scanning of Slovenia, eVode; http://gis.arso.gov.si/evode; D96/ TM coordinate system).

The final step was to merge the data from both areas into a unified point cloud and then create a digital terrain model (DTM) with the base cell size of 1 m for the entire islet using the Kriging interpolation method (***Fig. 13***).

We believe that this reconstruction adequately reflects the geomorphology of the island before the Late Medieval and Post-Medieval building works. The highest point of the island was where the bell tower stands today. The present staircase that leads to the church from the south side of the island was built on the site of an earlier corridor that provided the easiest access to the top. The only relatively flat area on the entire islet was a small patch in the northern part of the present church nave and immediately north of it.

Fig. 11: Bled Island, location of above-sea-level measurements of the bedrock.

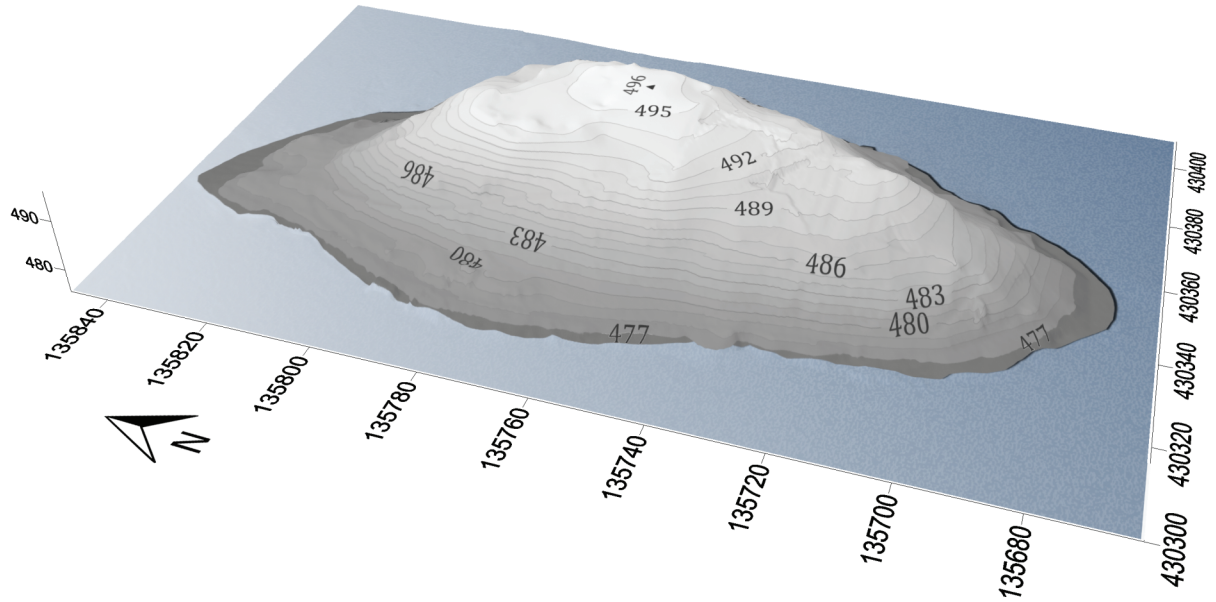

Fig. 13: Bled Island, geomorphological reconstruction of the surface before medieval building activity. Axonometric 3D view of the digital surface model; x, y, and z axes are in the D96/ TM coordinate system.

3.4 STRATIGRAPHIC ANALYSIS

The most important archaeological question concerning Bled Island was the relationship between the cemetery and the church buildings. Obtaining a satisfactory answer to this question is complicated, on the one hand, by the relatively poor archaeological documentation described above and, on the other, by the complex building history. While answering such questions is routine in modern stratigraphic excavations, the situation is different when analysing more then half a century old data (*cf.* Štular 2008).

Stratigraphic analysis of the data is the only way to find the answer, even if the arbitrary method was used in the excavations. The method I used was simple: to identify as many stratigraphic relationships as possible. This was done by correlating those plan drawings that are in superposition; these were then used to create a Harris matrix. For example, if the paved occupation surface termed Pavement 23 in Planum 11 partially overlaps with Pavement 10 in (subsequently drawn and thus lower) Planum 12, the former is above the latter. However, the stratigraphic relationship between, for example, adjacent Pavement 23 and the Layer 15 in Planum 11 (***Fig. 14***) is

Fig. 14: Bled Island, present interior of the church. Overlay of plan drawings 11 (grey) and 12 (black); the plan drawing is oriented to the north (data sources: NMS archives AO Rn 222/11 and NMS archives AO Rn 222/12).

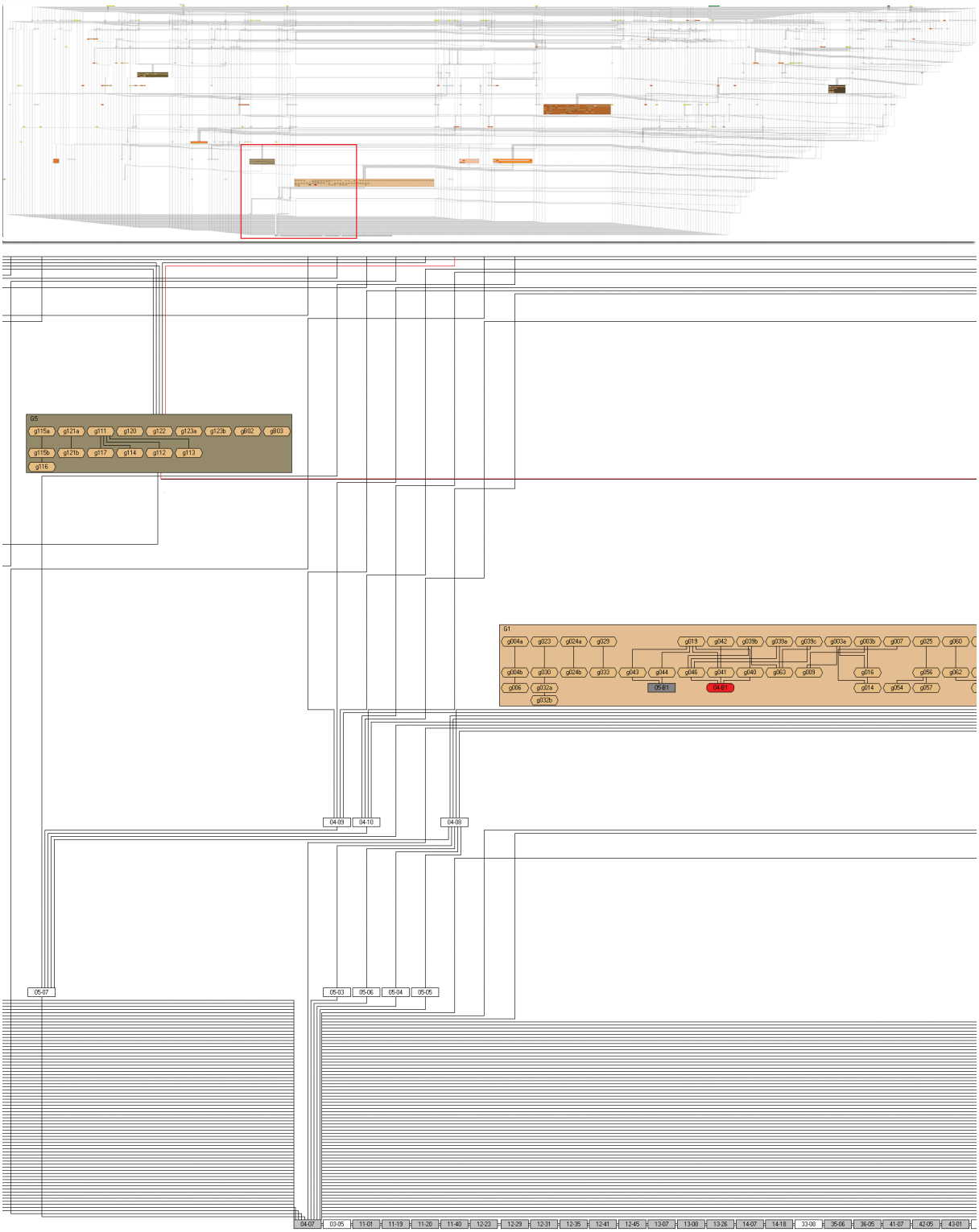

Fig. 15: Bled Island, Harris matrix; entire matrix above, excerpt below.

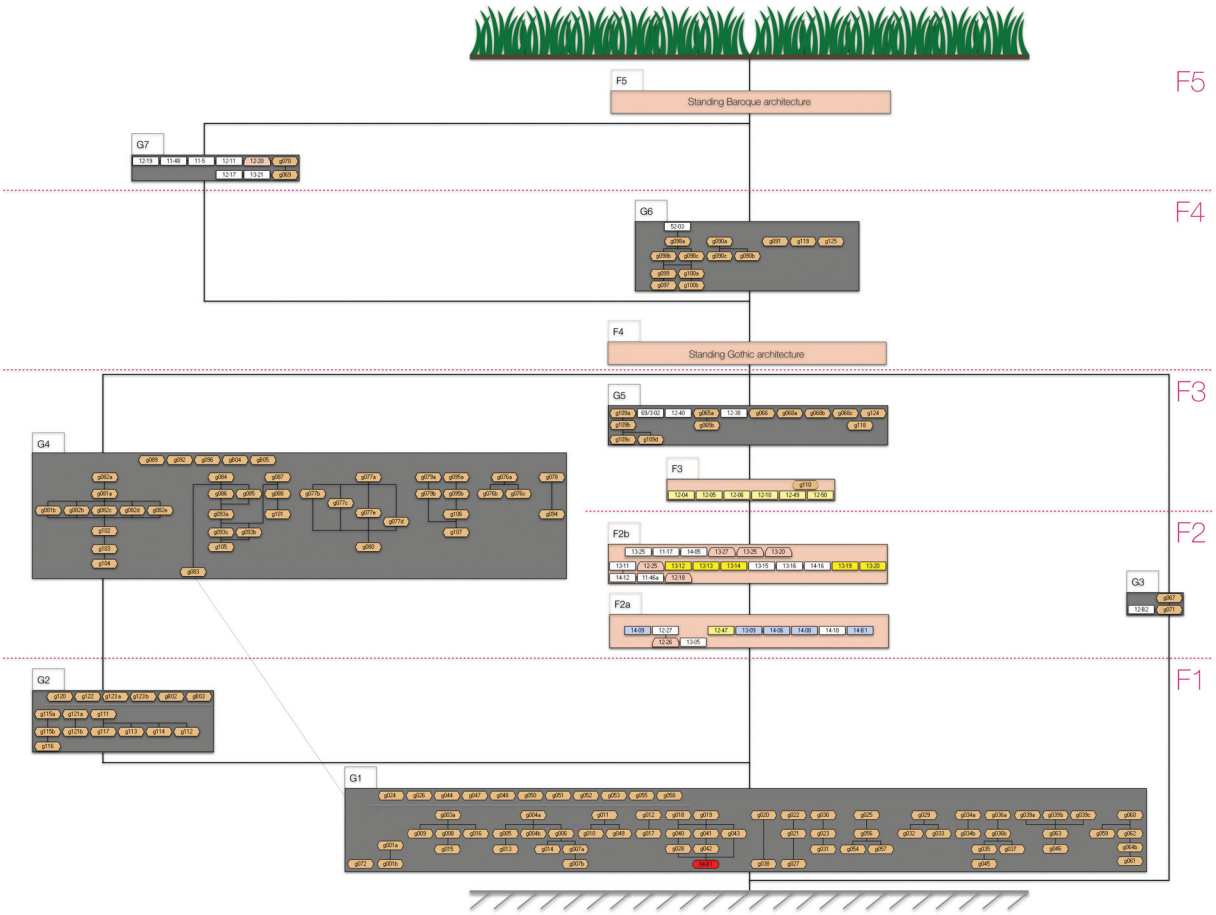

Fig. 16: Bled Island, Harris matrix of selected stratigraphic groups with stratigraphic phases.

lost forever. Moreover, all the pavements and layers within the arbitrary 0.5-m thick levels, that were not recorded in the plan drawings, were lost.

During the excavations, the individual contexts on each new plan drawing were numbered, beginning with 1. To distinguish the contexts between the drawings, I additionally assigned each of them the number of the respective drawing. For example, the pavements described above were numbered 11–23 for No. 23 on plan drawing 11 and 12–10 for No. 10 on plan drawing 12.

The walls were not always numbered during excavation. I have therefore labelled them with the number of the plan drawing and a consecutive number of the wall, for example, "02_wall1" for wall No. 1 in plan drawing No. 2.

The archaeological record of each grave consists of several stratigraphic contexts, at least the cut and at least one backfill. Nevertheless, in the available data no distinction is made between these contexts: cuts are rarely described, and different fills in a single grave are never described. So, each grave was recorded as a stratigraphic group and entered as such in the matrix (*cf.* Herzog 2004, 10). The forced fragmentation of the original data into individual stratigraphic contexts (cut, fill, skeleton), which would inevitably be followed by integration into a stratigraphic group due to the lack of data, would not yield any new information. Thus, each grave retained the label assigned to it by the excavators, and the same labels are used in the catalogue of the graves, for example, g001 for Grave 1. If the documentation (usually plan drawings) indicated that a single label was used for several graves, letters of the alphabet were appended to the label (for example, g082a for the skeleton and g082b to g082e for the skulls stacked at the edge of the grave pit).

The result was 688 stratigraphic elements (stratigraphic contexts or stratigraphic groups). These included 128 graves, 347 layers and 213 cuts, walls, pavements, and occupation levels. For these stratigraphic elements, 905 unique stratigraphic relationships were recognised.

The stratigraphic relationships were analysed with Stratify software.[4] The advantages of this software include, apart from the automation of matrix creation,

[4] Stratify 1.5, www.stratify.org.

the constant checking of the correctness of the relationships, the consideration of additional data (absolute date, location in space, depth, etc.), and the possibility of integrating stratigraphic units into stratigraphic groups (Herzog 2004). A major disadvantage is that the output of the final Harris matrix is a bitmap image that is all but impossible to read or use in any kind of analysis, automated or manual (***Fig. 15***).

Methodologically, stratigraphic analysis can be described as quantitative analysis: all relationships are taken into account, and the position of each stratigraphic element is analysed in relation to all others. But the particular circumstances of the site in question required a different approach. The fact that only an estimated 13% of all stratigraphic relationships were recorded (see above) is crucial here. Such a loss of data cannot simply be ignored. If 87% of the information is missing, a quantitative analysis based on mathematical algorithms is not possible. Moreover, the finds – except for those from the graves – could not be assigned to individual stratigraphic contexts. This means that the quantitative analysis of the stratigraphy would not bring any new information, but only additional data. In other words, quantitative analysis would only increase the information noise.

I thus decided to undertake a qualitative analysis of the stratigraphy. The focus was on the graves and architectural elements (walls, pavements, postholes) that are in direct stratigraphic contact with the central church building. Based on their location in space and the known stratigraphic relationships between them, the graves were divided into seven stratigraphic groups, that is, groupings of stratigraphic groups (***Fig. 16***). Similarly, the architectural elements were divided into five phases of construction.

4 SITE STRATIGRAPHY

4.1 INTRODUCTION

In the original interpretation of the Bled Island site in the 1970s, five groups of graves were defined on the basis of their position in the cemetery. They were described as follows (Šribar 1972, 390–391; ***Fig. 17***).

Group 1 is located north of the church, where there are approximately 60 graves in six irregular rows.

Group 2 is in the area of the so-called church shed, where approximately ten graves are arranged in a single row, most of them with several reburials.

Group 3 consists of approximately ten graves located in a natural depression northeast of the church.

Group 4 is approximately twenty graves in the church (in the nave, in the small vestry, and in the corner between the south wall of the nave and the east wall of the side chapel), including Grave 72.

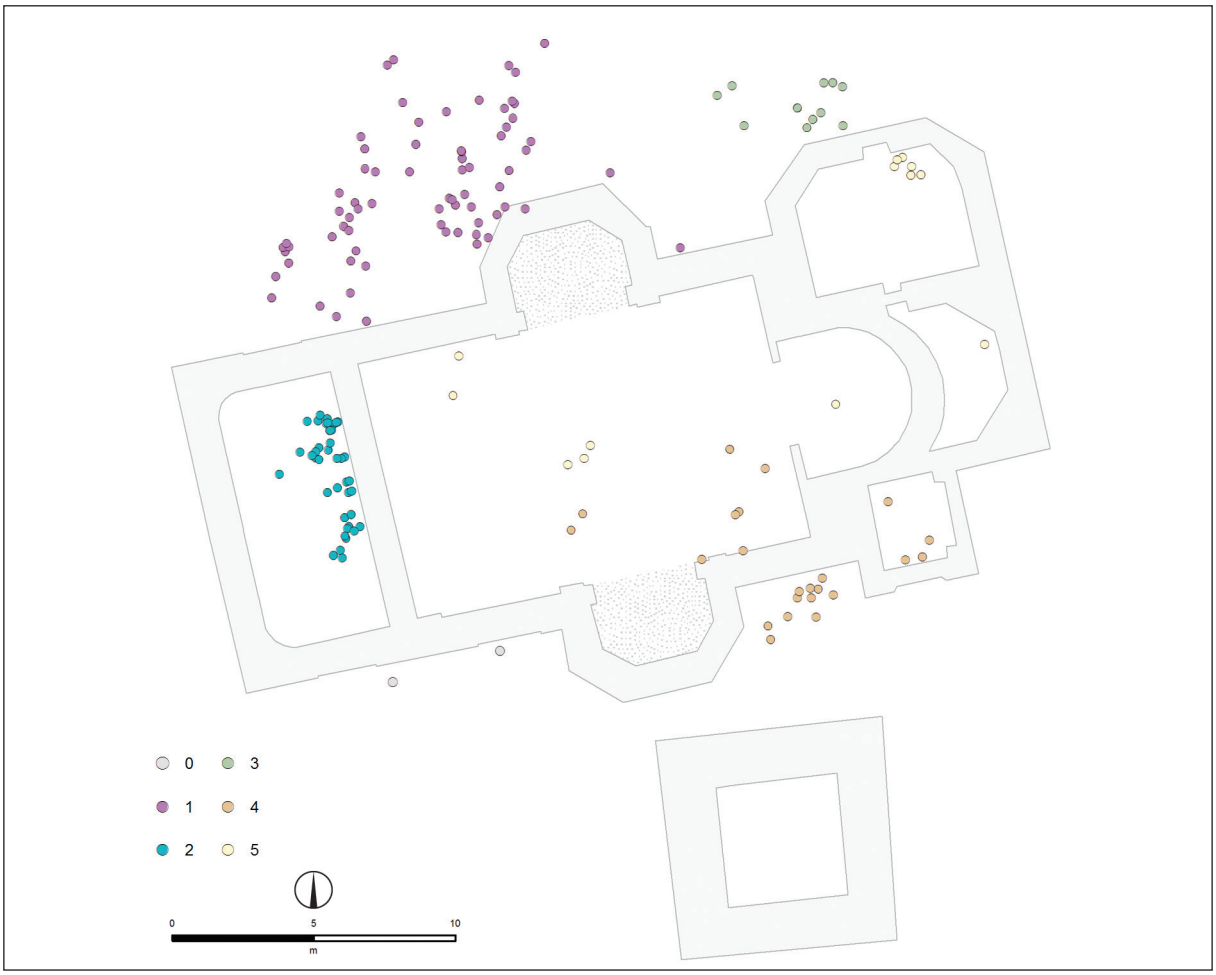

Fig. 17: Bled Island, location of Šribar cemetery groups 1 to 5.

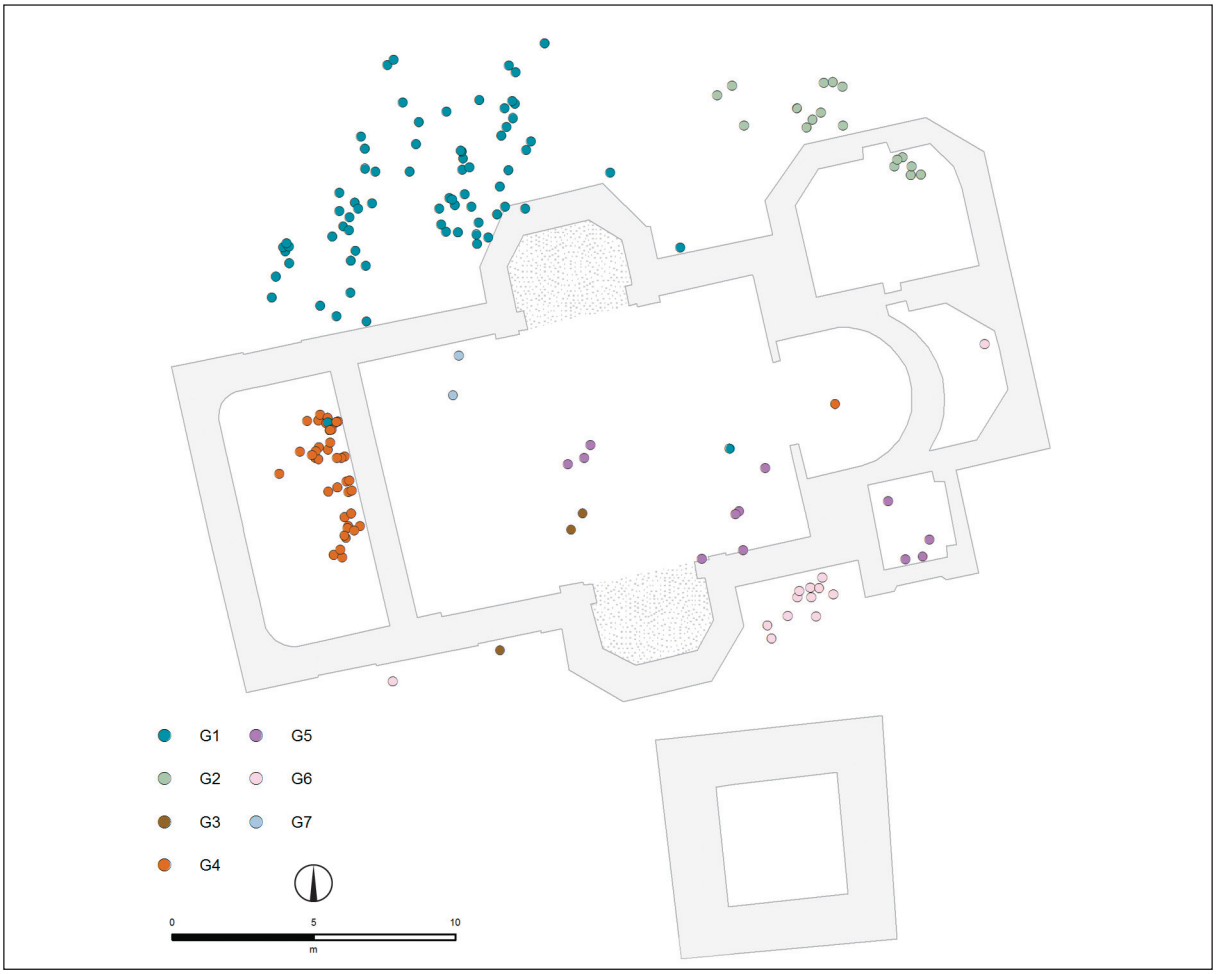

Fig. 18: Bled Island, location of the cemetery groups G1 to G7.

Group 5 consists of the remaining graves inside the church nave and the presbytery.

Based on the analysis of the grave goods, these groups were defined chronologically relative to the church architecture as follows. The interment in Group 1 possibly began before the first church was built and it certainly occurred during its use. Groups 4 and 5 are also contemporaneous to the first church. During the use of the second church, the interment in Groups 1 and 5 continued. Group 3 could not be defined chronologically (Šribar 1972, 390–391).

Šribar's interpretation was based on the spatial distribution of the graves, sometimes called horizontal stratigraphy. However, my interpretation was based on stratigraphic analysis (***Fig. 16***). Stratigraphic proximity was the main criterion for belonging to a particular group and position in relation to the church only secondary.

Based on this, I defined five stratigraphic phases (from 1 to 5) and seven cemetery groups (***Fig. 18***). The cemetery groups were defined as follows.

Phase 1 are the graves earlier than the earliest church building (***Fig. 18:*** G1, G2). Phase 2 are the two earliest church buildings and the contemporary graves (***Fig. 18:*** G3). Phase 3 are the third church building and the contemporary graves (***Fig. 18:*** G4, G5). Phase 4 are the fourth church building and the contemporary graves (***Fig. 18:*** G6). Phase 5 are the fifth (and still standing) church building and the contemporary graves (***Fig. 18:*** G7).

Each stratigraphic phase is described in more detail below.

4.2 PHASE 1

Phase 1 comprises the graves that are stratigraphically earlier than the northern face of the still standing church building (***Fig. 19***).

Most of the graves are positioned northwest of the present church building (***Fig. 18:*** G1). They are separated from the others by an empty area, are in mutual stratigraphic contact and are covered by three relatively

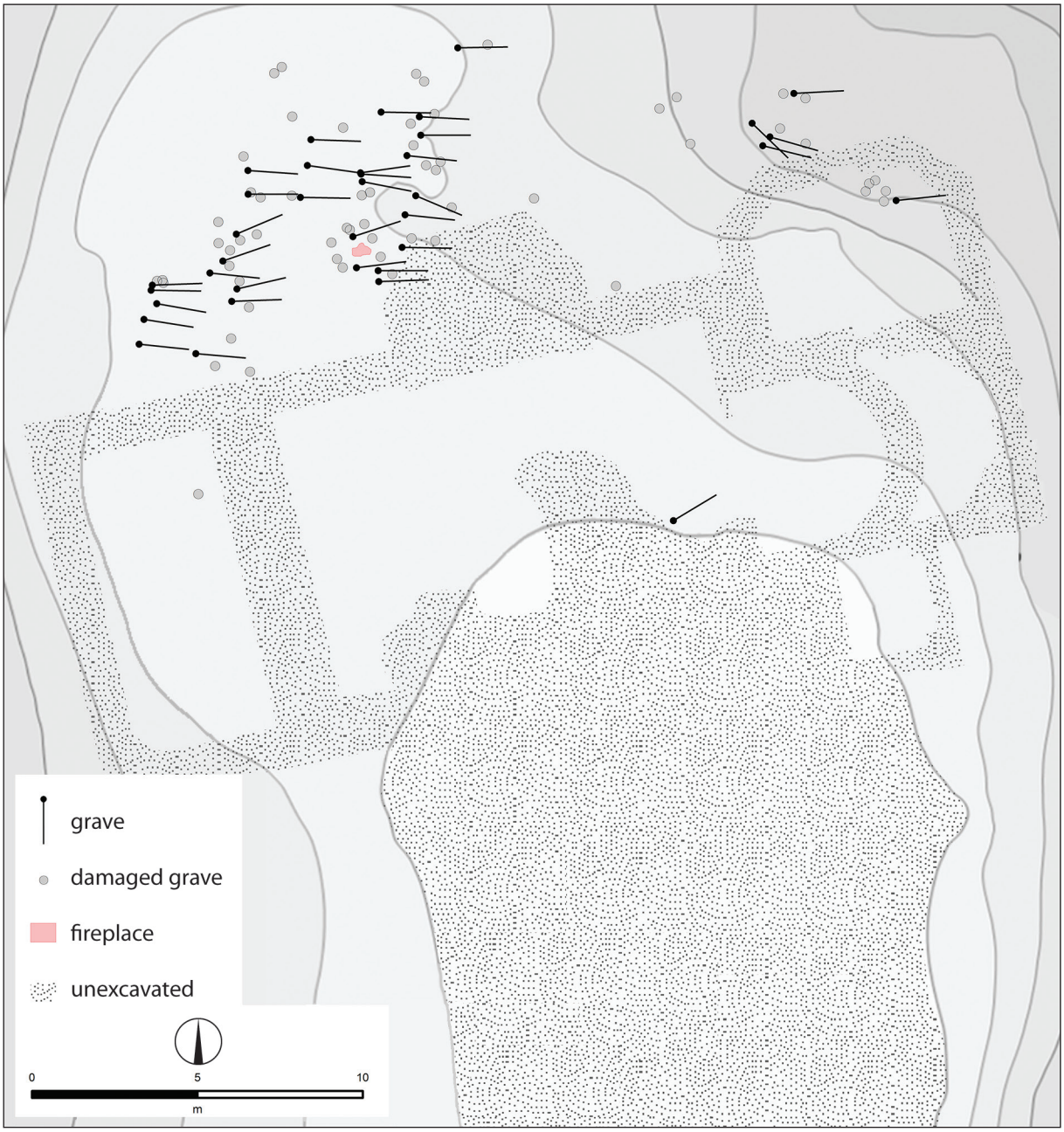

Fig. 19: Bled Island, plan of Phase 1.

uniform layers of soil (stratigraphic contexts 03–07, 03–09, 03–10; 03–12; 03–16, 03–17, 03–18, 03–19).

The stratigraphically earliest element of this phase is a fireplace in the centre of this burial group. The fireplace was described by the excavators as a layer of burnt clay surrounded on the western side by a semicircular arrangement of stones; prominent among them was a solitary stone, which was there at the time the fires were burning, as evidenced by the soil of a lighter shade, i.e., less burnt, beneath and around it. The excavators assumed the fireplace to be a prehistoric feature, since numerous prehistoric finds were discovered during the excavation of the burnt clay of the fireplace (*cf.* Bitenc, Knific 2020a, 25–40). However, this interpretation was based on a common mistake: The fireplace's burnt clay was understood as the backfill of a pit and thus stratigraphically belonging to the fireplace. In reality, the prehistoric finds were embedded in a layer (the backfill of Hollow A) on top of which the fireplace was built. The heat of the fire burnt the underlying soil, thus creating the impression of a burnt "backfill". In other words, from the perspective of the layer containing the

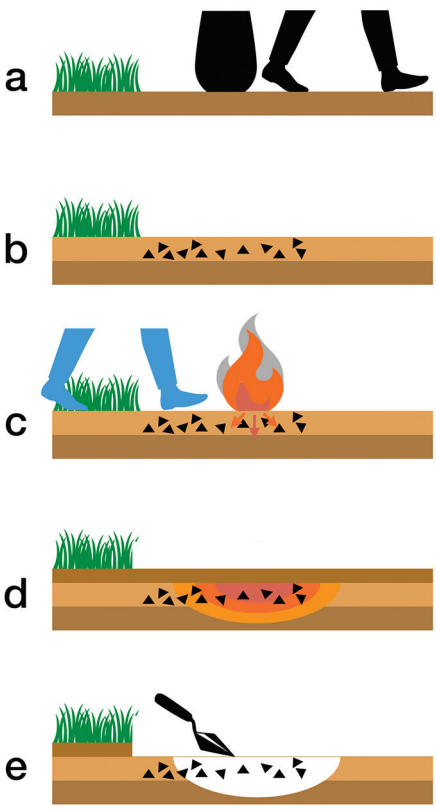

Fig. 20: Illustration of the processes on the fireplace from prehistory until excavation: a – activities on the prehistoric occupation or ground surface; b – archaeologization, i.e. the creation of an archaeological record of the prehistoric activities; c – fireplace on the Early Medieval occupation surface; d – archaeologization of the Early Medieval processes; e – archaeological excavation of the burnt layer containing prehistoric pottery sherds.

prehistoric finds the burnt "backfill" is an interface or interfacies created in a post-depositional process. Thus, the pottery found in the burnt "backfill" belongs to the prehistoric Hollow A and not to the Early Medieval fireplace (***Fig. 20***). That the fireplace was used before or during the interment of some graves (Nos. 40, 41, 46) is attested by fragments of burnt clay found in the backfill of these graves.

Stratigraphically contemporaneously to the above are graves in the immediate vicinity of the northeast corner of the present church (***Fig. 18:*** G2) and Grave 72. The latter lies in an isolated position and it predates the first church as it is positioned under its apse (***Fig. 21***; Šribar 1966, 118; *cf.* Šribar 1966, 199).

The absolute dates for Phase 1 were determined by the jewellery in the graves (see *Chap. 10*) and by radiometric dating of the skeletal remains from the Grave 72. The method used was radioactive carbon dating, and the uncalibrated result is 1115 ± 30 BP. The result was calibrated with OxCal v4.2.3 software (Bronk Ramsey, Lee 2013) using the IntCal13 calibration curve (Reimer et al. 2013). The calibrated dates within 1 standard deviation of the mean (σ1) are between years 895 and 930 CE (34.6% probability) and between years 939 and 972 CE (33.6% probability). The calibrated dates within 2 standard deviations of the mean (σ2) are between the years 779 and 789 CE (1.2% probability) and between the years 869 and 1013 (94.2% probability) CE. In archaeology, the most frequently cited is the range of σ1 values, which is 934 ± 38 CE.

The graves from Phase 1 therefore belong to the Early Medieval cemetery on the Bled Island, which is earlier than the first church (***Fig. 18:*** G1 and G2).

4.3 PHASE 2

Phase 2 (***Fig. 22***) is the period of the two earliest churches (see *Chap. 5*) and two contemporary graves. Stratigraphically, the most important elements of this phase are the two church apses (***Fig. 21***). On the one hand, the same location and the same construction technique of the two apses indicates the continuity, on the other hand, the two apses are stratigraphically clearly separated from each other. As noted in the field diary: *before the start of construction of the second apse, a 10 cm thick layer of clay had been laid over the foundations of the first apse (...); the western end of the arch (...) of the apse is partially covered with a pavement (...) belonging to the apse above* (Šribar 1966, 197).

The sequence of these two very similar buildings with apses is confirmed by the stratigraphy of Graves 67 and 71 (Šribar 1966, 116–117). The analysis of the ground plan and the field diary shows that the interment of Grave 71 occurred first; then the grave was opened, the body remains removed, and the emptied grave pit backfilled. The pit for Grave 67 was then dug about half a metre further south, creating a cut in the northern part of Grave 71, which had already been emptied and backfilled by this time. Then a mortar pavement was laid above both graves. The position of the two graves is particularly revealing: the earlier grave No. 71 was immediately in front of the earlier church building, the later grave No. 67 immediately in front of the later church building, and both were in the most likely position of the respective entrances (***Fig. 18:*** G3; different Šribar 1972, 391).

The stratigraphic discontinuity on the one hand and the clear elements of architectural and sepulchral continuity on the other justify the division of Phase 2 into Subphases 2a and 2b. The *terminus post quem* for Phase 2a is provided by the C14 dating of the Grave 72,

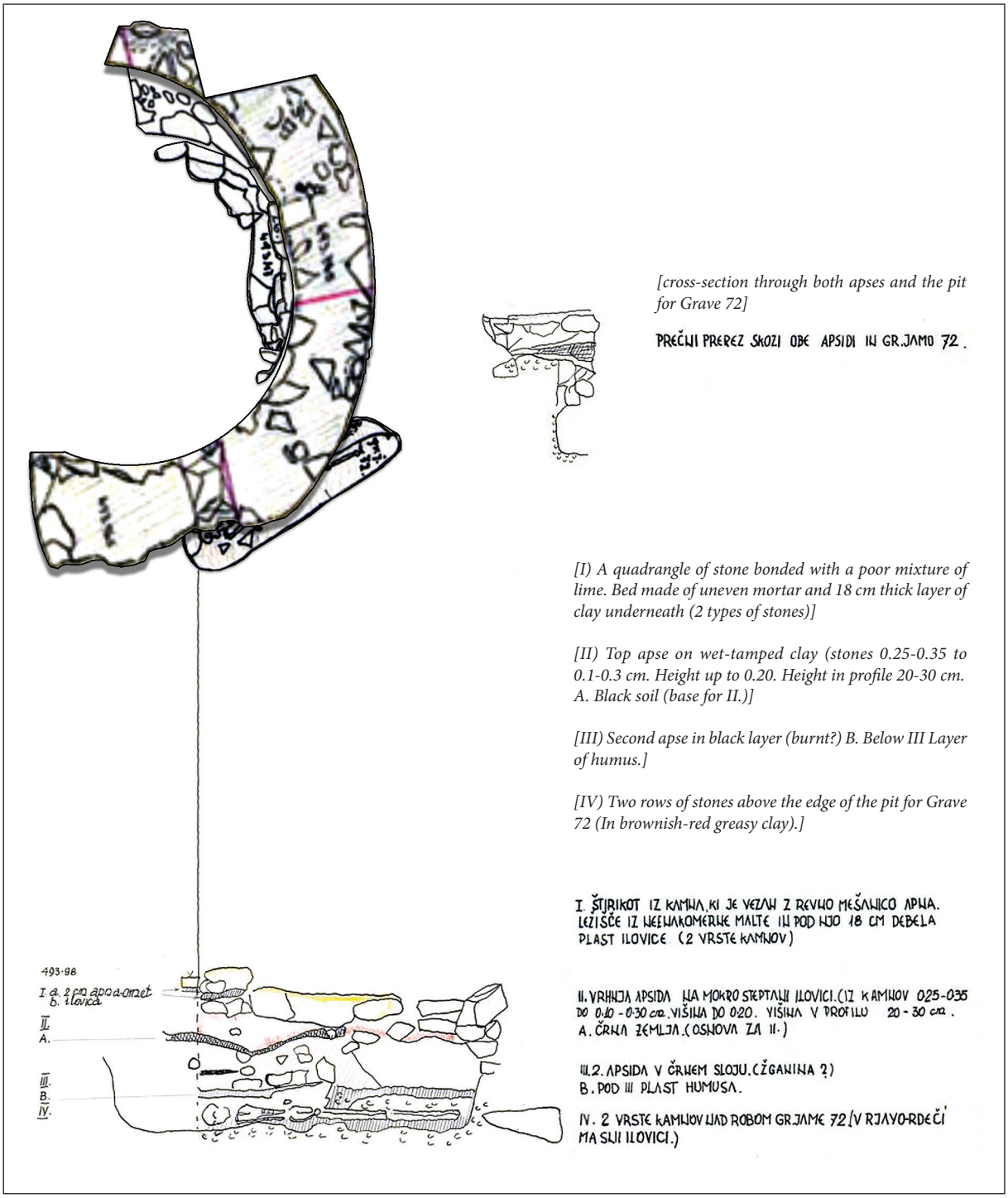

Fig. 21: Bled Island, apses of the two latest church buildings. Top left: Plan drawing. Top right: section drawing of the two apses and Grave 72 in length. Bottom: Section drawing of the two apses and Grave 72 in width (data sources: NMS archive AO Rn 222/11, Rn 222/12, Rn 222/13, Rn 222/18).

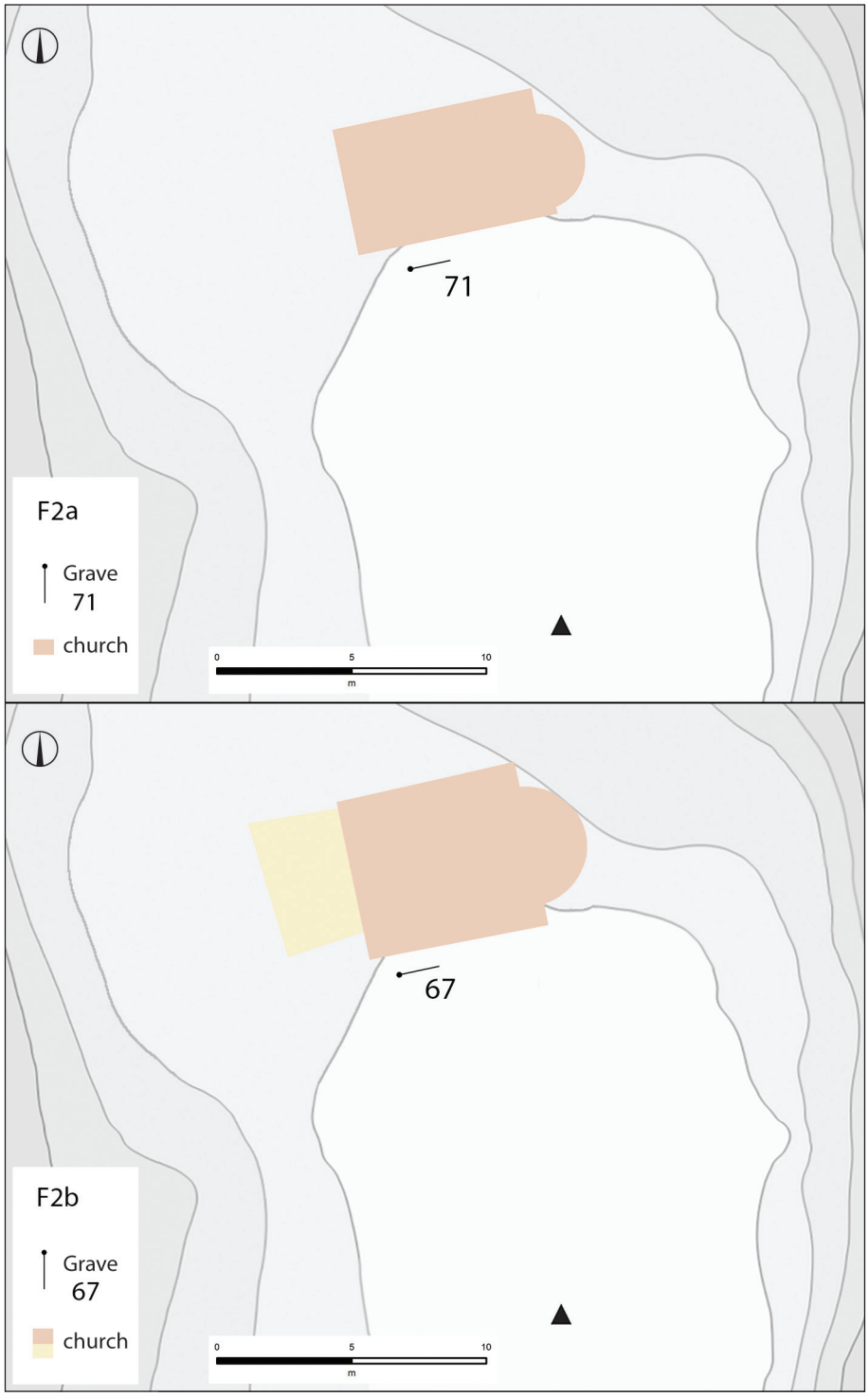

Fig. 22: Bled Island, plan of Phase 2a (F2a) and 2b (F2b).

which is certainly after 779 CE, but most probably in the second half of the 10th century. The dating of Phase 2b to roughly the end of the Early Middle Ages is supported not only by the architecture, but also by two fragments of Early Medieval pottery discovered in the layer horizontally separating the two earliest apses (Šribar 1966, 108, 121). The pottery in question has been lost and therefore cannot be dated precisely.

Only for the sake of clarity of the text will this phase and its graves be referred to as pre-Romanesque.

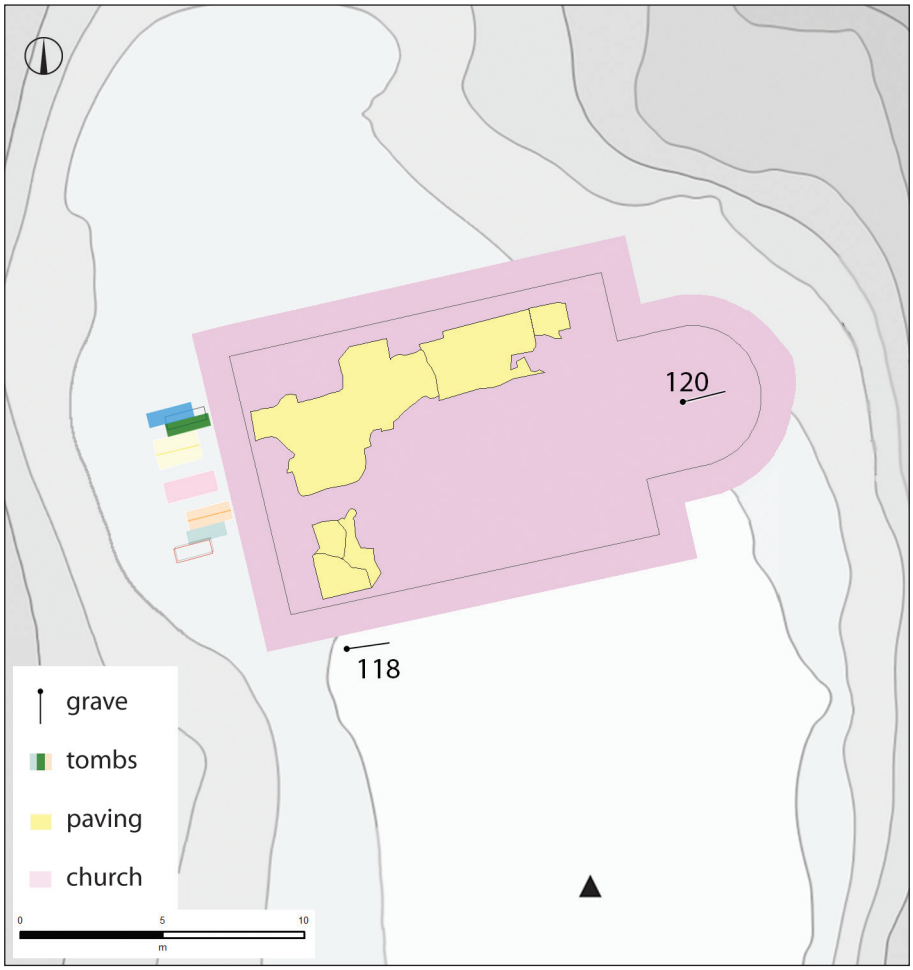

Fig. 23: Bled Island, plan of Phase 3.

4.4 PHASE 3

Phase 3 (***Fig. 23***) is stratigraphically more complex and probably lasted longer than Phases 1 and 2. Its beginning is marked by the construction of the third church building (see *Chap. 5*). The archaeological record of this phase consists of the remains of the horseshoe-shaped apse (stratigraphic contexts 79–8, 79–9, 79–10), mortar pavements (stratigraphic contexts 12–04, 12–05, 12–06, 12–10, 12–49, 12–50) and a protrusion from the wall in the southwest corner of the present church nave (***Fig. 32***; *cf.* ***Fig. 24***).

At least two groups of graves belong to Phase 3. The stratigraphically earlier one is the group of graves in the present western church portico (***Fig. 18:*** G4). It is a stratigraphically homogeneous group that lies under two layers of soil (stratigraphic contexts 24–01, 24–03) and was overlain by the west wall of the church nave in the subsequent Phase 4.

The stratigraphic relationship of the graves to the contemporary church building has not been recorded (*cf.* ***Fig. 19***), thus there are two possible interpretations. The first is that the graves are contemporaneous with the third church, because the legs of the deceased extend exactly to its west wall. The second possibility is that the interment of this group started in Phase 2b, which is suggested by the spatial position of the graves (see *Chap. 9*). Since at least the latest graves of this group all belong to Phase 3, the group is considered in the context of Phase 3. These graves will be referred to as the High Medieval cemetery on the Bled Island.

Additionally, Phase 3 comprises another group of graves (***Fig. 18:*** G5). These graves are stratigraphically connected to the horseshoe-shaped apse, but are somewhat less homogeneous as a group. Some are located in the southeast part of the church, others just outside to the south of the apse.

The approximate dating of this phase is made possible by the connection with the contemporary architecture, which was built in the Romanesque style (see *Chap. 5*).

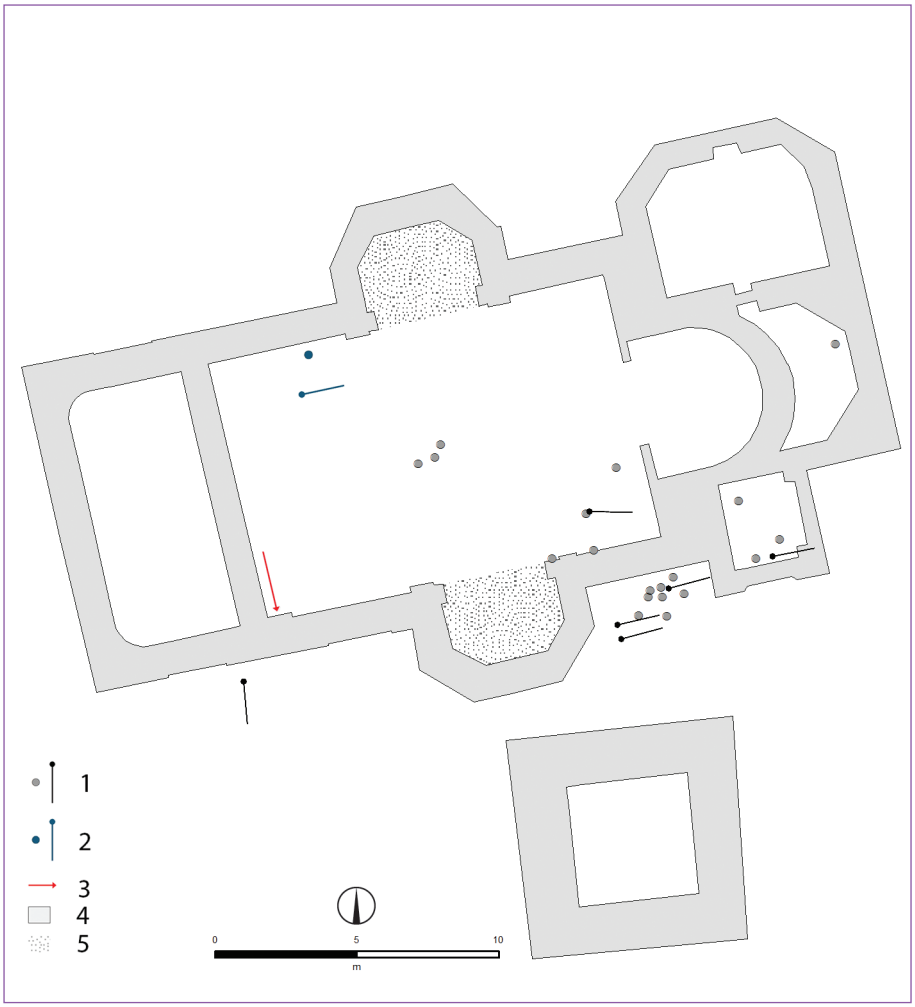

Fig. 24: Bled Island, plan of Phases 4 and 5: 1 – Phase 4 grave; 2 – Phase 5 grave; 3 – wall protrusion marking where the western wall of Phase 3 stood; 4 – existing wall; 5 – unexcavated or destroyed.

Only for the sake of clarity of the text this phase is referred to as Romanesque and its graves as the High Medieval cemetery.

4.5 PHASE 4

Phase 4 (***Fig. 24***) comprises 13 graves to the south of the church building (***Fig. 18:*** G6). Most of them were tightly packed against the wall, in a narrow space between the church building and the bell tower. The shallow graves were partially cut into the bedrock and only thinly covered with soil. So, there is no direct stratigraphic contact with other grave groups or architectural remains.

The area where the graves are located was levelled to the bedrock during the construction of the Gothic church (***Fig. 13***). Thus, the graves in this group cannot predate the construction of the Gothic architecture, as they would have been destroyed during levelling.

Only for the sake of clarity of the text this phase will be referred to as Gothic and the graves as Late Medieval.

4.6 PHASE 5

Phase 5 (***Fig. 24***) is the period of Baroque architecture that characterises the present church building. Stratigraphically, it includes two adjacent tombs in the northwest part of the nave, the position of which was marked in the Baroque pavement of the church (***Fig. 18:*** G7).

Only for the sake of clarity of the text this phase will be referred to as Baroque.

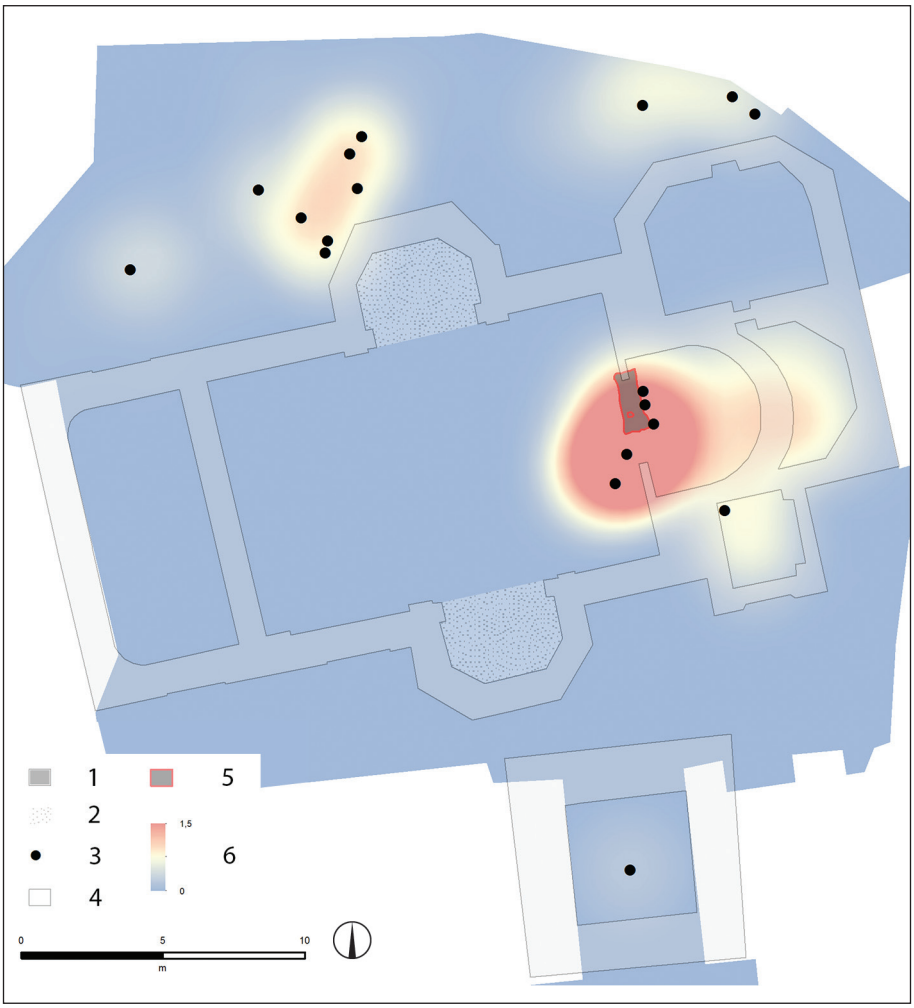

Fig. 25: Bled Island, location of prehistoric finds: 1 – existing wall; 2 – unexcavated or destroyed; 3 – stone tool; 4 – outside excavation trench; 5 – pit or posthole; 6 – number of finds per m^2.

4.7 PREHISTORY

Scarce prehistoric archaeological remains were also excavated on the Bled Island site. Mostly these were artefacts discovered in secondary positions, for example in the backfills of the graves from Phase 1. In some places, especially in the presbytery of the present church, the documentation mentions a prehistoric "cultural layer". However, based on the descriptions of the layers, it can be assumed that these were only artefacts in secondary position within the Medieval contexts. Prehistoric finds can thus not form a stratigraphic phase.

Regardless, some inferences can be made. Analysis of the distribution of the prehistoric finds shows a concentration in the area of the present presbytery of the church and a second concentration to the north of the present church (***Fig. 25***). The prehistoric artefacts certainly deserve a more detailed analysis, but are not the subject of this contribution. In the following, only the prehistoric features that were in the past mistaken for Medieval will be described in detail.

The first to be described is the pit positioned under the presbytery of the present church. To understand it, stratigraphic Phases 1, 2, and 3 must be considered.

The pit consists of a rectangular cut, three backfills, a recut, and its backfill (***Fig. 26:*** P4–1, 2, 3, and 4). The four backfills were described in the field diary as follows. First, *dark brown clay mixed with charcoal and clay daub*. Second, *hard clay mixed with numerous fragments of charcoal and clay daub* (a hearth). Third, *a patch of hard clay*. And fourth, *black-brown clay and a possible site of a rectangular posthole* (note by B. Š.: the description refers to the backfilling of the recut as described in the margin of plan drawing Rn 221/27).

Fig. 26: Bled Island, pit next to the two earliest apses, plan drawing of arbitrary levels 3 (P3), 4 (P4), 5 (P5) and 6 (P6). On P3, the green stone (No. 30) and the layer above the pit (No. 24) are marked. On P4 the pit backfills (Nos. 1–3) and the posthole backfill (No. 4) are marked (data sources: NMS archives AO Rn 222/12–15).

The pit was cut into the bedrock and covered by a Phase 3 levelling: a layer of reddish-brown clay (Šribar 1966, 107) and light brown humus mixed with crushed stones and fine sand (Šribar 1966, 100, Nos. 6 and 7). The pit and its backfills have no direct stratigraphic contact with the Phase 1 graves, nor with the architectural remains of Phase 2. As far as can be surmised from the descriptions of the layers, the first two of the above described backfills were formed in separate events. Each event followed the burning of a wattle and daub building typical of the prehistoric period in close proximity. Perhaps it can be inferred that the surrounding area was cleared after a fire, but not in the sense of levelling the ruins for a new building, as the amount of charcoal and burnt clay is insufficient. The third backfill appears to have been created during the consolidation of the pit floor, while the recut and its backfill are a post hole, i.e., archaeological evidence for a rectangular post or stone.

A thorough analysis of the plan drawings provides further details about the stratigraphic position of the pit. The starting point is the information – indirectly attested several times in the documentation (Šribar 1966, passim) – that the church pavement was horizontal and that any differences in level were negligible. In a plan drawing of arbitrary level 3 (Planum 3), the aforementioned levelling of reddish-brown clay is shown as a continuous layer that completely covers the pit. However, a little further west, *the surface of the clay at the western end of the grave pit* [72] *is at the level of its upper edge* (Šribar 1966, 106). This means that Planum 3 was excavated at a level roughly corresponding to the occupation level,

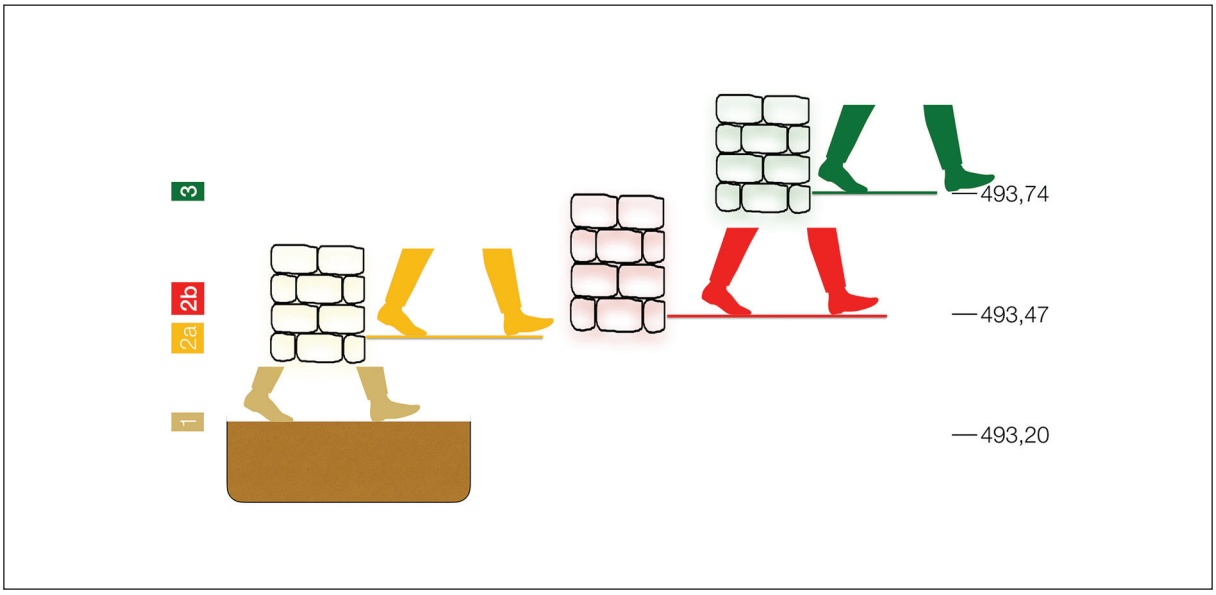

Fig. 27: Bled Island, stratigraphy of the area of the pit and the three latest apses. The measurements above sea level are to scale, all other elements are only illustrated: 1 – Phase 1, occupation surface on the pit's backfill; 2a, 2b – Phases 2a and 2b, walls of the pre-Romanesque apses with the respective occupation surfaces; 3 – Phase 3, Romanesque apse and contemporary occupation surface.

Fig. 28: Bled Island, view of the pit next to the two earliest apses documented on arbitrary level 3 (looking south; source: NMS archive AO film No. sv4712).

i.e., the occupation surface that was walked on at the time of the interment of Grave 72. This observation is also confirmed by the analysis of the section drawing: The top of the pit was recorded as being about 0.2 m lower than the top of Grave 72 (***Fig. 27***). Thus, it can be assumed with a fair degree of certainty that Grave 72 and pit with its backfills were all covered with a layer of clay that represented the occupation surface at the time. The pit and its backfill are therefore stratigraphically earlier than Grave 72.

The time at which the pit was dug can only be inferred indirectly. Immediately next to the pit, numerous prehistoric finds were recorded *on the burnt surface*: At least 28 fragments of pottery, more than 61 fragments of burnt clay, two stone tools, *a fragment of a river pebble* (NMS inv. No. S1922 a–c) and *a fragment of a greenish-grey stone axe with a finely polished surface, measuring 5 x 6.2 cm* (Šribar 1966, 121–122). These finds indicate a possible prehistoric dating of the pit, which is indirectly supported by the presence of clay daub in the backfill.

A cut stone (***Fig. 28***) lying on top of the backfilled pit may shed some light on the duration of the pit's use. It is a rectangular stone cut from green tuff and is about 0.3 m long, 0.2 m wide, and 0.25 m high (source: Archive NMS AO Rn 222/12). This relatively easy-to-cut green tuff (locally known as "*groh*") was a particularly popular material for architectural elements in the area of today's western Gorenjska from the end of the Middle Ages until modern times (Avguštin 1971). According to the description, the prehistoric polished axe mentioned above seems to have been made of the same material (Bitenc, Knific 2020b: Pl. 13: 11). Green tuff was also used locally as a material for gravestones in the Roman period (*lupa* 3726).[5]

To summarize the stratigraphic information. The cut piece of green tuff lay (1) on top of the backfill of the pit, (2) embedded in a levelling accumulation of reddish-brown clay (which covered the pit and was the occupation surface when Grave 72 was dug), and (3) beneath the pavement of Phase 3. The stratigraphic (1) *terminus post quem* for the placement of the stone is thus the backfilling of the pit prior to Phase 1; (2) the *terminus ad quem* is the creation of the occupation surface used at

[5] I thank E. Lozić for the information.

the time of the interment of Grave 72; (3) the *terminus ante quem* is the construction of the building in Phase 3. The *terminus ante quem* rules out the possibility that the green stone is an infiltrated High- or Late Medieval architectural element, while the *terminus ad quem* proves that the stone was protruding from the ground at the time of the interment of Grave 72 and also later, at the time of the construction of the earliest church.

Of crucial importance is the position of the stone above the final backfill of the pit and its embedding in the levelling accumulation. This means that the people who backfilled the pit deliberately placed the stone in its position. (Much) later, when the occupation surface was levelled, further deliberate care was taken for the stone to remain visible by ensuring that it protruded about 0.2 m above the ground. The most convincing interpretation of this deliberate care is that the stone was used as a spatial marker for the location of the pit.

Thus, the exact purpose and date of the pit and stone are unknown. The above does not provide direct evidence that the people who dug Grave 72 and the people who built the first church – both of whom used the occupation surface from which the green cut stone protruded – were aware of the location and significance of the pit. However, considering the rarity of cut stones in the Early Middle Ages, the stone must have been a remarkable feature in the landscape of Bled Island. As such, it is highly likely that it was indeed understood as a spatial marker (for the term see Fletcher 2004, 136, note 1; Novaković 2001, 221) for the pit and/or its meaning. This interpretation is supported by the posthole (see above, recut), which was most likely a remnant of an earlier spatial marker or perhaps even the original position of the cut stone.

So, the following archaeological evidence emerged from this area of no more than a few square metres: a concentration of prehistoric finds, including a polished axe made of green tuff; a pit with several backfills indicating repeated activity; a (first) post or stone as a spatial marker; an intentionally placed cut stone of green tuff as the (second) spatial marker; an exceptional Early Medieval grave (No. 72); the apses of the two earliest church buildings. Taken together, this evidence suggests that continuity in the special meaning of this place is all but certain.

4.8 PRELIMINARY ABSOLUTE CHRONOLOGY

A preliminary chronology of the phases is thus as follows.

Phase 1:
The Early Middle Ages, characterised by artefacts; the *terminus ad quem* is C14 σ1 895–972 CE.

Phase 2:
The Early Middle Ages, characterised by Pre-Romanesque architecture; the *terminus post quem* is C14 σ1 895–972 CE.

Phase 3:
The High Middle Ages, characterised by Romanesque architecture.

Phase 4:
The Late Middle Ages, characterised by Gothic architecture.

Phase 5:
The Post-Medieval period, characterised by Baroque architecture.

A more detailed chronology is presented in the following sections (see *Chap. 10*).

5 BUILDING ANALYSIS

5.1 INTRODUCTION

Until the Late Middle Ages, the only building on the Bled Island was the Christian church, and in this chapter I have reconstructed its building history.

Unfortunately, archaeological analysis of the existing building (for example, analysis of materials, building techniques, connections between architectural elements) was not carried out during the construction works in the church. Thus, the scientific description, assessment, and dating of the standing building structures was not possible.

For this reason, the present analysis was limited to excavation archaeology. The available data were mainly plan drawings and field diaries. As a result, this analysis focused on the earliest phases of the church.

A note on terminology: although the interpretation of the function of the buildings is not discussed until the end of this chapter, the term church has been used throughout for the building for the sake of simplicity.

5.2 GROUND PLANS

Based on the analysis of the relative stratigraphy presented in previous chapter, a plan of the architectural elements for each stratigraphic phase was drawn up.

Stratigraphically the earliest building was a church with a semi-elliptical apse, which I termed the **first church building** (***Fig. 29***). It was very poorly preserved, having been largely demolished by later buildings. The foundation of the apse (***Fig. 21***) was described in the field diary as being approximately 70 cm wide, built of roughly worked stones up to 40 x 60 cm in size, and bound with a dark yellow, low-quality mortar (Šribar 1966, 105 and 199). However, according to the plan drawings, clay was the binding material of the stones. Of the rest of the building, only small longitudinal pits in the bedrock (*cf.* Šribar 1966, 113–114) and a small patch of mortar pavement have survived (***Fig. 24:*** a; ***Fig. 25:*** 13–09, 14–06, 14–08, 14–09, 14–B1). The recorded pits can be interpreted as the foundations of a wooden wall. Although Šribar (1966, 198) lists at least four other postholes measuring 15 x 20 cm at a distance of 2 m from the shoulder of the apse, they do not appear in the plan drawings or in any other documentation. In this particular case, the plan drawings were considered to be the more reliable data source than the field diaries.

Primarily on the basis of the remains of the apse as documented in the plan drawings, the construction technique can be imagined as similar to that of the church built in the middle of the 10th century in present-day Prague (Malostranské trg 2), Czech. It was a round ecclesiastical building with a foundation of roughly worked clay-bound stones. The superstructure was probably made of wood and plastered with yellow clay. Analysis of clay plaster revealed that the wall of the Prague church was smoothed and painted with red and ochre pigments based on iron oxides (Čiháková 2018, 297–298).[6]

The sparse archaeological traces alone are not sufficient for a reconstruction of the ground plan. This is only possible if the continuity of the orientation of the apsidal buildings is taken into account. Such continuity is testified by several archaeological analogies; when a new church was built over an earlier one in the Medieval period, the orientation of the earlier building was precisely observed (Strmčnik-Gulič 1994; Sagadin 2017; *cf.* Čaval 2010, 168).

On Bled Island, I based the orientation of the church on the north wall of the present church. This wall has Romanesque foundations and was surveyed *in situ* to have a declination of 78.4 degrees with respect to the north (see *Chap. 6*). Using this information, the recorded remains of the apse, and the longitudinal pits on the north, south and west sides, I was able to reconstruct the ground plan (***Fig. 29:*** b, c).

This reconstructed ground plan is asymmetrical, which was not a common trait for Medieval churches. However, it is supported by the location of Grave 71: A symmetrical building would have to be built over the grave (***Fig. 29:*** f). Nonetheless, since the reconstructed

[6] The author would like to thank J. Rihter for this information.

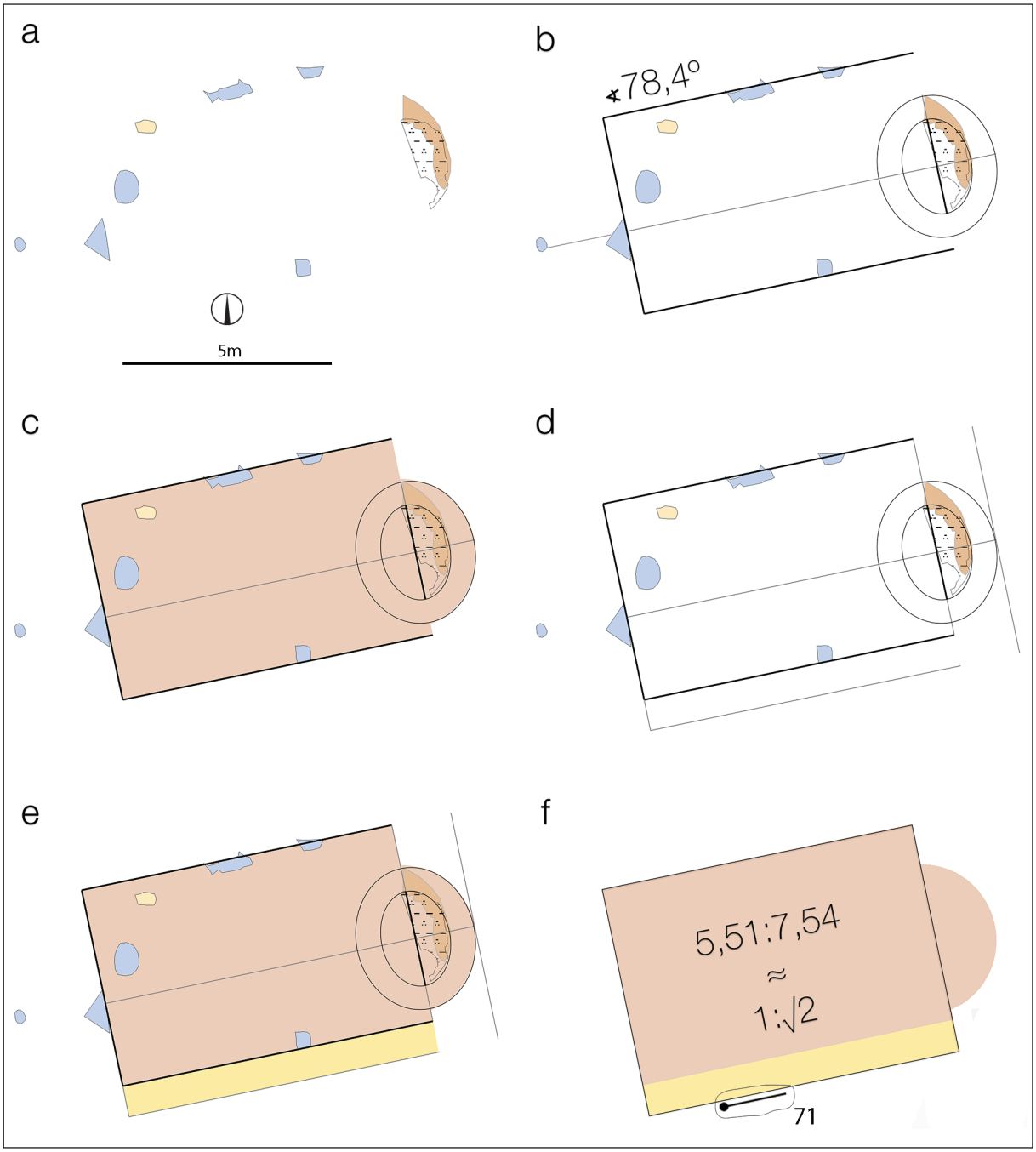

Fig. 29: Bled Island, Phase 2a, first building with semicircular apse, reconstruction of the ground plan: a – archaeological remains (purple for pits, light brown for mortar pavement, dark brown for wall foundations); b – reconstruction of the outer walls and the central axis of the apse; c – reconstruction of the ground plan; d – idealised south wall taking into account symmetry; e – reconstruction of the actual (brown) and the idealised (yellow) ground plan; f – length-width proportions of the idealised ground plan.

location of the south wall is based on a single pit, the version with a symmetrical ground plan was also considered. The proportion of the nave constructed in this way would be 1:√2, which was typical for early Romanesque churches with a semi-elliptical apse (Stopar 2017, 18–33; ***Fig. 29:*** d, e, f).

When all the evidence is considered, the most plausible reconstruction of the first church with apse is the one with an asymmetrical nave, which was 7.5 m long and 4.8 m wide and had an area of 35.9 m^2. The entire building was 9 m long. The apse had a semi-elliptical shape and was 2.8 m wide and 3.5 m long, making for a ratio of 4:5.

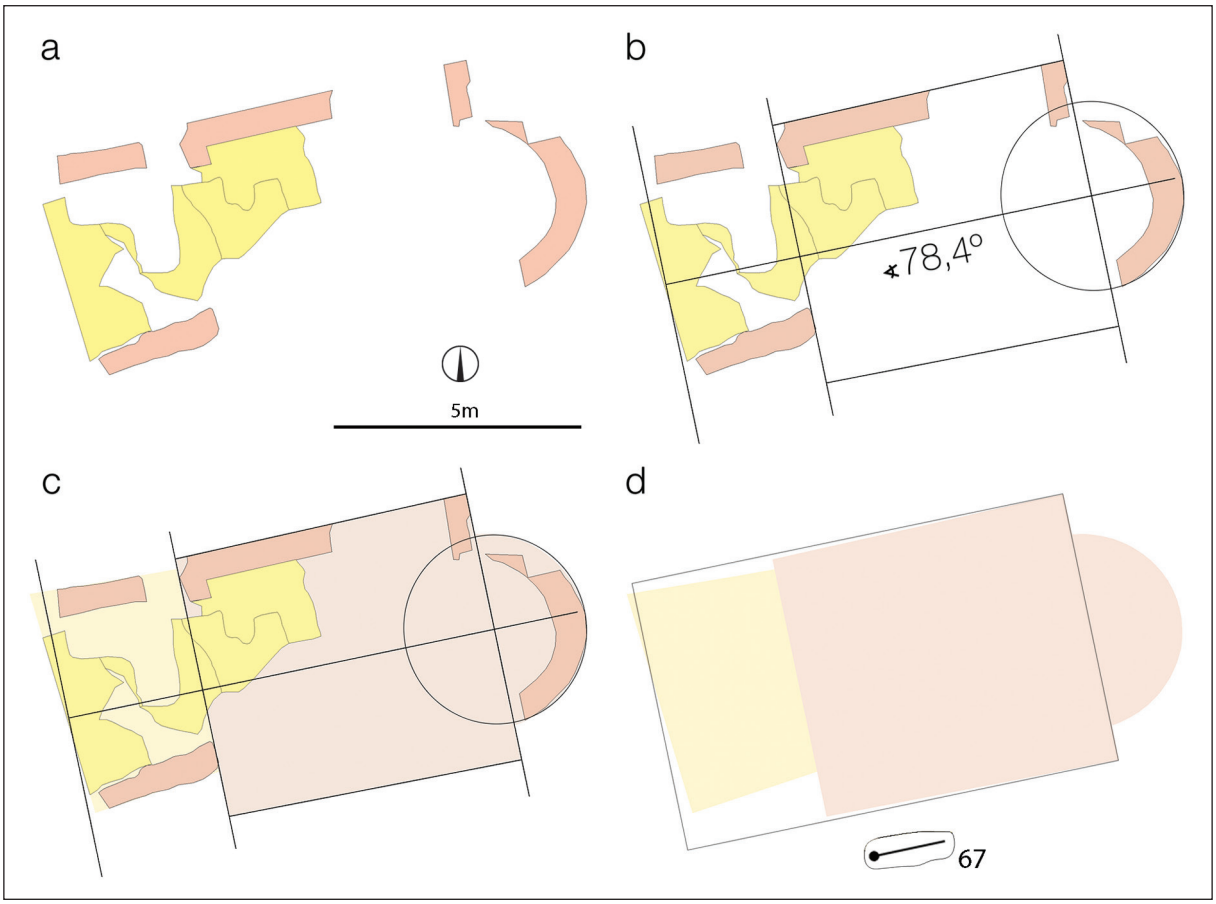

Fig. 30: Bled Island, Phase 2b, second building with semicircular apse, reconstruction of the ground plan: a – archaeological remains (yellow for the mortar pavement, brown for the wall foundation); b – reconstruction of the outer walls and the central axis of the apse; c – reconstruction of the ground plan; d – reconstruction of the actual (brown for the nave, yellow for the annex) and the idealised (black line) ground plan.

Of the **second church building** (*Fig. 30*), the remains of 0.67–0.72 m wide foundations made of roughly worked stones bound with mortar (stratigraphic contexts: 12–18, 12–25, 13–20, 13–25, 13–27) and mortar pavement (stratigraphic contexts: 13–12, 13–13, 13–14, 13–19, 13–20; *Fig. 30:* a) were preserved. It had a semi-elliptical apse just as the first church, but the binding material is yellowish mortar instead of the clay (Šribar 1966, 198). On the basis of the scarce remains, it could not be determined with certainty whether the building was constructed of roughly worked stones bound with mortar or whether it was a wooden building with stone foundations. The only indirect evidence was the sandstone fragments with remains of frescoes, which were built into the foundation of the next (third) church and can be considered as ruins of this (second) church (Šribar 1966, 138). The frescoes are an indication that at least parts of the second church were built from sandstone.

On the basis of the preserved walls, the ground plan of the building can be detected on all sides except the south side. The latter can be reconstructed if one assumes that the building was symmetrical. The position of Grave 67 directly adjacent to the thus reconstructed south wall confirms the symmetrical a reconstruction (*Fig. 30:* b, c).

The nave has the shape of an irregular rectangle with a width of 5.95–6.15 m, a length of 6.75 m, and an area of 52.3 m^2. In the narrower part, the ratio between length and width deviates only slightly, by 0.1 m, from the $\sqrt{3}$:2 ratio typical of the Pre-Romanesque style.

At some later time the nave was extended by 3.1 m to the west with a room in the ground plan of an irregular trapezoid. The preserved mortar pavements testify that, at least in the last phase of the building's use, the nave and the extension functioned as a single room (*Fig. 30:* c).

Integrated into the apse described above was a dry-stone wall made of large square pieces of limestone and tuff, up to 60 x 70 cm in size (Šribar 1966, 108 and 197, also the drawing of Planum 3, No. 28). While the stratigraphic relationship to the apse was not fully understood by the excavators (Šribar 1966, 197), an analysis of the

Fig. 31: Bled Island, view of the drystone wall made of larger limestones and square tufa stone as documented on the arbitrary level 3 (view to the south; source: NMS archive AO film No. sv4649).

photographs clearly showed that it was built against the pre-existing apse and later than the apse. There is no doubt that this wall and the second apse were demolished to the same level, i.e. at the same time (*Fig. 31*). This means that at least in the last phase of their use, they were contemporaneous and functioned as a whole. There are not enough elements to reconstruct the ground plan of the potential room; it is not even completely clear whether it was a building at all. Šribar's conclusion that it was an extension to the second church (1966, 110) can thus only be slightly improved: There were two walls that perhaps belonged to a small rectangular room attached to the second church.

In the next stratigraphic Phase 3, the construction of a building with a horseshoe-shaped apse occurred. I termed it the **third church building** (*Fig. 32*). Its area was 3.2 times larger than the second church building that it replaced. This was the most ambitious reconstruction in the architectural history of the Bled Island church, in which the previous building was razed to the ground. Such a radical action was never repeated again, and most of the walls built in this phase still stand incorporated in the present church. More specifically, the entire north and south walls and parts of the east wall survive in the present church. The west wall and the apse were destroyed during subsequent alterations. The location of the apse is evidenced by the preserved mortar pavements and a masonry projection in the southwest corner of the present nave. The remains of the apse were recorded archaeologically (*Fig. 21*; Šribar 1966, 136).

The alterations after the third church building were built in the Late Medieval Gothic and Post Medieval Baroque architectural style. These alterations are not preserved in the archaeological record and are thus not the subject of this analysis. I will only mention those that were in the past interpreted as Early Medieval (Šribar 1967, 63).

First, a wall in the shape of a small square was discovered directly under the pavement of Phase 5. It is stratigraphically later than Phase 2 and earlier than Phase 5. Due to its position, it can be interpreted as part of the interior of the church in Phase 4 or Phase 5, i.e., it is of Late Medieval or Post-Medieval date.

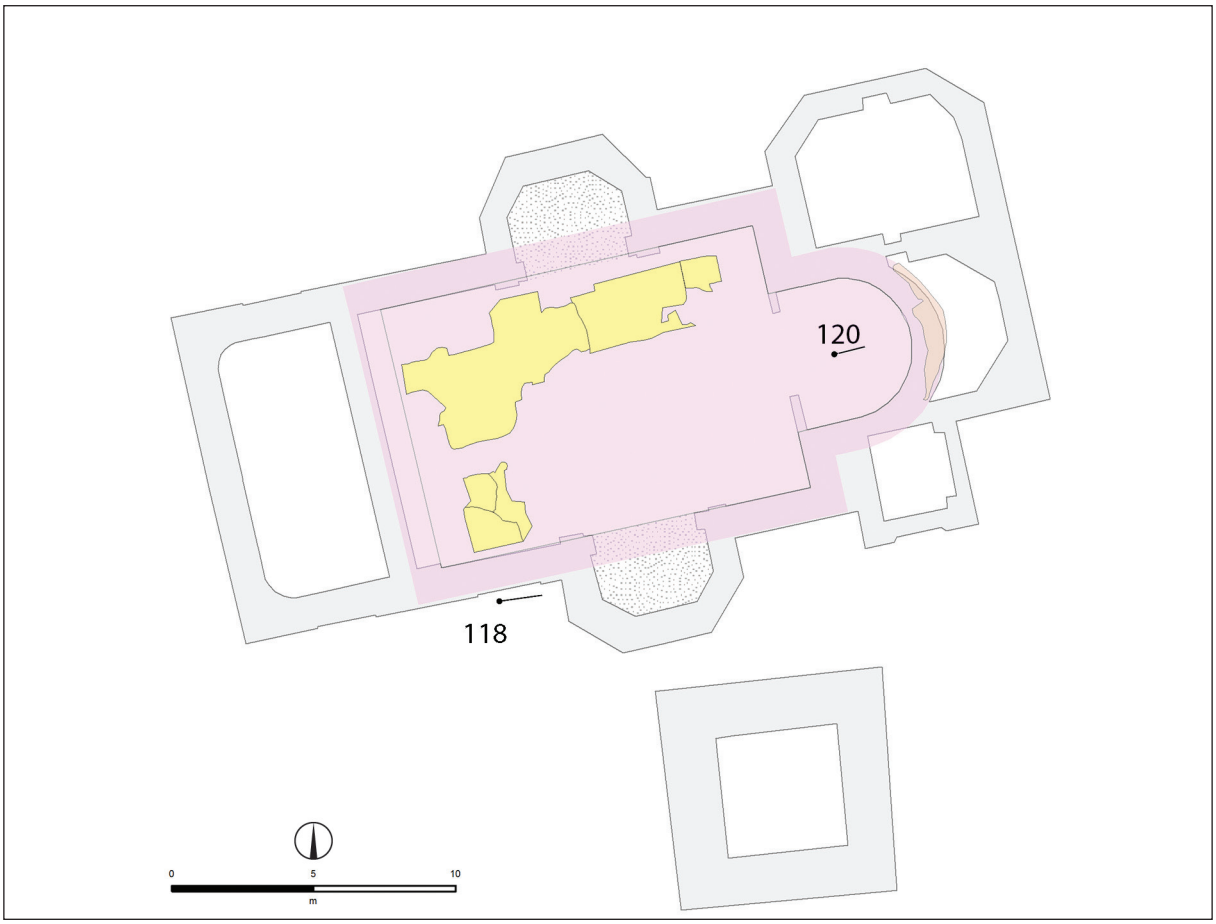

Fig. 32: Bled Island, Phase 3, building with horseshoe-shaped apse, ground plan reconstruction: reconstructed ground plan in purple, mortar pavement in yellow, wall foundations in brown, present church walls in grey; location of grave No. 118 is marked.

Second, the walls north of the present church have been interpreted as part of a Romanesque church with three naves and two apses. However, these walls are stratigraphically later than the Gothic and earlier than the Baroque church and can be interpreted as parts of annexes with secular function. Such annexes were common in the Late Middle Ages. The evidence thus clearly refutes the controversial hypothesis of an Early Medieval church with three naves and three apses (Šribar 1967; Šribar 1971).

5.3 INTERPRETATION

Since archaeological record of activities inside the buildings have not been preserved or recorded, the interpretation of the buildings' function cannot be taken for granted. Nonetheless, there are four convincing arguments that all buildings with apses served as Christian churches.

First, apsidal buildings in the region between the ninth and 11th centuries were without exception Christian church buildings (Stopar 2017, 18–36). Second, at least from the 8th century onward, Christian churches were built in such a way that the altar was located in the east and the congregation faced east when praying (Gordon 1971, 213), which is the case with the apsidal buildings on Bled Island. Third, in the Southeastern Alpine region (Slovenia, Austria, and Italy), all buildings that have been archaeologically recorded under the foundations of Late Medieval churches and have the same orientation are interpreted as churches (St George in Legen: Strmčnik-Gulič 1994; the parish church in Kranj: Sagadin 2017; St Martin in Laško: Stopar 2017, 26; St Daniel in Gailtal: Eichert 2012, 22–23; Molzbichl in Spittal: Eichert 2012, 51–55; St Peter at Edling, Spittal: Eichert 2012, 62–64; St Martin, Rive d'Arcano: Gleirscher 2006, Abb. 3: 2; St Martin, Zell at Kufstein, and St Martin, Pfongau: Gleirscher 2006, Abb. 6: 2,3). Fourth, there are no documented cases of High Medieval graves

directly adjacent to a contemporaneous building that was not a church.

The apses, the orientation towards the east, the continuous use of space, and the contemporary graves are thus reliable arguments to firmly interpret the Bled Island buildings with apses as consecutive construction phases of a Christian church.

Based on what a ground plan can reveal about the architecture, it seems that the first church was originally designed according to the principles of Pre-Romanesque ecclesiastical architecture: As a symmetrical building with a semi-elliptical apse and a $1:\sqrt{2}$ ratio of the nave. However, the implementation had to be adjusted to suit the rough terrain. Instead, an asymmetrical, mostly wooden church was built.

This church was razed to the ground and replaced by a building similar in appearance, size, and proportions, but perhaps at least partially built of stone. During its lifetime, an extension of the nave was built in the form of an irregular trapezoid on the west side. Due to its unusual shape, the extension functionally divided the nave into two asymmetrical parts. A similar ground plan can be observed in the Early Medieval church of St Peter (Sclavons, Cordenone, Italy: Gleirscher 2006, Abb. 3:1) and St Augustin (St Margarethen, Austria: Gleirscher 2006, Abb. 6:1). Perhaps this subdivision had a similar liturgical significance as the subdivision of the nave by stone screens with interlace decoration, for example, in Molzbichl (Eichert 2012, 51–55; see the literature cited there). On the other hand, the extension could also simply reflect an ever larger congregation that had to be served in the church.

The dimensions, the shape of the apses, and the regular proportions of the naves of the two churches with semi-elliptical apses are typical elements of Pre-Romanesque ecclesiastical architecture (Stopar 2017, 18–19). The complete destruction of the two earliest churches strengthens the interpretation that these buildings were at least partially constructed of wood and that the demolition was due to dilapidation. Perhaps the duration of such buildings can be inferred from the comparison with a roughly contemporaneous small wooden church in nearby Lesce. This church was demolished "after a long period of time" (*post multorum vero cursum temporum*) and replaced by a stone church. In Lesce, this period was estimated to have been six to seven decades (Bizjak 2012).

The second church on the Bled Island was followed by the construction of a stone church with a horseshoe-shaped apse, which can be described as a typical Romanesque church due to its size and shape. Unlike the two previous churches, whose construction involved adjustments to the terrain, this time the builders levelled the bedrock and made significant changes to the island's geomorphology. The levelled surface measured at least 74.2 m^2. The preserved mortar pavements are an indication of a uniform and well-maintained interior of the church.

For the sake of clarity only, the two earlier churches will be referred to as the first and second (Pre-Romanesque) church (of Phase 2), and the latter one as the third (Romanesque) church (of Phase 3).

6 ORIENTATION OF THE MEDIEVAL CHURCHES

6.1 STATE-OF-THE-ART

The orientation or alignment of the Medieval churches has long been the subject of study, but only recent methodologically advanced studies have yielded a deeper understanding of the subject. I will first briefly present the current state-of-the-art in the topic and then the case of the Bled Island.

Like the Greco-Roman temples before them, Christian churches have faced east since at least the 8th century. The reasons for this were probably rooted in deep prehistory. The human division of the horizon into four parts is probably egocentric and has its origin in the physiognomy of the human body, which knows four directions: front, back, left, and right. Initially, the positioning based on these four directions may have been based on an orientation point in the landscape, but early on this was replaced by astronomical observations. The division of the horizon into four parts is certainly earlier than organised religion, but it gained symbolic significance with the advent of the latter. Linguistic studies point to the great significance of the east in the worldview of prehistoric Indo-Europeans, which undoubtedly has its origins in sun worship. As a contrast to east, Christianity associates the west with satanic darkness, sadness, and death. In religions such as Christianity, Islam, and Judaism, this division was transferred to the conception of the afterlife (e.g., Evans 1989, 234).

The beginnings of modern research on the orientation of medieval churches date to the 19th century. At that time, on the basis of an 18th century English poem, it was hypothesised that medieval churches were oriented according to the point where the sun rose on the day of the church's patron saint (Hinton 2012, 9–11). However, a thorough analysis of the Medieval texts revealed that the stated intention was to align the church with the rising sun at the equinox (Vogel et al. 1962). In his compilation of medieval sciences, Isidore of Seville (+ 636) summarised the procedure undertaken by the *gromatici* in classical Antiquity as follows:

> *Unde et quando templum construebant, orientem spectabant aequinoctialem, ita ut lineae ab ortu ad occidentem missae fierent partes caeli dextra sinistra aequales; ut qui consuleret atque precaretur rectum aspiceret orientem.*[7]

This was still true in the middle of the 13th century, as the French bishop Guillame Durando reports in his summary of a centuries-long tradition of liturgical commentaries:

> *De Ecclessia, et ejus partibus... Debet quoque sic fundari, ut caput recte inspiciat versus orientem (...) videlicet versus ortum solis equinoctialem...*[8]

Modern analyses of the orientation of churches in Slovenia (Čaval 2010; Čaval 2014), Austria (Eichert 2012, 244–251), north Italy (Spinazzè 2014, 2016a, 2016b), the Iberian Peninsula (Gonzáles-Garcia, Belmonte 2015; Valcárcel, Palmero 2018), England and Wales (Ali, Cunich 2001; Hinton 2006, 2012; Sassin Allen 2015) confirm the notion that an eastward orientation was at least sought, if not always achieved. It is noteworthy that each of these studies recorded non-random variations within the general pattern of eastward orientation. For example, the mean orientation of 630 medieval churches in Wales deviates by 8° to the north from the geodesic true or cardinal east (Sassin Allen 2015, 158–159).

The recorded non-random variations or differences in the orientation of the churches were explained in vari-

[7] Orig. XV.4. Translation after Barney et al. 2006: Hence when they would build a temple they would face toward the equinoctial sunrise, so that lines laid from the east to the west would divide the sky into equal parts on the right and the left, and thus whoever would take counsel or pray would look directly east.

[8] Durand, Rationale I.1/8. Translation by the author: Of the Church, and its parts... It must also be founded in such a way that the head looks correctly towards the east (...), that is, towards the equinoctial sunrise...

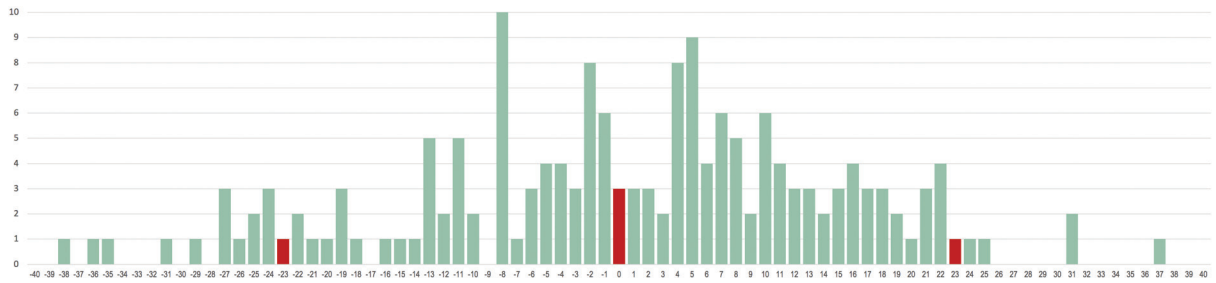

Fig. 33: Slovenia, histogram of the eastern declinations of the Sun at Romanesque churches; marked in red are -23° (winter solstice), 0° (equinox) and 23° (summer solstice) (data source: Čaval 2010, Fig. 6.5).

ous ways. For example, churches were aligned according to the point at which the sun rose or set on the day of the church's patron saint, on Easter or another important ecclesiastical holiday, or on the day the foundation stone was laid. In addition, differences in orientation could be the result of regional, chronological or monastic differences, magnetic declination, altitude above sea level, local topography or regional context (Sassin Allen 2015, 158–170; see also the literature cited there). The explanations can be grouped into four categories that classify the orientation of churches as symbolic, landscape or topography related, liturgical, and structural (Valcárcel, Palmero 2018, 175–176; see also the literature cited there; *cf.* Čaval 2010). There are pro and con arguments for each of the explanations listed, and none can explain all examples recorded. Thus, it seems best to examine individual examples or at least groups of comparable churches in the context of landscapes and other relevant domains (e.g., Pleterski 2014). Methodologically, it is essential to note that astronomical orientations have only recently been analysed (Čaval 2010; Pleterski 2014; Gonzáles-Garcia, Belmonte 2015; Spinazzè 2016b; Valcárcel, Palmero 2018). While analyses of calibrated magnetic declinations are of comparable methodological quality (Ali, Cunich 2001), all other studies analysed cartographic orientations and thus their results are not suitable for an astronomical analysis of where on the horizon the sun sets and rises.

In the absence of review studies, it seems useful to briefly present existing studies that are relevant to Bled Island. The first is an analysis of 167 churches built on the Iberian Peninsula before 1086. Most of them were oriented according to the canonically established date of the equinox: 25 March according to the Julian calendar. No orientations according to the day of the church patron were found in the study (Gonzáles-Garcia, Belmonte 2015). A subsequent study was limited to the selection to 49 pre-Romanesque churches, mostly built in the 10th century in the so-called Mozarabic style. The results of this study found the prevalence of astronomical orientation, but this time largely based on the rising point of the sun on an important Christian holiday. The most common of these dates was 15 August, the day of the Assumption of St Mary (Valcárcel, Palmero 2018, 185). So these two studies came to different conclusions, even though they examined the same group of churches.

The next comparable study is the analysis of 143 large Early Medieval churches in England and Wales, most of which were founded in the 11th and 12th centuries. Two-fifths of them were found to be aligned with either the rising or setting point of the sun on the day of the church patron and a quarter with the rising point of the sun at Easter (Ali, Cunich 2001). The latter could be explained by the contemporary Catholic liturgy: Celebrating Easter on the correct date was one of the key elements of so-called orthopraxy, i.e., the accurate performance of rituals (Geary 2001).

Spatially much closer to the Bled Island is an analysis of 181 churches from the Swiss Alps and Tuscany (Italy), built either before or during the Romanesque period, i.e., between the 10th and 12th centuries. Most of them were found to be aligned with the rising point of the sun on the day of the church patron or with the rising point of the sun on one of the four Marian feast days (Spinazzè 2016b).

Most relevant for Bled Island is the study of the astronomical orientation of Romanesque churches in Slovenia. The result shows a wide range of alignments, either grouped around significant days in the solar and lunar cycles (for example, solstices and equinoxes) or on the dates of important liturgical feasts of pre-Christian origin. This includes the Assumption of St Mary, which has determined the orientation of eight churches. Only a few churches are aligned according to the day of their patron saint (Čaval 2010; ***Fig. 33***).

On the basis of the comparative studies described, two conclusions can be drawn that are directly relevant to the Bled Island. First, all studies dealing with astronomical orientation have found a high proportion of astronomically oriented churches that focus on significant liturgical dates. Second, in the Alpine regions and perhaps also in England, a certain proportion of churches were oriented according to the feast day of their

patron saint. Methodologically rigorous modern studies have thus confirmed the predominant astronomical orientation of churches built between the 10th and 12th centuries, which had escaped earlier researchers.

6.2 BLED ISLAND CHURCH

The orientation of the Church of the Assumption of St Mary on the on Bled Island has been analysed using state of the art methodology by Čaval (2010, 176–178, and 309–314). The eastern astronomic orientation of the present church on Bled Island was measured as 76° 43' for the northern façade and 76° 34' for the southern façade. The northern façade corresponds to that of the third church building and is therefore parallel to the orientation of the first and second church buildings. The average declination of the sunrise was calculated at 11° 38'.

This declination of the sunrise coincides with the sunrise on 16 August according to the Julian calendar, which corresponds to the Assumption of St Mary on 15 August within a margin of error of one day. This means that the church on the Bled Island is aligned with the sun's rising point on the day of the Assumption. Since the church on Bled Island is dedicated to the Assumption of St Mary (see *Chap. 11.1*), the orientation corresponds to the feast day of the patron saint.

Archeoastronomy cannot determine whether the builders of this particular church were guided by the liturgical feast day, by the patron saint, or consciously by both. Nevertheless, while the distinction between these options is important to modern researchers, it probably made no difference to medieval builders and church users.

The analysis of the architectural remains on Bled Island shows that the orientation of the church buildings did not change after the first construction. The earliest church was astronomically oriented (***Fig. 29***) and later buildings simply followed this orientation. In other words, only the Early Medieval pre-Romanesque first church was astronomically oriented. However, both the second church and the High Medieval Romanesque third church (***Fig. 32***) were oriented in accordance with the earlier architecture. This explains why the Ascension Day orientation is an exception in the Slovenian study of Romanesque churches, while it is the rule in the study of Iberian and Italian Pre-Romanesque churches. The astronomical orientation of a church according to the rising point of the sun on the day of the Assumption of St Mary is a feature of Early Medieval churches built in the pre-Romanesque style. When new churches were built in the Romanesque style in the High Middle Ages, this rule was no longer observed. Nevertheless, where a Romanesque church directly replaced an Early Medieval church, the alignment was maintained.

7 ORIENTATION OF THE GRAVES

7.1 STATE-OF-THE-ART

The orientation of Medieval graves, like the orientation of Medieval churches, has often been the subject of archaeological research. Indeed, alignment is an extremely significant aspect, especially in religions where interment is the most important rite (Parker Pearson 1999). Medieval graves are usually oriented in an east-west direction, with the head on the west side, i.e., facing east (e.g., Knific 2004; Brundke 2013, 32 with examples and literature from north-east Bavaria; Nowotny 2018). This orientation must have had similar or perhaps even the same reasons as the orientation of contemporary churches, but the exact answer is not yet known. According to the aforementioned 13th century French bishop Guillame Durando, the deceased were aligned in this way so that they could be resurrected facing the place of Christ's resurrection. However, this was probably only a rationalisation of the existing condition (Evans 1989, 234).

In Christian practice, this rule was often applied by interring parallel to the adjacent church (Gordon 1971, 211–217; *cf.* Čaval 2010, 37–58 and the literature cited there). However, Medieval graves in cemeteries without a church also faced east. That there was sufficient technical knowledge in the Early Middle Ages for the astronomical determination of the true or cardinal east is testified, for instance, by Bede the Venerable (+ 735). As analyses of his work show, it was common knowledge at the time that the true south was determined by the shadow at the daily culmination point, i.e., when the shadows are shortest (Hoare, Sweet 2000, 166; *cf.* Sassin Allen 2015, 154). In Bede's time, people were able to determine the exact direction of the sun's rising at the winter and summer solstices at any time of the year:

> *... ab euroaustro, id est, ab alto brumalis exortus...*[9]

and

> *Incedebamus autem tacentes,... contra ortum solis solstitialem...*[10]

as well as

> *...quasi contra ortum solis brumalem me ducere coepit.*[11]

This means that the 8th century Angles were not only able to determine the cardinal directions, but were also constantly aware of the apparent movement of the sunrise along the skyline. This was used for orientation in the landscape in much the same way as the wind rose (compass rose) was used for navigation at sea.

Bede was used as a roughly contemporary analogy to the cemetery on the Bled Island, but this knowledge was present and widespread much earlier and was discovered independently by different cultures (e.g., Ministr 2007).

Thus, the orientation of graves in Medieval Europe was certainly no accident. The intention of the mourners – especially those responsible for digging the grave – was to orient the body towards the east, in accordance with the established ritual and most likely also with their religious beliefs. It is no coincidence that the Medieval meaning of the word "orient" was the direction towards the east. Hence, modern archaeological descriptions, for example the east orientation or the orientation of the head towards the west, may be artefactually correct, but they do not convey the correct meaning. Regardless, due to the established terminology, I will use the terms "east orientation" or (as a synonym) "orientation towards the

[9] Bed. Venerab. Histor. lib. 4 cap. 3. Translation Miller 1999, 119: ...from the south-east quarter of the sky, that is, from the highest point of the sun's path...

[10] Bed. Venerab. Histor. lib. 5 cap. 12. Translation Miller 1999, 189 (there incorrectly labelled as cap. XIII): We proceeded in silence,..., towards the north-east quarter of the heavens, where the sun rises at midsummer.

[11] Bed. Venerab. Histor. lib. 5 cap. 12. Translation Miller 1999, 191 (there incorrectly labelled as cap. XIII): ...began to lead me south east, to the quarter where the sun rises in winter.

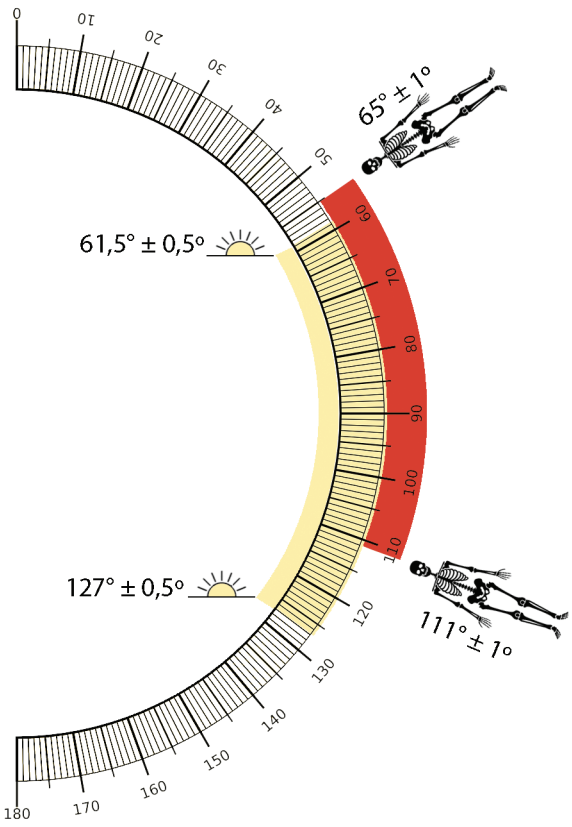

Fig. 34: Bled Island, azimuth of sunrise in yellow and grave orientations in red.

east" in the following, even though etymologically they are pleonasms.

Nevertheless, it remains insufficiently clear according to which point or points in the east the mourners oriented the grave pits and/or the bodies of the deceased. In the early 1900s, researchers of Early Medieval graves put forward the so-called solar azimuth hypothesis (German: *Sonnenazimutthese*), which assumed that graves were aligned according to the sunrise on the day of interment (Niederle 1931, 84–85; Karaman 1940, 10–11). The first such study for the territory of Slovenia was carried out by Škerlj (1952), who analysed the Pristava site in Bled, the Ptuj castle, and three smaller cemeteries. According to him, the earliest graves of the Pristava cemetery in Bled, belonging to the so-called indigenous Romanised population, were aligned according to sunrise on the day of interment. This study had a notable impact on archaeological practice in the region, inspiring excavators of Early Medieval cemeteries to record the orientation of skeletons *in situ* (e.g., Berce et al. 2012). However, the data on grave orientation was rarely published and over time this practice was neglected with a few exceptions (e.g., Sagadin 1985, 96–97). Modern studies on this topic are only just beginning (Achino et al. 2019). The development in neighbouring areas was similar to that in Slovenia, but it is not my intention to provide an in-depth history of research in the wider region.

The solar azimuth hypothesis is relatively easy to test. Because of the Earth's axial tilt of 23.5°, the Sun's azimuth on Earth changes with respect to the cardinal or true geographic east throughout the year (e.g., Strahler 2011, 54–55). As a consequence, the location of sunrise appears to move along the horizon; it is north of the cardinal east in summer and south of it in winter. The exact location depends on the geographical longitude and the horizon. On Bled Island, it is 61.5° ± 0.5° at the summer solstice and 127° ± 0.5° at the winter solstice (***Fig. 34***; calculation by A. Pleterski; *cf.* Škerlj 1952, 112).

If the orientation of the individual graves follows the apparent movement of the sunrise on the horizon described above, the hypothesis of solar azimuth is confirmed. For instance, an analysis of the cemeteries of the Native American Tutelo people from Pennsylvania (USA) – who are known from other sources to have buried their dead facing the rising sun on the day of interment – revealed a 90% coincidence (Evans 1989, 234–235). However, using this method, many authors have refuted the solar azimuth hypothesis for Early Medieval graves in the region (Škerlj 1952; Šolle 1959, 376–377; Hanuliak 1984, 109–114 for a review with literature for Slovakia; Herrmann 1989, 186; Brundke 2013, 32–33). The Early Medieval graves were not aligned according to the sunrise on the day of interment.

Various interpretations were thus sought, which can be divided into four groups as follows. Graves are oriented:

1. in the general (random) east direction;
2. parallel to the church (in the case of cemeteries near churches);
3. astronomically, i.e., according to the Sun or other celestial body;
4. geographically, i.e., facing a specific place in the landscape.

Let us take a closer look at each of the proposed interpretations.

First hypothesis. The orientation of graves is most often explained as a general orientation toward the east (recently, e.g., Knific 2004; Brundke 2013, 32 with examples and literature for north-east Bavaria; Filipec 2016; Rapan Papeša 2016; Vyroubal, Pleše, Novak 2016). Some authors explain the deviation from the true east as an error on the part of the mourners (Müller 2013, 152; *cf.* Rempel 1966, 11), without stating what definition of the east the mourners were supposedly unsuccessfully aiming for.

Second most common hypothesis is, that the graves were aligned parallel to a contemporary church building

(Rajchl 2001, 127–128 for the Czech Republic; Müller 2013, 152 for Germany; Azinović Bebek, Janeš 2016; Čimin 2016). Although this hypothesis can be easily tested, it was not supported by measurements or other field data in any of the studies listed, but it is attested in a Medieval poem written around the year 1200 (Fry 1999, 67).

Third hypothesis states that the graves are oriented astronomically. This hypothesis was proven for a handful of examples. An obvious astronomical orientation can be found in an Early Medieval cemetery around the church in the settlement of Břeclav-Pohansko (Czech Republic). The graves were aligned in three different directions: towards the summer solstice, towards the sunrise at the equinox, or towards the southern full moon (Rajchl 2001). The graves of the Velkých Bílovicích cemetery in the Czech Republic had a similar orientation (Měřínský 1985, 24). In Slovenia, Early Medieval graves from the site of Brezje above Zreče were aligned with the winter solstice, i.e., with the sunrise at Christmas (Kaiser 2004).

Fourth hypothesis. Studies demonstrating the orientation of Early Medieval graves in the direction of a specific place in the landscape are not abundant, but the known examples are supported by data and systematic analyses (Hanuliak 1984; Evans 1989, 244–250; Pleterski 2014, 115–362).

The above interpretations can be evaluated as follows. The first two hypotheses are refuted with some confidence. In my opinion, the most common archaeological interpretation of the orientation of graves "towards the east" in general is nothing other than mental inertia. Namely, instead of answering the question to which point due east the graves were oriented, this interpretation simply sidesteps the issue. However, rebutting the solar azimuth hypothesis took considerable effort by several researchers. They managed to refute the interpretation that for the mourners the east was the point on the horizon where the Sun rose on that particular day. As Bede demonstrates so vividly, knowledge about the movement of the Sun was much more sophisticated in the Early Middle Ages.

The second most common hypothesis is that the graves are aligned parallel to the church. Although this hypothesis has yet to be confirmed by systematic analyses, it does not seem to be questionable for the Medieval cemeteries with a church (German: *Kirchengräberfeld*). However, it does not answer the question of the meaning of orientation. As Durando testifies, by High Medieval times interment took place without (or with very few) exceptions in the churchyards, but the knowledge of the original meaning of the orientation had already been lost.

Thus to answer the question of the cultural meaning of the eastward orientation, cemeteries without churches need to be examined. And the key to understanding the meaning of the orientation of Medieval graves lies in finding the exact point in the east towards which the graves were aligned. In the search for this answer, two viable hypotheses are left: the astronomical and geographical orientations.

7.2 METHODOLOGY

The analysis of church orientation has shown that the study of the orientation of Early Medieval graves must also be carried out with similar methodological rigour. It is somewhat surprising that the methodology for measuring the orientation of graves has not yet been systematically considered. Below is a modest attempt of that.

First, I must briefly discuss terminology. In archaeological literature the terms grave, tomb, burial, and interment are often used interchangeably, but in this text they are used with a specific meaning.

A grave is the sum of the archaeologically recorded remains of an interment; it incorporates, among other things, the grave pit and its backfill(s), the skeletal remains, the grave marker, and the grave goods. Grave and burial (noun) can be used as synonyms, but the term burial is ambiguous as it can be either a noun or a verb.

A tomb is a grave constructed in such a manner that the body is placed in an empty space and can be reopened. Typically, tombs are cut into bedrock or constructed of non-perishable materials such as stone.

Interment is the process that begins with the preparation of a grave or tomb or other physical object intended for the disposal of the body. Interment continues with the process of the disposal of the body and accompanying ritual(s) taking place near the grave/tomb/other. A typical Catholic interment, for example, includes the digging of the grave pit, the lowering of the body (wrapped in a shroud or placed in a coffin) into the grave pit, and the backfilling of the grave pit. The term burial ritual can be used as a synonym, but the term burial (verb) is ambiguous as it can be either a noun or a verb. The term funeral has a broader meaning and includes, in the catholic example, the mass and the procession from the church to the cemetery.

In the context of orientation, the object of the discussion must first be defined. Are we interested in the orientation of the body, grave pit, or a grave? A lively discussion could ensue, and the answer would be different for different societies and thus different archaeological contexts.

However, as is often the case with archaeological practice, this question is rendered a mute point in the face of the imperfect reality of the archaeological record. The real question then becomes: Which part of the archaeological record best reflects the orientation of a grave? Since the orientation of graves is primarily studied from the perspective of interment, the orienta-

tion of the grave pit seems to be the most informative to reflect or mirror (for the expression, see Klejn 1987, 41) the mourners' conscious decision regarding the alignment of the grave. Ideally, the orientation of the potential coffin or plank and the orientation of the body would also be known. Following the example of archaeoastronomy (e.g., Čaval 2010, 113), the average of all three measurements would be a good indication of cultural processes taking place during the interment.

Unfortunately, in Medieval cemeteries coffins or burial planks are rarely preserved, if they were used at all. None were documented in the cemetery discussed here.

Additionally, grave pits are often difficult to detect. This is especially the case with Medieval cemeteries near churches that have been used for centuries or even millennia. The reason for this is what is known in archaeological practice as dark soil. This is a very dark brown to black, almost buttery soil layer that often incorporates the entire volume of the archaeological record: The stratigraphic layers through which the grave pits were dug, the grave backfills, and the layers covering the graves. As a result, the occupation surface and individual grave pits are hardly or not at all recognisable.

In cemeteries that have been in continuous use, this dark soil is partly the result of repeated reburials, where earlier graves were often exhumed and the grave pits backfilled with the same soil.

There is another more sinister cause for dark soil: adipocere, also known as corpse wax. This is a substance produced by the anaerobic bacterial hydrolysis of body fat in a corpse as part of the saponification process when the fat breaks down into glycerol and unsaturated fatty acids. The latter become saturated and penetrate the tissue and soil. The result is a very persistent biocidal substance that has a wax-like appearance (Haglund, Sorg 1997, 568; Vranová, Marvo, Rejšek 2015, 1421). Under extreme conditions, such as in tightly sealed coffins, this leads to mummification of the internal organs and muscle tissue (e.g., Papageorgopoulou et al. 2010). Nevertheless, small amounts of adipocere always form in moist, clayey layers (Esteves da Silva et al. 2009). In slightly alkaline soils, this substance accumulates over time (*cf.* Gordon, Buikstra 1981) and this is how dark soil is formed. Dark soil can be so saturated with adipocere that sniffer dogs can detect (Rebmann, Koenig, David 2000, 68, 122–123; Pintar, Glavaš 2017). From the point of view of archaeological stratigraphy, this is a post-depositional process in which the colour and consistency of the grave backfill and surrounding stratigraphic contexts become so uniform that they can no longer be identified during excavation.

This effect disappears with the disintegration of adipocere, a process that lasts between a few centuries and a millennium, and in exceptional cases several millennia (*cf.* Papageorgopoulou et al. 2010, Table 1). In archaeological practice, this means that dark soil is typical mainly for Medieval cemeteries with continuity of burials in the Post-Medieval period. In earlier cemeteries, dark soil is only present in alkaline soils with high clay and moisture content.

In the cemetery of the Bled Island, the dark soil was present but not overwhelming. Nonetheless, among the at least 168 recorded burials, only 22 grave pits were identified and only eight of them in total. An even worse ratio was found at the much larger cemetery of Župna cerkev in Kranj, for example, where dark soil was predominant (Pleterski, Štular, Belak 2016; Pleterski, Štular, Belak 2017; Pleterski et al. 2019).

Returning to measuring the orientation of the Medieval burials it can be concluded, that reliable archaeological data on coffins and grave pits in Medieval cemeteries are very often lacking. Mostly, only the orientation of skeletal remains can be systematically measured. But even this method is fraught with difficulties.

To meaningfully measure the orientation of skeletal remains, the post-depositional processes that occur during the decomposition of the body must be taken into account (Knüsel, Robb 2016, 661–667). A common issue is the displacements of a body during decomposition in the cavity of a coffin or tomb, which can significantly affect the position of the remains (Knüsel 2014, 30–35; see the literature cited there). Such displacements can be detected on plan drawings, for example, as detached limbs or unnatural bends of the spine.

The obstacles do not end there. Several problems also arise from the measurements themselves and hence three types of orientation measurements must be distinguished: measurements taken *in situ*, cartographic measurements, and astronomical measurements.

In the past, measurements *in situ* were often made with a magnetic compass, which is problematic because of the deviation of the magnetic north from geographic north, i.e., magnetic declination. Another discrepancy can be caused by the magnetic deviation resulting, for example, from the proximity of iron structures or a high content of iron ore (Čaval 2010, 113–114). Both types of errors can be rectified if sufficient metadata and paradata are available: what was measured, when, with what type of equipment and with what accuracy. In archival excavations, these data are usually missing.

Cartographic measurements by measuring skeletal remains on plan drawings remains the most common way to obtain the data. Two types of errors must be considered for this data.

The first is due to the accuracy of the recording in the field. A reduction in accuracy can be observed, for example, when comparing plans drawn at scales of 1:5, 1:10 and 1:20. In my experience the accuracy is lowest when georeferenced oblique photos are vectorised, which is the prevailing modern method in Slovenia. There is no method to eliminate this kind of error, so

it is important to take this into account during interpretation.

The second type comprises the errors that occur when archaeological plans are transferred from relative to absolute coordinate systems, i.e. during georeferencing. This is needed because archaeological documentation is almost always produced in a Cartesian (plan drawings) or cylindrical (measurements with a total station) coordinate system, but the orientation with respect to true geographic north can only be measured in a spherical projection (***Fig. 35***). In addition, the transformation is also necessary to transfer the data into a geographical information system (GIS) environment (for example, QGIS). Working in GIS makes it possible to correlate the orientations of different graves within a single large cemetery, or of graves from several cemeteries, or of graves in relation to a selected point in the landscape.

The error that occurs in the process of transformation is due to the difference between Cartesian (for example, a quadrant grid in the excavation area) or cylindrical coordinate systems (for example, the national D96/Transverse Mercator) on the one hand and geographic coordinate systems with spherical projections (for example, WGS84) on the other (*cf.* Šprajc 1991, 11–13). Nevertheless, this error is known and negligible for our purposes if the transformation is carried out in a modern GIS system with the appropriate conversion formulae.

The third type of grave orientation, as listed above, is astronomic. Astronomic orientation and declination are a prerequisite for archeoastronomy. They are calculated from the azimuth of the Sun, the height of the horizon, and the geographic latitude. The declination is the azimuth of the point on the horizon at which a particular celestial body, for example, the Sun or the Moon, rises or sets on a particular date. The declination is necessary to determine, for example, on which astronomical date the Sun rose in the direction of a certain burial (Šprajc 1991; Čaval 2010, 112–118 and the literature cited there).

In summary, there are three types of grave orientation measurements: *in situ*, cartographic, and astronomical. The latter are the most precise and the only ones that allows archaeoasronomical conclusions. However, in the archaeological practice of Medieval archaeology, the most common data that can be systematically obtained are cartographic measurements of the orientation of skeletal remains. Although subject to potential error, such data can be successfully used for archaeological interpretation, including aspects of astronomy, if a rigid methodological approach is adopted. I will demonstrate one such example below.

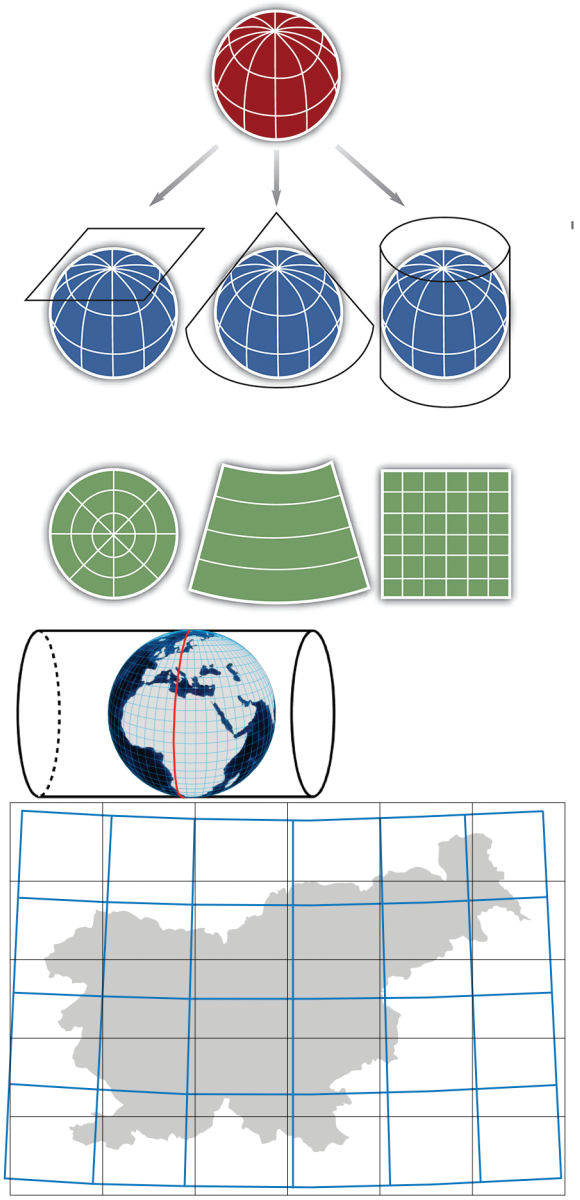

Fig. 35: Illustration of azimuth, cone and valve cartographic projection (top); comparison of a spherical geographical coordinate grid WGS84 (blue) and a geographical valve coordinate grid D48/GK (black) for Slovenia (bottom).

7.3 METHODS USED IN THE BLED ISLAND CASE STUDY

On Bled Island, only the cartographic orientation data of the skeletal remains was available. This, then, was the data used as the proxy for grave orientation in my study. It was measured on the plan drawings, which were originally drawn on a scale of 1:20. Measurements

were carried out in the GIS environment.[12] First, the well-preserved skeletal remains of 23 individuals were measured, for which the positions of the head and pelvis was known and no traces of post-depositional movements were detected. The cartographic azimuth was measured for the line drawn between the joint between the head and the spine (*os axis*) and the centre of the pelvis (*os pubis*). As the number of these measurements was too small for a quantitative analysis, the measurements of all adequately preserved skeletal remains were also included. These were examples where the torso with the spine or the legs with the pelvis were preserved or where it was possible to reconstruct the location of the head and at least the pelvis, knees, or ankles. Care was taken to disregard parts of the skeletal remains that showed obvious signs of the post-depositional disturbances described above. Thus, of the 168 individuals recorded in the Bled Island cemetery, the cartographic azimuth could be determined for 65 individuals.

The azimuth was measured with an accuracy of 1/5°. Although the precision of the measurements was affected by many of the errors mentioned above, the most important factor in this particular case was the poor state of preservation of the skeletal remains. Based on comparison with similar data from the Župna cerkev cemetery in Kranj, the precision of the measurements was estimated at ± 1°. The results of the measurements are therefore rounded to the nearest whole number.

When it comes to archival excavations, a subsequent measurement of each grave *in situ* with modern methods is of course not possible. Thus, astronomical azimuths and declinations were calculated from the cartographic ones by comparing them with the archaeoastronomical measurements of the existing church building. This was possible because all investigated graves were located less than 10 m from the present church building. At the same time, the Bled Island is possitioned by between 200 m and 1400 m from the shore, which means that the horizon is relatively low and even despite the alpine surroundings. All this means that differences in the calculations of declinations due to the distance between individual graves and the church can be neglected.

The eastern astronomical orientation of the present church on the Bled Island was, as mentioned, measured as 76° 43' for the north façade and 76° 34' for the south façade (Čaval 2010, 177). The cartographic orientation of the same two façades measured in the same GIS environment as the grave orientation was 78° 59' and 78° 49'. This means that the cartographic orientation differed from the astronomical one by 2° 15' ± 1'. The astronomical orientations were therefore calculated from the measured cartographic orientations with an accuracy of 1° by subtracting 2° from the measured values.

The calculated astronomical azimuth formed the starting point for the calculation of the declinations of sunrise and sunset. The eastern declination of the church is thus 11° 38' (Čaval 2010, 177). The eastern declination of an individual grave (D_E) was calculated by adding the value of the astronomical azimuth of the church (A_A) to the subtracted difference between the cartographic azimuth (A_C) and the deviation of the cartographic azimuth from the astronomical azimuth ($A_C - A_A$) to the eastern declination of the church (δ_E):

$$D_E = (A_A - (A_C - (A_C - A_A))) + \delta_E.$$

After replacing the values AA ($A_C - A_A$) and δ_E with constant values that apply to this particular case, the final formula for calculating the cartographic azimuth of the graves on the Bled Island into declination is obtained:

$$D_E = (76 - (A_C - 2)) + 11.$$

The same procedure could be used to calculate the western declinations of the graves (D_W):

$$D_W = (256 - ((A_C + 180) - 2)) + (-2).$$

It should be emphasised that the accuracy of the calculated declinations decreases as the values go further from 76° due to the rugged horizon. Especially for Graves 36, 38, 55, 59, 111, 112, and 113, the calculated deviations are approximations only. Nevertheless, the declinations could be calculated accurately from the astronomical azimuths and new measurements of the horizon height if necessary (***Fig. 36***).

7.4 BLED ISLAND CASE STUDY

As mentioned above, 65 graves were available for orientation analysis in the Bled Island case study. Since the number of graves with measured orientations was too small for complex statistical analyses, the method of visual comparison between the measured and expected values was used (***Fig. 37***). The astronomical azimuths of all graves were found to be between 57° and 173°, that is, oriented between the northwest and the south. However, three graves stand out as statistical outliers. If these outliers are excluded, the azimuths are distributed in the expected east sector between 65° and 111°. It can therefore be said that the orientation of the graves on the Bled Island is generally to the east.

In the following, I will first test the two null hypotheses: the solar azimuth hypothesis and the hypothesis of orientation towards "the east in general".

[12] The measurements were conducted using a combination of ArcGIS Desktop 10.5 software for the display and PixelStick software to measure the angle of the computer screen.

Grave	A_A	A_c	δ_E	δ_W
3a	67	65	22	9
4a	77	75	12	-1
5	88	86	1	-12
6	96	94	-7	-20
7	71	69	18	5
10a	90	88	-1	-14
12	95	93	-6	-19
18	88	86	1	-12
19	83	81	6	-7
20a	96	94	-7	-20
22	96	94	-7	-20
24a	86	84	3	-10
29	90	88	-1	-14
30	92	90	-3	-16
32a	91	89	-2	-15
35	95	93	-6	-19
36	101	99	-12	-25
38	113	111	-24	-37
40	90	88	-1	-14
42	91	89	-2	-15
45	82	80	7	-6
46	72	70	17	4
49	91	89	-2	-15
50	98	96	-9	-22
51	92	90	-3	-16
54	96	94	-7	-20
55	99	97	-10	-23
56	95	93	-6	-19
59	100	98	-11	-24
60	91	89	-2	-15
61	88	86	1	-12
65a	91	89	-2	-15
67	78	76	11	-2

Grave	A_A	A_c	δ_E	δ_W
69	78	76	11	-2
71	78	76	11	-2
72	59	57	30	17
76a	80	78	9	-4
77a	83	81	6	-7
78	87	85	2	-11
79a	77	75	12	-1
80	74	72	15	2
81a	86	84	3	-10
82a	77	75	12	-1
84	80	78	9	-4
87	78	76	11	-2
90a	75	73	14	1
91	77	75	12	-1
93a	81	79	8	-5
94	83	81	6	-7
95a	78	76	11	-2
98a	75	73	14	1
102	77	75	12	-1
103	76	74	13	0
105	76	74	13	0
106	77	75	12	-1
109b	79	77	10	-3
111	106	104	-17	-30
112	104	102	-15	-28
113	134	132	-45	-58
115a	87	85	2	-11
118	78	76	11	-2
119	175	173	-86	-99
121a	84	82	5	-8
121b	84	82	5	-8
124	77	75	12	-1

Fig. 36: Bled Island, grave orientation; values in grey are approximate values only: A_A – astronomical azimuth; A_C – cartographic azimuth; δ_E – eastern declination; δ_W – western declination.

First, the solar azimuth hypothesis, according to which the orientation of each grave coincides with sunrise on the day of interment. On the Bled Island, the Sun rises above the horizon between 61.5° ± 0.5° (summer solstice) and 127° ± 0.5° (winter solstice; calculation by A. Pleterski; *cf.* Škerlj 1952, 112). The cartographic orientations of the graves on the Bled Island are between 59° and 175°, or between 65° and 111° if outliers are excluded. Apart from one grave (3a), all others lie between 61.5° ± 0.5° and 127° ± 0.5° and could therefore have been aligned with the point on the horizon where the sun rose on the day of interment.

But a more detailed analysis refutes the solar azimuth hypothesis. The expected mortality of people in the Middle Ages was not evenly distributed throughout the year, but was highest at the end of winter (e.g., Brown 1983).

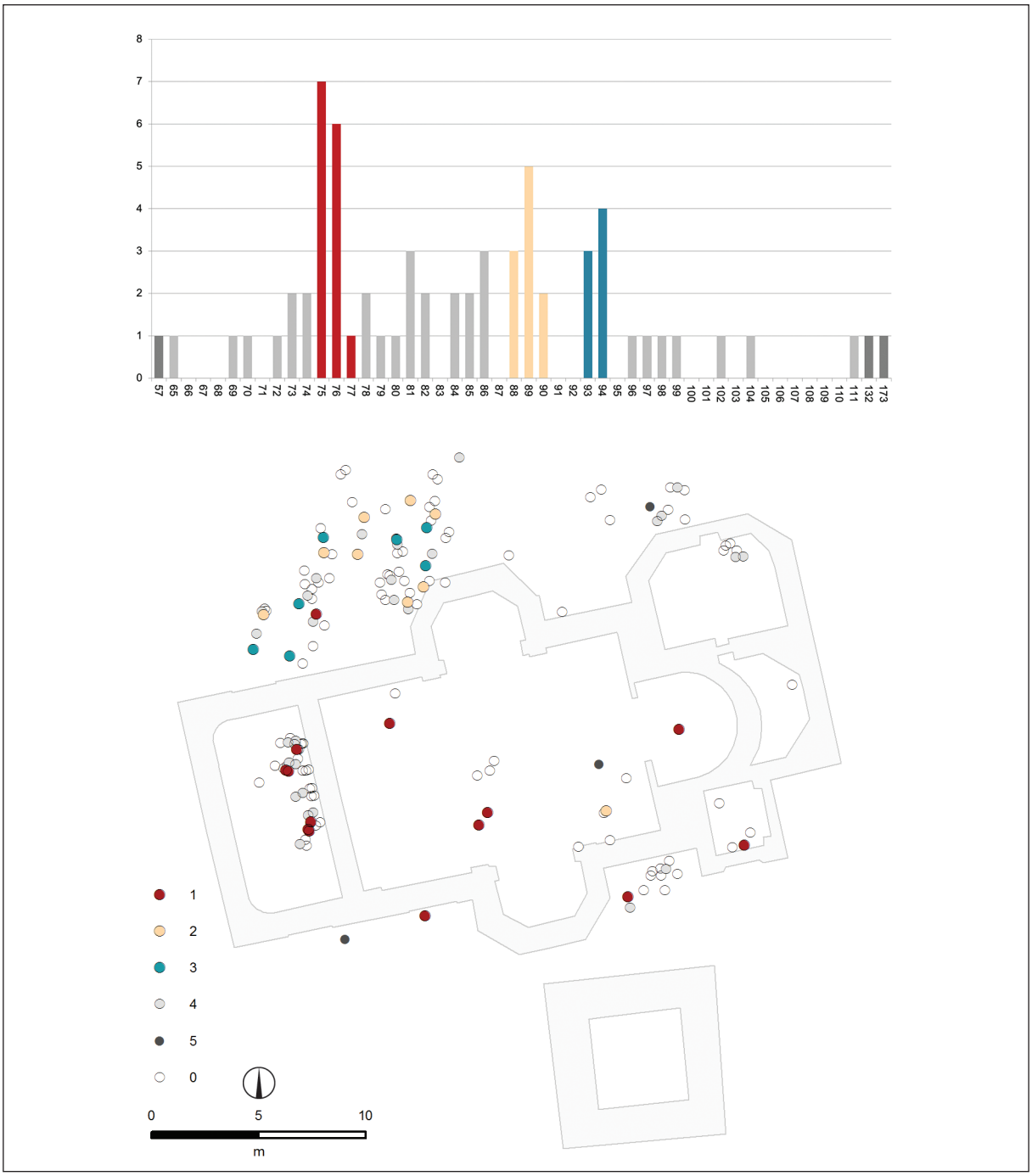

Fig. 37: Bled Island, diagram of cartographic azimuths of graves (top) and below map of selected groups : 1 – 76° ± 1°; 2 – 89° ± 1°; 3 – 94° ± 1°; 4 – others; 5 – marginal values; 0 – no data.

The expected distribution of grave orientations should thus show a marked deviation from the easterly direction to the south, where the winter sunrise is on the horizon. If mortality would be highest in January and February, for instance, most graves would be oriented between 104° and 121° (*cf.* Škerlj 1952, 113). However, the measured values deviate significantly to the north towards the summer sunrise. In other words, if the solar hypothesis was correct, most interments on the Bled Island would have occurred in summer and none towards the end of winter, which is the direct opposite of expected. Since this is extremely unlikely and would be unprecedented in the existing records, the solar azimuth hypothesis can be ruled out with very high confidence (***Fig. 34***).

Fig. 38: Bled Island, map of graves in lines north of the present church: grey – present church building; red – idealised lines of graves with cartographic azimuth 4°; blue arrow – Grave 38 (data source: NMS archives AO Rn 222/4–5).

The second null hypothesis states that the graves are oriented toward the east in general and that any deviations are the result of the imprecision of the mourners. The expected values of orientations confirming this hypothesis would have a normal or Gaussian distribution with a peak at 90°. However, the actual values again deviate significantly from the expected values, with the peak at 76°. Furthermore, the range of values ± 21° is too large to be explained by measurement error. As we learned from Bede, Early Medieval people were able to navigate themselves in the landscape based on the movement of the Sun with great accuracy. This refutes the hypothesis that the graves on Bled Island are oriented towards the east in general and that the deviations are mere errors.

Having refuted both null hypotheses, the only two alternative hypotheses are that in the Bled Island cemetery, the mourners consciously aligned the graves either astronomically or geographically.

The orientation of the graves on Bled Island is clustered around three declinations (*Fig. 37*): the cardinal or true geographic east (89° ± 1°), the direction of the rows of graves (94° ± 1°), and the orientation of the church (76° ± 1°). Let us have a look at each one.

The **first cluster** is represented by ten graves with an orientation **89° ± 1°**. These graves are oriented astronomically towards cardinal east within the measurement error of 1°. All (graves 10a, 29, 30, 32a, 40, 42, 49, 51, 60) but one (Grave 65a) of the graves belong to Early Medieval cemetery and thus predate the earliest church building.

At the same time, these graves have a geographical orientation: 5.4 km from the Church of the Assumption of St Mary on Bled Island, in an easterly direction, is the Church of the Assumption of St Mary in the present-day town of Lesce. Both churches have the same orientation, both churches are dedicated to the same patron saint and both were pilgrimage churches in the High Middle Ages. According to sources from the beginning of the 12th century, the church in Lesce was built "long ago" as a proprietary church in honour of St Mary, it attracted pilgrims from near and far and their donations were kept by the feudal lord (Bizjak 2012, 38 with listed sources; *cf.* Höfler 2016a, 216). In Lesce, next to the medieval church, the existence of a Late Roman Early Christian church is attested by a poorly preserved mosaic (Božič 1995). This implies the existence of an Early Medieval church as well, but no corroborating archaeological remains have yet been found. However, it is very likely that there was a place of special meaning in Lesce in the Early Middle Ages; it is difficult to imagine that there

could have been an established pilgrimage centre in the middle of the 11th century (see *Chap. 11.1*) without a tradition from the second half of the 10th century.

The graves on Bled Island with an azimuth of 89° ± 1° can therefore be interpreted as aligned astronomically with the cardinal east, which has a significant methodological value: It proves that people burying their dead on the Bled Island in the Early Middle Ages had astronomical knowledge comparable to that attested by Bede the Venerable. These graves are also very likely geographically oriented to the site of the second church of the Assumption in Lesce. There is a strong indication, but no direct evidence of activity in Lesce that would be contemporaneous with the graves on the island of Bled.

The **second cluster** is represented by six graves with an orientation of **94° ± 1°**. All graves are from the Early Medieval cemetery (graves 6, 12, 20a, 22, 35, 54). In this case, the orientation of the graves is perpendicular to the grave rows. These rows deviate from the north-south direction by about 4° to the east. Therefore, graves with an orientation of 94° ± 1° are perpendicular to these rows, which means they most closely follow the row system. Nevertheless, no less than two thirds of the graves in the rows deviate from the 94° alignment by more than ± 3° (***Fig. 38***). This suggests that alignment was not a major factor in the burial ritual for these graves. Rather, the orientation 94° ± 1° is a side effect of the rows, a case of so-called equifinality (for the expression, see Dincauze 2000, 31). We do not know to which point the rows were oriented, but it was not the top of Gradiška Hill, as Pleterski had assumed (1996, 173–174).

The **third cluster** is represented by 14 graves oriented parallel to the church building. Their azimuth is **76° ± 1°** and the declination of the Sun is 11° ± 1°. One grave is from the Early Medieval cemetery, two are Pre-Romanesque church graves, and nine are from the High Medieval cemetery. The remaining two graves are dated to Late Medieval Phases 4 and 5.

The most numerous and at the same time most important graves with this orientation belong to the High Medieval cemetery (***Fig. 18:*** G4; see *Chap. 10.2*). Their grave pits were cut into the bedrock and used for several successive reburials. So, these graves are reminiscent of tombs that required considerable labour to build. Their precise alignment with the church building demonstrates that the deceased were placed in the tombs with great attention. The tombs were thus the result of a meticulously planned and carefully executed interment with a clear connection to the church building. The latter is direct archaeological evidence that these were Christian burials.

As mentioned above, the church building was astronomically aligned with the sunrise on the day of the Assumption of St Mary according to the Julian calendar, which means that all these graves also have an astronomical orientation. So, are these graves astronomically oriented? At least some of the mourners of that time are likely to have visited the church on the day of the Assumption, the feast day of the patron saint of the church. They thus possessed empirical knowledge of the astronomical orientation of the church, that is, they could observe the sunrise first hand. However, the liturgical significance of this orientation seems to have no longer been significant, given the paucity of contemporary Romanesque churches oriented according to the day of the Assumption of Mary.

The answer to the above question is thus No. At the level of interpretation of the interment, the High Medieval graves were oriented parallel to the church and the astronomical orientation is coincidental. Even if astronomical orientation was the intention of the burial ritual, in practice it was achieved by following the orientation of the church.

The astronomical component certainly lost all meaning for post-Medieval graves. After the introduction of the Gregorian calendar in the 16th century, the sun no longer set on the axis of the church on the day of the Assumption.

Importantly, the results clearly demonstrate that the graves that are stratigraphically contemporaneous with the church show a systematic trend of orientation parallel to the church. This is, to my knowledge, the first empirical evidence that graves in medieval church cemeteries were aligned parallel to the church.

This information can also be used as a test of accuracy: Half of the graves contemporary to the church (outliers excluded) are aligned very precisely parallel to the church building (± 1°) and three quarters have a small deviation (± 3°). The rest of the graves have predominantly south declination, but their number is too small to further analyse the phenomenon of south versus north declination (***Fig. 39***). This gives us a methodologically significant indication of the precision of the

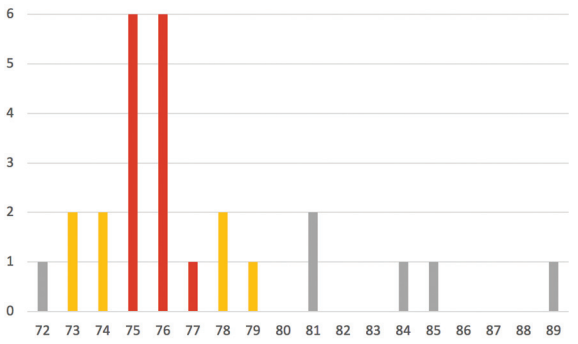

Fig. 39: Bled Island, graph of cartographic azimuths of graves coincident with church buildings: red – very precise orientation (76° ± 1°), yellow – precise orientation (76° ± 3°), grey – other.

orientation of graves in cases where the mourners are known to have deliberately aligned a grave with a clear landmark (in this case a church building): Mourners on the Bled Island were habitually able to align graves within ± 3° of the intended orientation. Therefore, all interpretations in which a deviation of more than ± 3° is explained as an error or inaccuracy of the mourners are questionable, if not refuted. This is thus further objective evidence against the hypothesis of "in general east direction". At the same time, it is an important methodological guide for future studies on grave orientation.

Outliers have already been mentioned. Four graves (38, 72, 113, 119) have a statistically significant deviation from the majority.

Grave 119 has a cartographic azimuth of 173° ± 1°. It is a post-Medieval grave that was interred after the westernmost extension of the church was built. It is aligned perpendicular to the church wall, probably indicating that it was marked by a gravestone set into the church wall, as was common from the 16th century onwards (e.g., Rodwell 1989, 177; Mytum 2006, 97).

Grave 113 has a cartographic azimuth of 132° ± 1°. It belongs to the group of graves (111, 112, 114, 117) that were dug into a rocky hollow. Their orientation is thus the consequence of geomorphological factors and not of cultural selection. This group of graves is stratigraphically contemporaneous with the Early Medieval graves in rows, where orientation was of less importance.

Grave 38 has a cartographic azimuth of 111° ± 1°. It is one of the graves in rows and it is apparent that its orientation deviates strongly from the neighbouring graves (***Fig. 38***). The orientation of this grave supports the interpretation that a part of the cemetery was designed according to the orientation axes, which will be further discussed bellow (see *Chap. 8.2*).

The last of the outliers is Grave 72, which is also discussed in more detail in the next section.

7.5 MORTUARY LANDSCAPE

The Early Medieval Grave 72 has a cartographic azimuth of 57° ± 1° and is unique in every respect. It is isolated from the contemporary graves and is positioned right next to the green stone. As deliberated above (see *Chap. 4.7*), that stone was a spatial marker for a location of special meaning that was already ancient in Early Middle Ages. The orientation of the Grave 72 was not contingent on the terrain, it was not astronomical, and it was not consistent with other features of the Bled Island cemetery. Rather, it was related to the mortuary landscape.

The mortuary landscape (for the term see e.g., William 2006, 179–214) of the Bled region consists of five contemporary Early Medieval cemeteries: Spodnje Gorje, Rečica, Pristava, Želeče and Bodešče. All these cemeteries are located on the line of sight connecting the Višelnica midsummer bonfire site and the hill Šmarjetna gora above the town of Kranj (Pleterski 2014, 274–276). The listed cemeteries are positioned in the line of sight with great precision. The greatest deviation, that of Bodešče, is only 25 m. This is just 1/3° declination when viewed from Višelnica. Furthermore, the western edge of the sixth cemetery, Na Sedlu, is less than 40 m from this line of sight.

Thus, cemeteries were not positioned in the landscape randomly. An additional element confirming this is the fact that four of the listed cemeteries are located on a relatively flat plain that offers many alternative locations. If the accuracy of the measurements is 1°, the statistical probability of four random locations being aligned on a flat terrain is only 0.003% (*cf.* Pleterski 2014, 115–116). At the same time, the viewshed analysis confirms that all cemeteries except Rečica are visible from the Višelnica viewpoint, and on a clear day Šmarjetna gora is also visible in the distance (***Fig. 40***).

This non-randomness provides two conclusive proofs. First, the Bled mortuary landscape was consciously organized and thus the locations of Early Medieval cemeteries had a cultural meaning. Second, the alignment of these locations was first established and later observed with the naked eye from a single viewpoint, that at the Višelnica bonfire site.

The Višelnica bonfire site was thus an integral part of Bled's mortuary landscape. It is the only place of the Bled mortuary landscape that is visible from Bled Island and Grave 72 is oriented perpendicular to it. Thus, the grave – and symbolically the entire cemetery – is linked to the contemporary mortuary landscape described above (***Fig. 41***).

7.6 CONCLUSIONS

Analysis has confirmed that the orientation of many, but not all, of the graves in the Bled Island cemetery was a conscious decision. This is perhaps the most important conclusion for archaeology in general: A methodologically rigorous analysis of Medieval cemeteries can yield cultural information, especially about burial rites. Several further conclusions can be drawn both regarding the Bled Island cemetery and archaeological methodology in general.

First, the church on Bled Island is astronomically aligned according to the sunrise on the day of the patron saint of the church, St Mary of the Assumption. Most interments that occurred after the construction of the church were aligned parallel to the church. In this case, the orientation of the graves is thus also a chronological indicator.

Second, some of the graves earlier than the church face due cardinal east. This proves a high level of as-

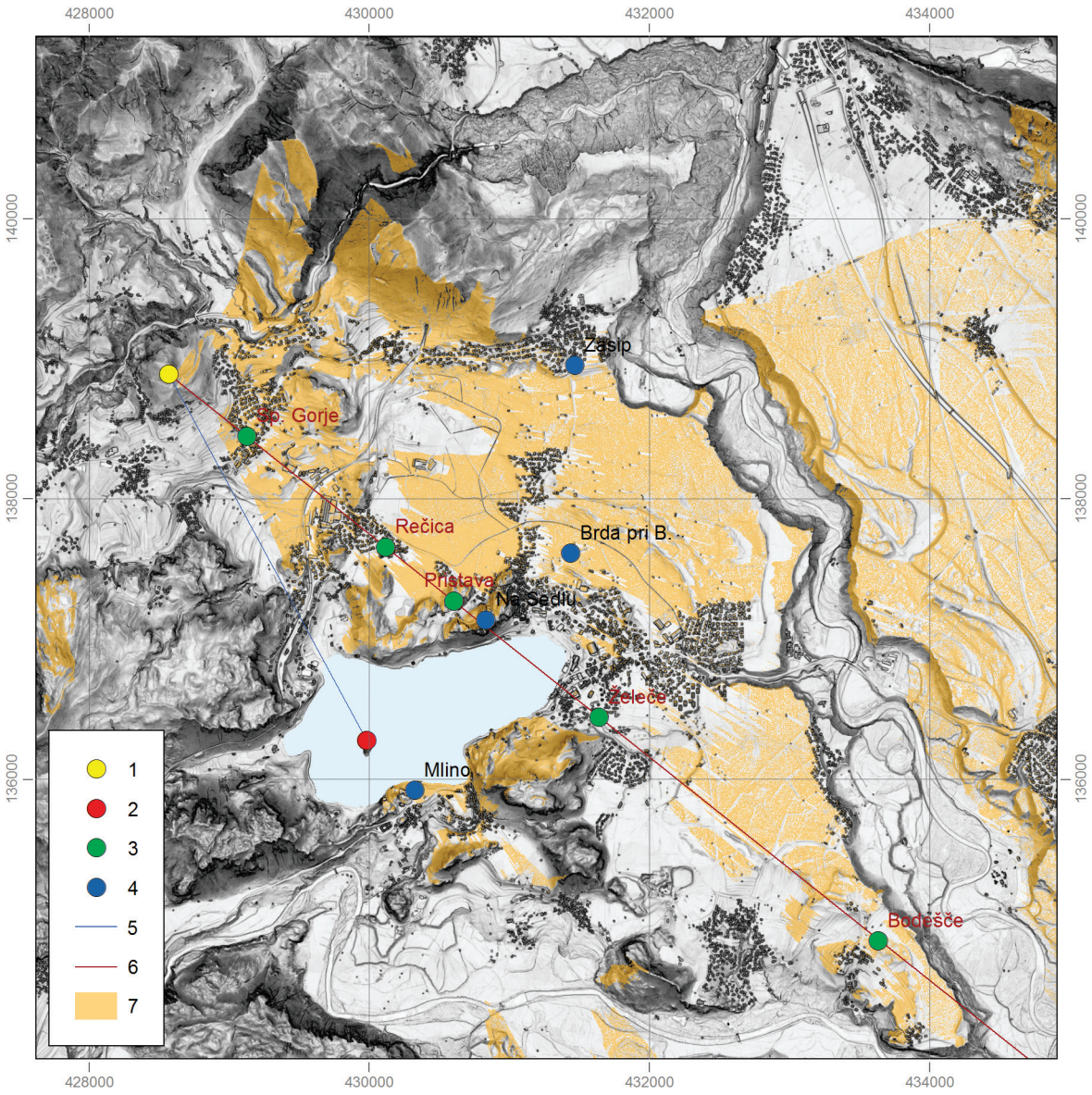

Fig. 40: The Bled area, Early Medieval archaeological sites and viewshed from the Višelnica bonfire: 1 – Višelnica bonfire; 2 – Bled Island; 3 – cemeteries on the line; 4 – other cemeteries; 5 – Višelnica bonfire-Bled Island line (grave No. 72); 6 – Višelnica bonfire-Šmarjetna gora line above Kranj; 7 – view from the Višelnica bonfire viewshed (authors: E. Lozić, B. Štular).

tronomical knowledge, comparable to that of the 8th century Angles described by Bede the Venerable.

Third, for some of the graves that predate the church, orientation was not an important part of burial rites, because the focus was on arranging the graves in rows. Based on this, a general hypothesis can be put forward: In the so-called cemetery in rows (German: *Reihengräberfeld*) orientation of the graves was not important; while the orientation perpendicular to the rows is predominant, the precision is ± 3° or less (*cf.* Pleterski 2003).

Four. Extremely important for the interpretation of the Early Medieval cemetery is the orientation of Grave 72, which is likely one of the earliest. By its geographical orientation, this grave clearly expresses the intention of the mourners to associate this grave – and thus likely the entire cemetery – with the contemporary mortuary landscape.

Five, perhaps the most significant is the realisation that one should not look for a single hypothesis to explain the orientation of all Medieval graves, because even in a single cemetery several different orientation systems may have been used simultaneously.

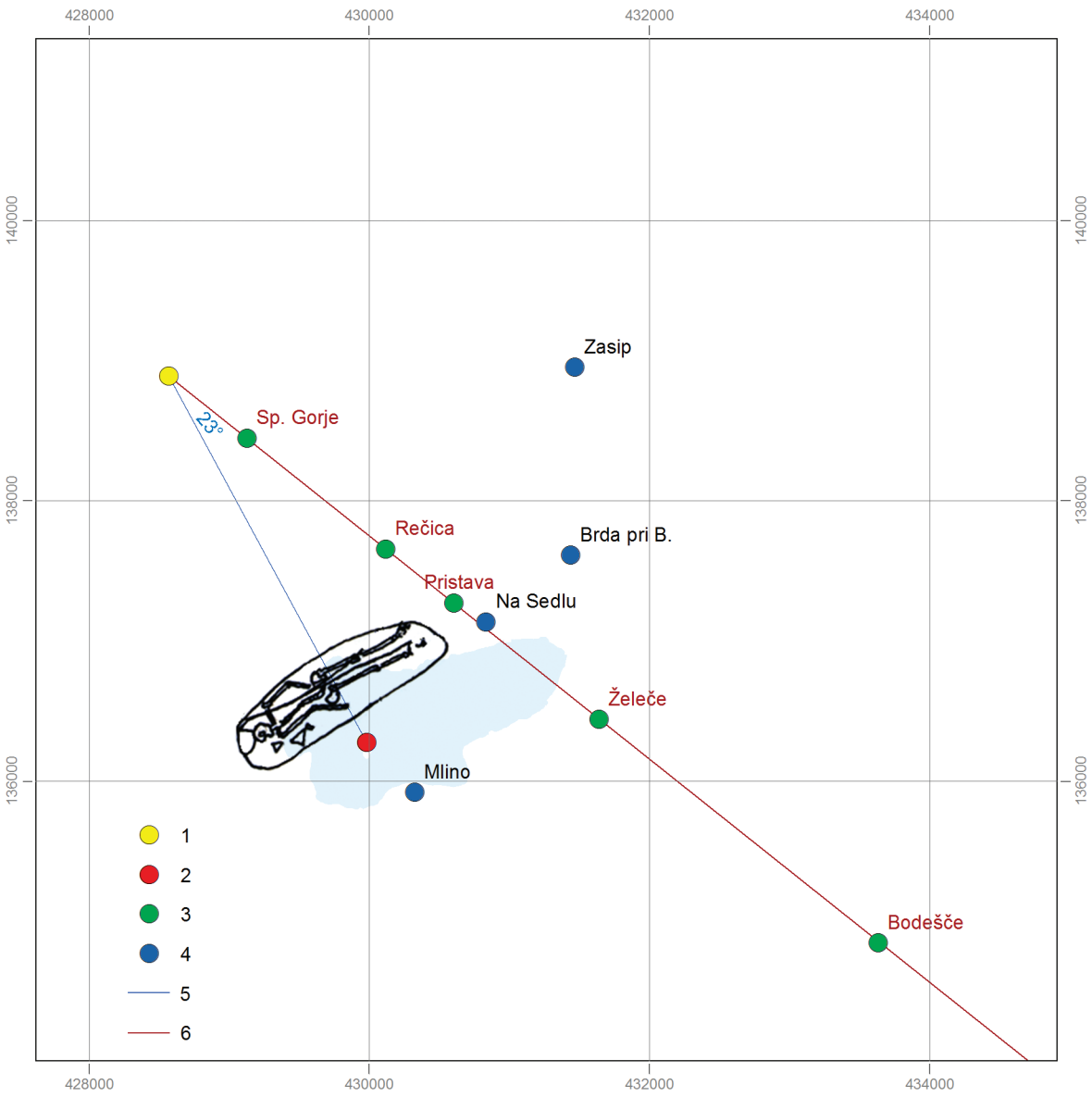

Fig. 41: Bled area, map of Early Medieval cemeteries (mapped from Fig. 40) and Grave 72; grave not to scale, but in correct cartographic orientation.

In conclusion, of the five existing hypotheses to explain the orientation of the Medieval graves, I have been able to objectively refute two: the solar azimuth hypothesis and the general east hypothesis.

The other three hypotheses – parallel to the church building, astronomical orientation, and geographical orientation – are all represented in the Bled Island cemetery and are thus confirmed. While the orientation parallel to the church was clearly contemporaneous with the church, both the astronomical and the geographical orientations predate the church. Thus, in addition to the symbolic, the orientation of the graves in the Middle Ages also has chronological implications.

8 SPATIAL ORGANISATION OF THE CEMETERY AREA

8.1 INTRODUCTION

The organisation of the cemetery area has been studied by Early Medieval archaeology since the 1900s. The subject is closely interwoven with the orientation of graves and is often part of the same discussions. Since the 1990s it has regained traction (e.g., Pleterski 1996; Pleterski 2002; overview in Pleterski 2020), but it has not been widely adopted in Early Medieval archaeology. One of the most common criticisms of existing studies was that they did not rely sufficiently on archaeological data.

In this chapter I present the analysis of the organisation of the Bled Island cemetery area. Special care was taken to ensure that the interpretation was based exclusively on archaeological data and relevant historiographical information.

8.2 ORIENTATION AXES OF THE EARLY MEDIEVAL CEMETERY

In the Early Medieval cemetery without the church (***Fig. 18:*** G1 and G2) two orientation axes for the spatial organization of the cemetery can be identified. The axes are defined by the locations of the spring, the fireplace, and the green stone that marks the foot of Grave 72. The latter two features are attested archaeologically and are undoubtedly stratigraphically contemporaneous with the cemetery (see *Chaps. 4.2* and *4.7*).

The role of a small spring of artesian water on Bled Island can be interpreted based on medieval written sources in which the pagan or non-Christian veneration of springs[13] is mentioned relatively frequently (Dowden 2000, 39–45; Kajkowski, Kuczkowski 2017, 22).

In evidence of the temporal and spatial ubiquity of this phenomenon in Medieval Europe, I provide an extensive list of sources.

St Martin of Braga (+ 580), a bishop in Gallaecia who was born in the Roman province *Pannonia* (Hungary), regarded pre-Christian gods as demons. He explained (among other things) that these demons lived in the sea, in springs or in forests and that people who did not know God sacrificed to them or worshipped them as gods.[14]

Isidore of Seville (+ 636) wrote in the chapter on sacred buildings that ancient people claimed that sanctuaries had purification springs in front of the entrances and that in his time there were buildings with sacred springs where worshippers were purified.[15]

Charlemagne (+ 814) ordered everybody to destroy the sacred groves, stones and springs where rituals were held.[16]

The list of sins (*penitentiae*), which was compiled around the year 1000 and whose alleged author was Archbishop Theodore of Canterbury (+ 669), states that all who offer sacrifices to trees, springs, stones, or enclosures should be punished.[17]

Bishop Thietmar of Merseburg (+ 1018) summarised earlier sources about the Slavs who worshipped a spring near the Elbe (Germany).[18]

[13] In Latin sources, the term *fons, fontis* is used.

[14] *Praeter haec autem multi daemones ex illis qui de caelo expulsi sunt aut in mare aut in fluminibus aut in fontibus aut in silvis praesident, quos similiter homines ignorantes deum quasi deos colunt et sacrificant illis* (De correctione rusticorum 8). Similar elswhere: *Post diluvium ... (a)lii adorabant solem, alii lunam vel stellas, alii ignem, alii aquam profundam vel fontes aquarum, credentes haec omnia non a deo esse facta ad usum hominum, sed ipsa ex se orta deos esse* (De correctione rusticorum 6).

[15] *Delubra veteres dicebant templa fontes habentia, quibus ante ingressum diluebantur; ... Ipsa sunt nunc aedes cum sacris fontibus, in quibus fideles regenerati purificantur*: ... (Orig. XV.4)

[16] *Item de arboribus vel petris vel fontibus, ubi aliqui stulti luminaria vel alias observationes faciunt, omnino mandamus, ut iste pessimus usus et Deo execrabilis, ubicumque inveniatur, tollatur et distruatur* (Capit. I., p. 59 c. 65).

[17] *Siquis ad arbores, vel ad fontes, vel ad lapides sive ad cancellos, vel ubicunque excepto in ecclesia Dei, votum voverit aut exsolverit, iii. annos poeniteat* (Paen. Theo. XXVII, 18).

[18] *Glomuzi est fons, non plus ab Albi quam duo miliaria positus, qui unam de se paludem generans, mira, ut incolae pro vero asserunt oculisque approbatum est a multis, sepe operatur. Cum bona pax est indigenis profutura, suumque [haec]*

Bishop Engilmar of Poreč mentioned a healing spring in 1037 in his commentary on the writings of Arnold about the miracle of St Emmeram of Regensburg.[19]

In his biography of Bishop Otto of Bamberg, the Benedictine monk Herbord (+ 1168) mentions the veneration of a spring in the shade of an oak tree in Szczecin (Poland).[20]

Helmold (+ after 1177) wrote in his Chronicle of the Slavs that the Slavs do not allow Christians to come to their sacred springs and lakes because they believe that the water becomes impure if a Christian approaches it.[21] Also, Bishop Vicelinus allegedly observed the worship of forests, springs and other superstitions among the Slavs along the Elbe.[22] Furthermore, he writes in a chapter on the conversion of Pribislav that after the consecration of the church, the Slavs in Oldenburg refrained from swearing oaths in forests and near springs and rocks.[23]

A document from 1331, issued by the Franciscan friar Franciscus de Clugia as a commendation of a participant in a campaign to Kobarid, states that in the mountains countless Slavs worshipped a tree and a spring there as a god.[24]

In Bled area, in 1253 and 1348 a lime tree is mentioned near the St Martin's church that was a place of gathering and a place of signing legal documents (Pleterski 2014, 239–240 with source references).

The above list contains selected examples from the Middle Ages, but the veneration of springs is a broader phenomenon. The earliest written source in the region is Strabo's (+ around 24 BCE) description of the sanctuary of Diomedes in the area of the river source of Timavo (*Lacus Timavi*):

> *At the very end of the Adriatic Gulf, there is a sanctuary of Diomedes called Timavon (Timauon), which is worth mentioning. The sanctuary has a port, a wonderful sacred grove and five springs of river water, which immediately flows to the sea as a wide and deep river* (after Šašel Kos 1999, 255).

The most famous veneration of a spring today is the spring at Lourdes, which was declared miraculous by the Catholic Church on 18 January 1862 and immediately became one of the most popular pilgrimage destinations in Europe.

Medieval sources reflect the problems the Church encountered in eradicating the veneration of springs that were considered sacred. These and similar pagan traditions – which should be understood as an expression of the multipolarity of medieval culture (Geary 2001) – survived at least until the end of the Middle Ages. As indicated by Isidore of Seville, one way to address this problem was to build churches near the venerated springs (Kajkowski, Kuczkowski 2017, 23; *cf.* Vlasto 1970, Geary 2001, 192; Štular, Hrovatin 2002, 45–46). This approach was first recommended by Pope Gregory I (+ 604) in his guidance for Christianisation (e.g., Demacopoulos 2008) and was followed into the 10th century (Geary 2001, 190).

In the wider surroundings of Bled Island, several medieval churches are known to have been built on top of or next to springs, for example, Bamberg Cathedral (Bavaria, Germany), the Church of St Michael in Olomouc (Moravia, Czech) and the Church of St John under the Cliff (Bohemia, Czech) (Pleterski 2017, 38). The Church often declared such constructions as places of apparitions of Mary, and these churches regularly became pilgrimage churches (Kajkowski, Kuczkowski 2017, 22–23). Two such examples in Slovenia are the Church of the Nativity of St Mary on the hill of Homec (Štular, Hrovatin 2002, 54) and the Church of Our Lady of Sorrows, originally St Mary of the Assumption, in Leskovec near Krško (Rihter 2018, 7).

To sum the written sources, it can be said that there is clear evidence of the veneration of springs throughout the Middle Ages, from the pagan Early Middle Ages to the High and Late Middle Ages. In the sources listed, the manifestations of this veneration only appear as slight hints: as ritual purifications (*regenerati purificantur*), healing power (*sanam... fuisse fontem*), sites of oaths (*iurare*), taboo for unbelievers (*pollui Christianorum accessu*), isolated places outside settlements (*in arboribus*) and places with supra-local significance (*innumerabiles... venerabant*). The descriptions are scant, because they were written exclusively from an antagonistic point of

terra non mentitur fructum, idem tritico et avena ac glandine refertus, laetos vicinorum ad se crebro confluentium efficit animos. Quando autem seva belli tempestas ingruerit, sanguine et cinere certum futuri exitus indicium premonstrat (Thietmar I.3).

[19] *Hic quoque dum Ratisbonne constitutus apud Sanctum Emmerammum scripta meae parvitatis videret et legeret atque probaret, die quadam stans iuxta puteum seu fontem, per quem recordabatur ibi sanam olim redditam fuisse fontem, vocavit me, et occasionem sumens ex eodem fonte, dixit quod scripsi; ...* (Ann. Car. Sax. II.54; Kos 1911, št. 100).

[20] *Erat praeterea ibi quercus ingens et frondosa, et fons subter eam amoenissimus, quam plebs simplex numinis alicuius inhabitatione sacram aestimans, magna veneratione colebat* (Herbord II.32).

[21] *Usque hodie profecto inter illos, cum cetera omnia communia sint cum nostris, solus prohibetur accessus lucorum et fontium, quos autumant pollui Christianorum accessu* (Helmoldi I.1).

[22] *Nam lucorum et fontium ceterarumque supersticionum multiplex error apud eos habetur* (Helmoldi I.47).

[23] *Et inhibiti sunt Slavi de cetero iurare in arboribus, fontibus et lapidibus, sed offerebant criminibus pulsatos sacerdoti ferro vel vomeribus examinandos* (Helmoldi I.83).

[24] *... usque ad locum de Cavoreto, ejusdem Dyocesis, ubi inter montes Sciavi innumerabiles arborem quandam et fontem, qui erat ad radices arboris, venerabant pro Deo; ...* (Bianchi 1845, No. 699).

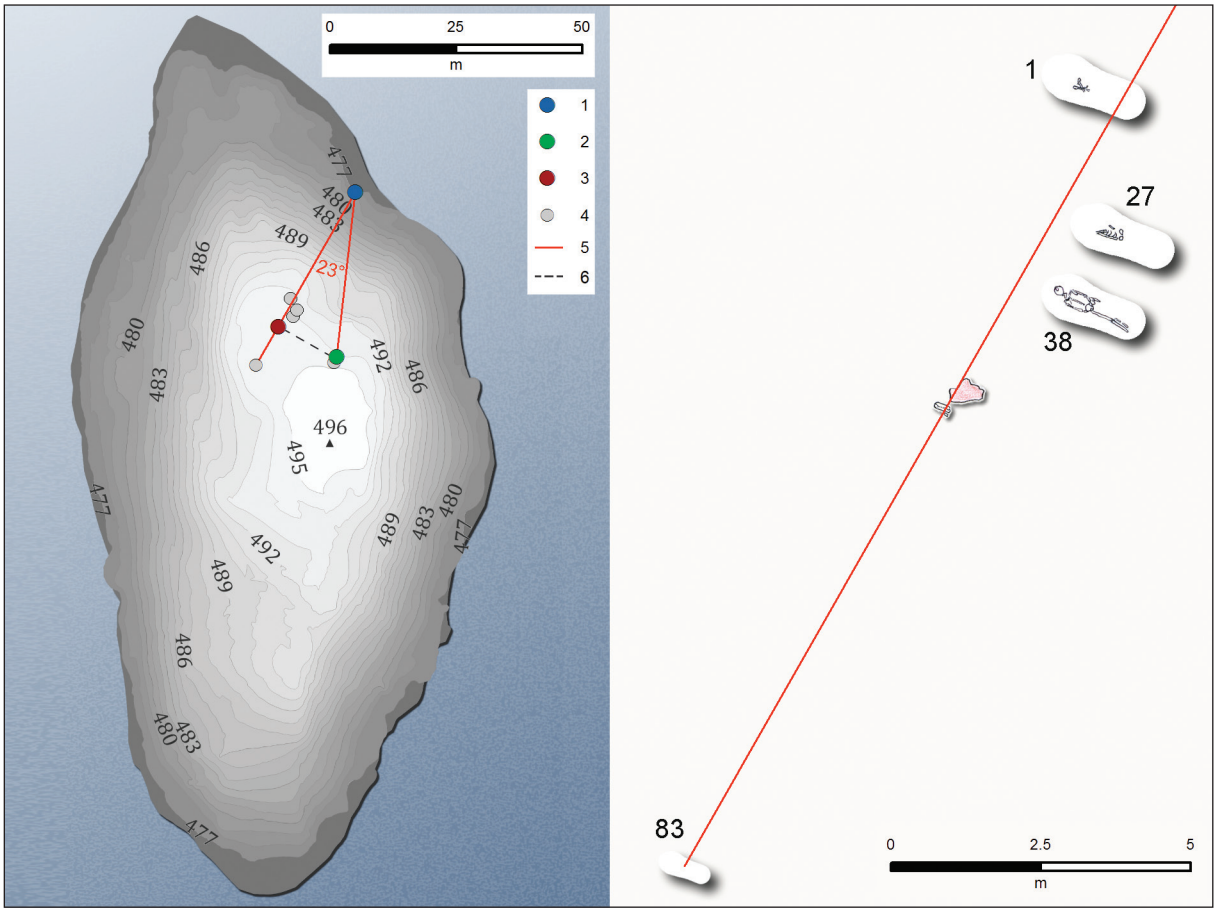

Fig. 42: Bled Island. Left: meaningful places (1 – water spring; 2 – green stone; 3 – fireplace; 4 – grave oriented with respect to the line; 5 – line; 6 – normal). Right: graves oriented in relation to the line spring-fireplace.

view, and they were understood by their authors in the context of the Old Testament (Vlasto 1970, 145–146). However, the sources span almost a millennium and most of the European continent, which is a clear indication that it was indeed a widespread and persistent custom.

Written sources contain enough information to learn that worship activities in or near springs did not leave direct archaeological traces, such as deposited objects or constructions (Kajkowski, Kuczkowski 2017, 22). However, there is indirect material evidence of the venerated springs in the form of churches that were later built near them. These churches, often dedicated to Mary, can thus be used as proxy data (on the term and its use in archaeology, see Dincauze 2000, 30) to identify the specific springs that were venerated in the pre-Christian Early Middle Ages.

There is sufficient proxy data to identify the spring on Bled Island as a venerated spring: The nearby church is located in the immediate vicinity of the spring (the distance between the spring and the altar of the earliest church is 33.3 m), it was dedicated to Mary (of the Assumption), and it was a pilgrimage church (see *Chap. 11.1*).

In addition to springs, stones or rocks (*petris*, *lapidibus*) are mentioned as objects of veneration in three of the above sources (Charlemagne, Bishop Theodore of Canterbury, and Helmold's writing on Pribislav). This is evidence that in the pre-Christian Middle Ages springs and stones were objects of the same system of veneration, which is further confirmed by recent research of Early Medieval pre-Christian religions (e.g., Hook 2010, 31–46 with references to sources; Szczepański 2015, passim). Written sources thus support the notion that the cut piece of green tuff stone and the spring on the Bled Island were objects of the same system of veneration.

So, the Early Medieval cemetery without the church on Bled Island had three objects of veneration that were clearly recognised by mourners and other visitors: the spring, the stone, and the fireplace. The latter two are stratigraphically contemporaneous to the cemetery and

the fragments of charcoal are evidence, that the fireplace was in use during the interment (see *Chap. 4.2*). Proxy data in the form of the church is evidence that the spring belonged to the same system of veneration. All three were well visible and thus by definition also served as spatial markers. More importantly, the use of the fireplace firmly connects this system of veneration with the burial practices taking place in the Bled Island cemetery. In other words, the spring, the stone and the fireplace were spatial markers, part of a system of veneration that was intertwined with the burial practices. To our knowledge, this is the first time that such a direct connection can be made.

Once a direct connection between these spatial markers and the cemetery has been established independently from the spatial analysis, the organisation of the cemetery area can be examined. The result shows that Bled Island cemetery was organised along two axes connecting the three spatial markers.

The first axis connects the spring and the fireplace. It served as a guide for determining the positions and orientations of three graves (1, 27, 38). In the extension of this axis lies another Early Medieval grave with female jewellery (83). Among those, only Grave 38 was sufficiently preserved for its orientation to be confidently measured (***Fig. 36***). It has a cartographic azimuth of 111° ± 1°, which is a strong deviation from the neighbouring graves (***Fig. 38***). The reason for this deviation is that it was oriented perpendicular to the axis between the fireplace and the spring. The orientation of this grave is further independent evidence that the area of the cemetery was planned according to spatial markers. However, since this is the only sufficiently preserved grave with this orientation, any further analysis into the meaning of this grave's orientation is not possible.

The second axis connects the spring and the stone. The angle between these two axes is 23° (***Fig. 42***).

All other 9th/10th century cemeteries in the Bled area were organised according to a similar system (Žale near Zasip: Pleterski 2014, 250–255; Dlesc near Bodešče: Pleterski 2014, 259–261; Pristava: Pleterski 2014, 264–274). This is further evidence of a single mortuary landscape existing in the Bled area in the 9th and 10th centuries. This is also true for at least two other comparable cemeteries in north Slovenia (Mali Grad in Kamnik: Sagadin 2001; Štular 2007; Pleterski 2014, 290–293 and Puščava near Stari Trg: Pleterski 2014, 354–356), which is an indication that such an organisation of the Early Medieval cemeteries was a broader phenomenon.

9 SPATIAL ANALYSIS OF GRAVE ATTRIBUTES

9.1 INTRODUCTION

This chapter presents the results of the spatial analysis of grave attributes. Unfortunately, due to the poor preservation the selection of the observed attributes was based on the accessibility of the data rather than on methodological considerations or specific scientific questions. Thus, the attributes discussed are those that could be systematically recorded for all graves. The data sources are the plan drawings (reburials and the arm posture) and the descriptions in the field diaries (the presence of charcoal, mortar or pottery in the backfill of the graves; graves carved into the bedrock).

9.2 PITS

The excavators recorded relatively systematically the ground into which the individual grave pits were dug. They classified the graves as dug into the soil, partially dug into the bedrock, carved into the bedrock, or tombs.

Fig. 43: Bled Island, graves with charcoal in the filling (black); other graves in grey.

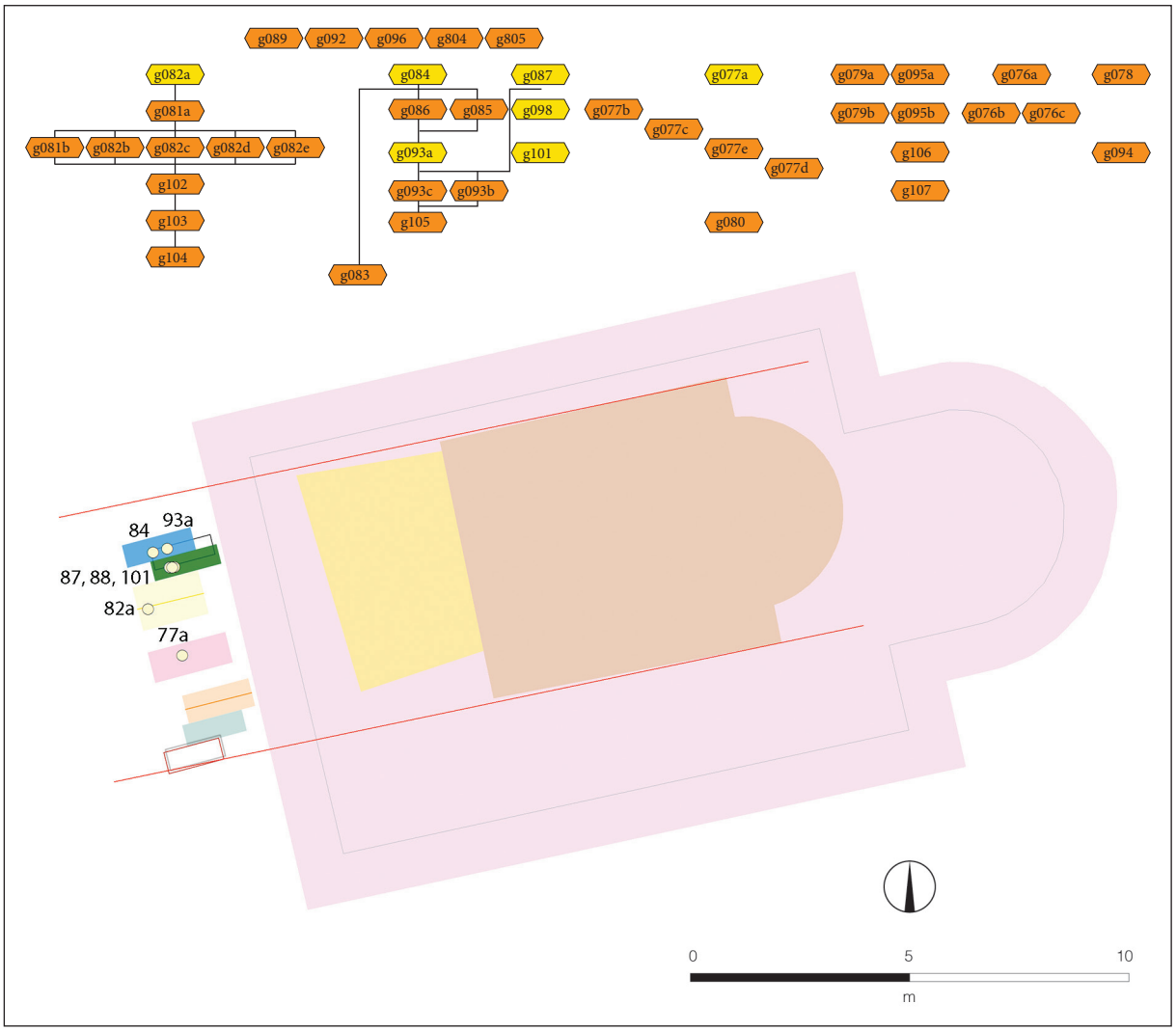

Fig. 44: Bled Island, Phases 2b and 3. Top Harris matrix of cemetery group G4. Below Plan of the church buildings in Phase 2b (brown for the nave, yellow for the annex) and 3 (purple) and location of the contemporary grave chambers (coloured rectangles); graves with mortar in the filling are marked in yellow.

Mapping of this attribute shows that most of the Early Medieval graves (***Fig. 18:*** G1 and G2) were dug into the top soil. Three graves on the south-west edge of the Early Medieval cemetery were carved into the bedrock. This probably indicates that the edge of the area suitable for burials had been reached. Similar happened at the northern edge of this group, where individual graves are either partially cut into the bedrock or the remains lie on the bedrock. So, the interment of the Early Medieval graves was limited to the area where the soil was deep enough to dig a grave pit.

South of the church graves carved into the bedrock predominate (***Fig. 18:*** G3–G5). This confirms the validity of the reconstruction of the geomorphology of the island at the time when the cemetery was used (***Fig. 13***).

9.3 BACKFILLS

As already mentioned, the excavations on the Bled Island did not adhere to the stratigraphic method. Hence, the data on the backfilling of grave pits were not systematically recorded. There is also no description of the criteria according to which a particular artefact was recorded as part of a backfill rather then a part of a grave. So, the spatial distribution of artefacts and ecofacts is the only information for interpretation.

Charcoal fragments are not uncommon in the backfill of Early Medieval graves (e.g., Sagadin 2001, 362–367). In the cemetery of the Bled Island, they were found in the backfill of four Early Medieval graves (18, 22, 46, 63; ***Fig. 43***). These graves were distributed over a

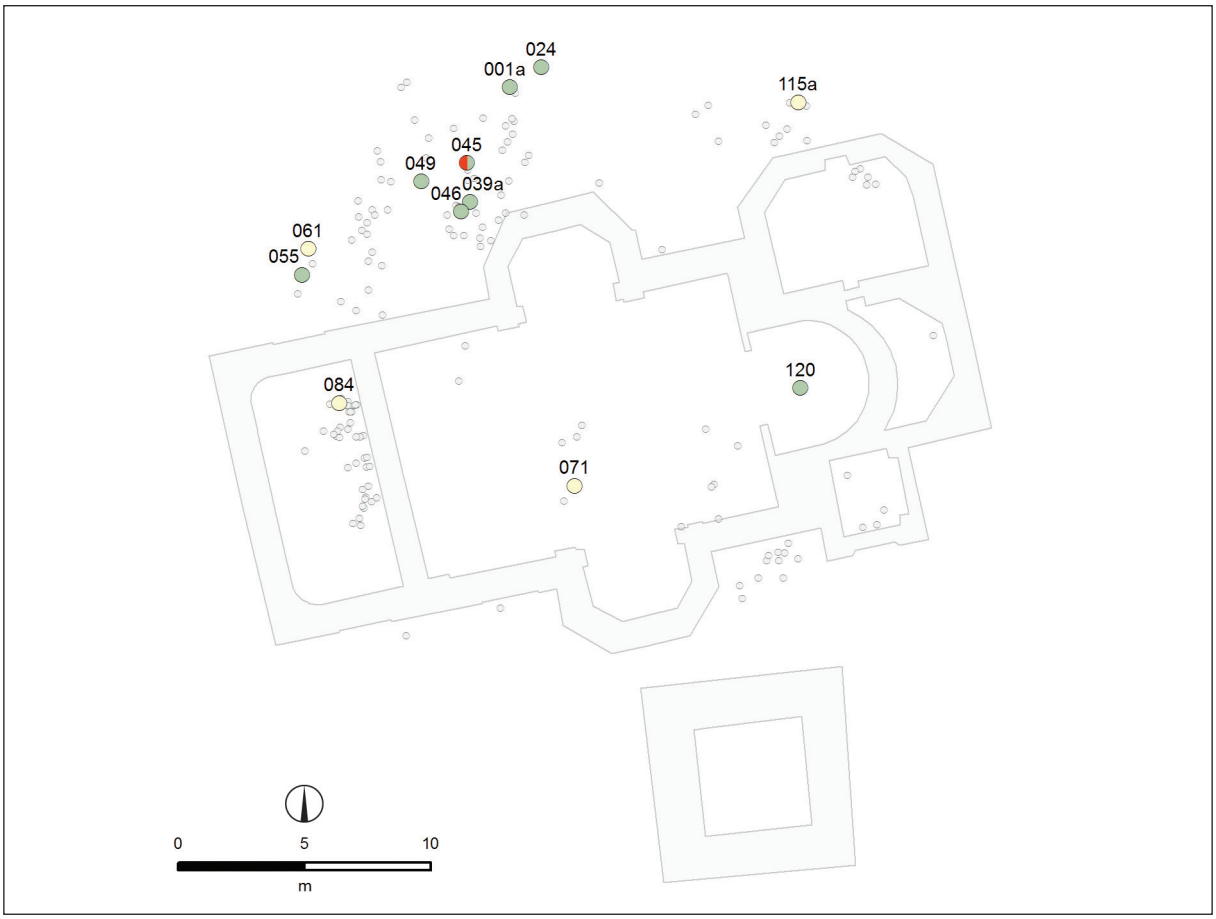

Fig. 45: Bled Island, graves with pottery in the filling: green – prehistoric pottery; red – Early Medieval pottery; yellow – Late Medieval pottery; grey – no pottery (by B. Štular).

small area no more than 2.95 m from the stratigraphically contemporaneous fireplace (see *Chap. 4.2*). One of the graves (46) was partially dug into the burnt layer of the fireplace. This could have been the possible source of charcoal in the grave. However, the charcoal was not preserved in the fireplace itself, implying that it was cleared away each time after it had been used. The other three graves (18, 22, and 63) were also positioned in close proximity to the fireplace. The proximity of the fireplace and the graves with charcoal fragments in the backfill, on the one hand, and the fact that the fireplace was avoided by the graves, on the other, do not leave many possibilities for interpretation. The source of charcoal in the graves is precisely this fireplace. Moreover, the fireplace was used in the period between the digging and the backfilling of the grave pits, i.e. during the interment.

Mortar fragments were found in seven High Medieval graves (77a, 82a, 84, 87, 88, 93a, 101). The only possible source of mortar was a mortar-plastered building. The only possible source was the adjacent west wall of the nave of the third church (*cf.* Šribar 1966, 89). The other walls were too far away for the mortar to fall into the graves: The west wall of the first church was 6 m away and the wall of the second church was 3 m away.

This finding has chronological implications, since these graves belong to the stratigraphically latest graves of the High Medieval cemetery (***Fig. 44***). The mortar thus proves the immediate proximity of the third church at the time of the interment of the stratigraphically later graves, but not of the stratigraphically earlier graves. The latter must have been contemporary to the second church (see *Chap. 10.3*).

Sand was also recorded in the backfills of two graves (67 and 71). Although a more precise interpretation is not possible, it is probably not a coincidence that these two graves are the only graves of Phase 2.

The pottery fragments were recorded in 13 graves (***Fig. 45***). Eight graves (1, 24, 39, 45, 46, 49, 55, 120) contained prehistoric pottery. Their distribution corresponds to the distribution of the prehistoric finds, which means that these are residual finds, i.e., pottery in secondary position (see Bitenc, Knific 2020a, 22–40). Four graves (61, 71, 84, 115) contained fragments of

Fig. 46: Bled Island, map of reburials.

wheel-thrown pottery dated to the 13th century and later (Bitenc, Knific 2020b, Pl. 6: 5, 6, 8–13). These fragments are interpreted as infiltrated finds. One grave (45) contained two fragments of possibly Early Medieval pottery (Bitenc, Knific 2020b, Pl. 6: 3, 4). As individual fragments of contemporary pottery are known from other Early Medieval cemeteries (e.g., Pleterski et al. 2019, 68, 69, 72 etc.), it is reasonable to assume that the pottery is related to the grave. A more precise interpretation – for example, whether the fragments were intentional grave goods, remains of the interment ceremony, remains of other activities in the vicinity of the cemetery, or something else – must be sought in other comparable cemeteries excavated with modern methods.

9.4 REBURIALS

In the cemetery on Bled Island, 27% of the graves show traces of subsequent burials or reburials in the same grave pit (*Fig. 46*). Since archaeologists were only able to identify the grave pits in exceptional cases, there is only indirect evidence for this, namely the position of the skeletons. So, I define reburials as those where a grave contains a well-preserved skeleton with a skull and/or other bones placed (more or less) carefully along the edges (for example, Graves 81 and 93; field documentation N 11).

In the majority of the cemetery, reburials appear only sporadically and only as a single or double reburial. Outside of the High Medieval cemetery, a triple reburial is only found in two graves (39 and 109). In the first case (39), it was a deliberate reburial. Judging from the position of the individual bones, the individual bones of several deceased persons were placed in an organic, rectangular receptacle, probably a wooden box. In the second case (109), there are bones in the backfill that can probably be interpreted as the reburial of bones discovered by the builders of the Late Medieval Gothic church in Phase 4.

In terms of reburial, the High Medieval cemetery differs considerably from the rest of the cemetery. The

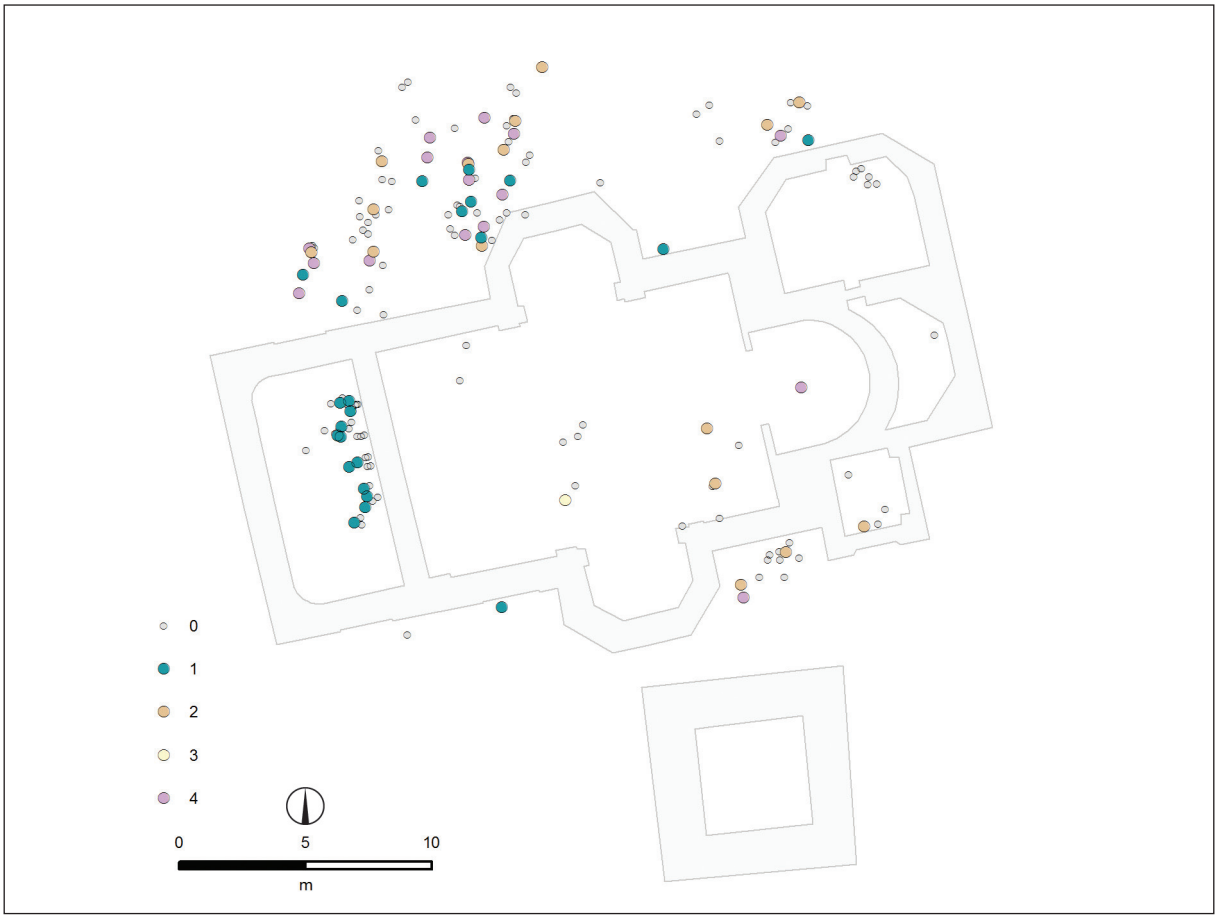

Fig. 47: Bled Island, map of the position of the deceased's hands: 0 – no data; 1 – in the lap (hypogastric); 2 – one in the lap, the other fully extended; 3 – on the chest as in prayer; 4 – fully extended.

vast majority of graves contain reburials, including the cases of quadruple and quintuple reburials.

Reburials in the same grave pit were thus found only sporadically in most of the cemetery and are interpreted as a consequence of the lack of space. However, the reburials in High Medieval cemetery and in the Early Medieval Grave 39 were intentional and, as such, part of the interment customs.

9.5 ARM POSTURE

The arm posture of the deceased is another topic in the Early Medieval archaeology of death and burial with a long history of research but few quantitative analyses. In this case, the arm postures were taken from the plan drawings and divided into four relatively loosely defined groups (***Fig. 47)*** in which the arms are positioned: in the lap; one arm in the lap, the other outstretched; clasped on the chest; extended along the body.

Deceased with their hands in their laps are found throughout the cemetery. Although found in both Early and High Medieval cemeteries, this arm posture is clearly predominant (92%) only in the High Medieval cemetery.

The deceased with one arm in the lap and the other outstretched or with both arms extended along the body are evenly distributed throughout the site, except in High Medieval cemetery. The only deceased with hands clasped on the chest (Grave 67) was buried in front of the second church's threshold.

I interpret these findings as follows: In Early Medieval cemetery (***Fig. 18:*** G1 and G2) the position of the arms was not an important component of burial rites, as all postures are equally represented. The only skeleton from Phase 2, which is contemporary with the second church, is also the only deceased in the entire cemetery to have its hands clasped on its chest in the prayer position; this is probably less a chronological feature than a peculiarity of this grave. The posture of the arms was especially important in High Medieval cemetery (***Fig. 18:*** G4), where the arms of all but one of the deceased are in the lap. The deceased with one arm in the lap and the other outstretched are prevalent in the church graves of Phases 3 and 4 (***Fig. 18***: G5).

9.6 CONCLUSIONS

Given the sparse data, the spatial analysis of the grave attributes yielded a surprising amount of valuable information.

Early Medieval cemetery was positioned exclusively where there was relatively deep soil. The charcoal in the graves showed that a fireplace was burning during interment. Reburials were rare and mainly due to a lack of space. However, there was one intentional reburial. The arm posture was not an important part of burial rites in this period.

High Medieval (and later) graves were habitually cut into the bedrock. In the High Medieval cemetery west of the church the grave pits cut deep into the bedrock can be described as tombs. Mortar fragments are evidence that these tombs were positioned directly against the church wall. Repetitive reburial of the bodies with arms in the lap was the norm in High Middle Ages.

10 ABSOLUTE CHRONOLOGY OF THE BLED ISLAND CEMETERY

10.1 INTRODUCTION

> *It might seem that archaeology is a straightforward process of discovery followed by description, yet it is accompanied by interpretation at every step. Interpretation draws on theory – our rationalizations of our experiences in the world – in order to make sense of how and why people of the past treated their dead, disposed of their remains, and provided ways for the dead to coexist with the living*
> (Parker Pearson 1999, 29).

I could not have hoped to describe the arduous path of archaeological inference as succinctly as Parker Pearson did two decades ago (for a general overview of the topic see Lozić, Štular 2007; Fahlander, Oestigaard 2008). And this path begins with a chronological analysis, that is, dating first the individual graves and then the cemetery.

In the Bled Island case study, three data sources were available for absolute dating: architectural elements, artefacts, and radiocarbon analysis of organic samples (hereafter C14). However, only three architectural elements and 30 artefacts could be dated to the Early Middle Ages. Moreover, the fact that the excavations occurred more than six decades ago severely limited the availability of suitable C14 samples.

From a methodological point of view, the dating of architectural elements is the least reliable method. In this method, the remains of church architecture are usually dated as either pre-Romanesque or Romanesque. However, the only data available for Bled Island were the ground plans and, to some extent, the building materials. Due to the paucity of preserved remains and because there were very few suitable securely dated analogies, the dating of architectural elements was dispensed with.

The dating tools used were thus the two available C14 dates, and the typo-chronological analysis of 30 artefacts from the graves.

According to the current state of research, C14 dating and typo-chronological dating for Early Medieval graves are similarly (in)accurate and allow dating with the accuracy of approximately one century. Namely, (in) accuracy of C14 and other radiometric dating methods (e.g., Scott, Cook, Naysmith 2007; Michczyński 2007; *cf.* Pleterski 2010, 86) is too often overlooked in archaeology, leading to overly high expectations.

Only jewellery was suitable for a typo-chronological analysis of the grave inventories to explain the chronological development of the site as a whole, as it was the only type of artefact from this site that allowed dating with the precision of at least a century. The chronological analysis was based on the typo-chronological scheme developed by Pleterski (2013a) for grave inventories dated by the C14 method and updated by Rihter (2020) on the basis of a stratigraphic analysis of the Župna cerkev cemetery in Kranj.

Twenty-seven temple rings and three finger rings could be dated (***Figs. 48–51***). Twenty-seven datable artefacts came from Early Medieval cemetery, one from High Medieval cemetery and three were found outside the graves. All dates, including the C14 date (σ1 934 ± 38 CE) of the skeleton from Grave 72, are between 800 and 1030 CE. The σ1 mean value of the C14 date was the year 934 CE, while the mean value of all typo-chronological dates was the year 935 CE, which is a remarkable correlation.

As already described, the graves in the Bled Island cemetery are neither spatially nor chronologically evenly distributed. So, the graves were divided into five groups (G1–G5) on the basis of their stratigraphic and spatial proximity (***Fig. 18***). I was able to date four cemetery groups (***Fig 18:*** G1, G2, G3, G4) and the earliest three church buildings. No data was available for dating the remaining cemetery groups (***Fig 18:*** G5, G6, G7) or later churches, which is why they were not discussed in this chapter.

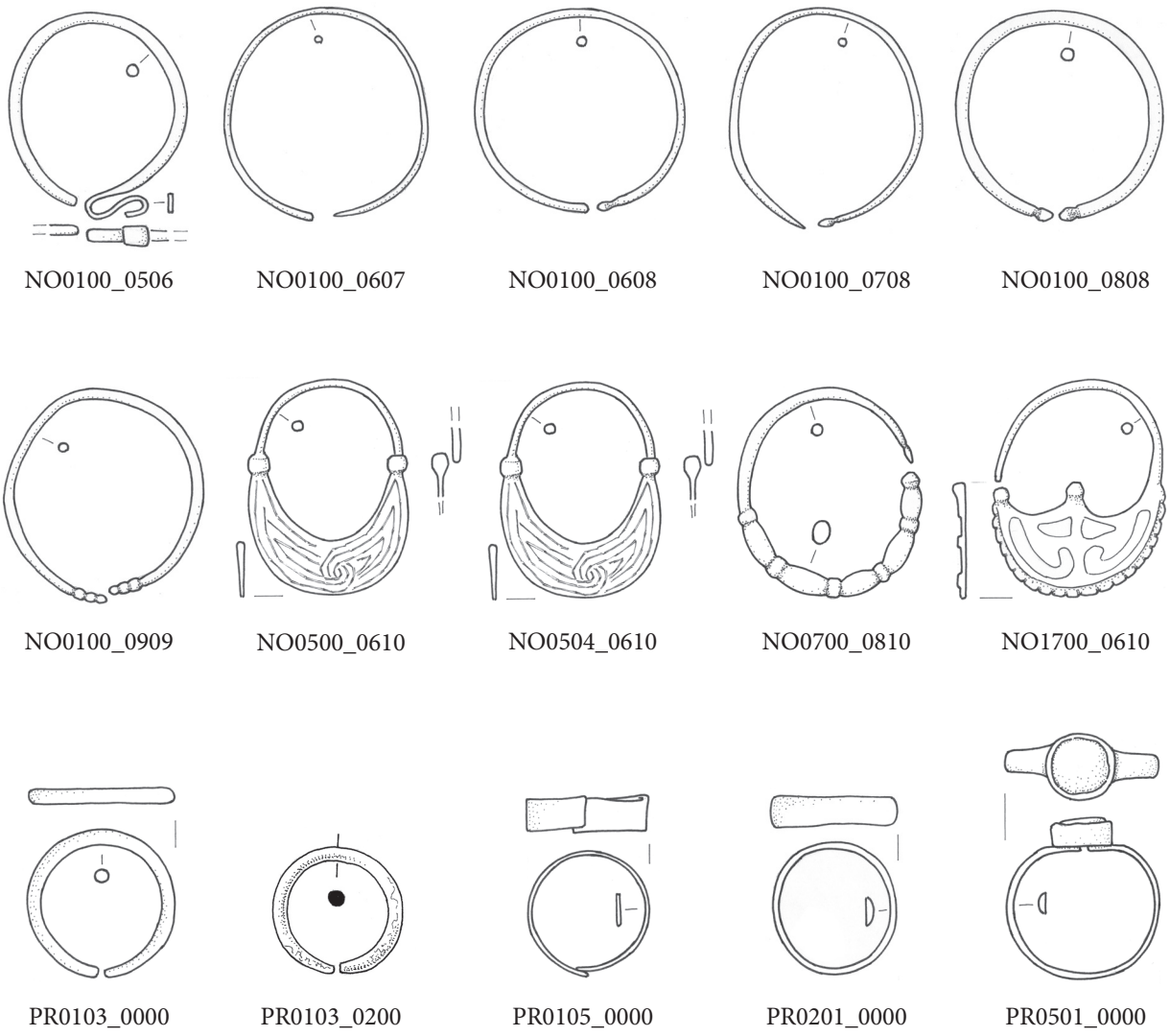

Fig. 48a: Bled Island, types of grave jewellery mentioned in Fig. 48b.

10.2 EARLY MEDIEVAL CEMETERY

Typo-chronologically, the most informative was the Early Medieval cemetery (***Fig. 18:*** G1 and G2). In Early Medieval archaeology, the most commonly used date is the intersection of the dates of the objects in the grave (***Fig. 52***). I used it with the exception of Grave 4, which did not have an intersection date. The finger ring it contained appears to be a so-called "old object", i.e. an artefact made long before it was deposited in a grave. This grave was thus dated on the basis of the latest artefact.

Thus, 14 graves could be absolutely dated on the basis of the artefacts. Six of these could only be dated imprecisely on the basis of the temple rings with a single thickening (***Fig. 48***).

The only datable find from the east group of graves in the Early Medieval cemetery (***Fig. 18:*** G2) is the ring from Grave 111 (***Fig. 51:*** 13), which is dated between 840 and 1010 CE. The find comes from the grave backfill and it is not certain whether it belongs to this grave at all. Regardless, it confirms that this group of graves belongs to the Early Medieval cemetery, but this single artefact does not allow any further interpretation.

Several conclusions could be drawn about the Early Medieval cemetery based on this chronology (***Fig. 52***).

First, the typo-chronological dating matches with the stratigraphic superposition, that is, the absolute and relative dating are in concord. Since the two analyses were carried out independently of each other, such an overall correlation confirms the accuracy of the results.

Type	Dating		Grave No.	No. on Figs. 49–51	dating source
	earliest	latest			
NO0500_0610	840	960	1a	1	JR KŽC
NO0504_0610	840	960	1a	2	BŠ
NO0100_0808	870	1000	3a	3	JR KŽC
NO0100_0808	870	1000	3a	4	JR KŽC
NO0700_0810	990	1030	4a	6	AP13
PR0501_0000	x	x	4a	7	
PR0201_0000	800	950	4a	8	JR KŽC
PR0501_0000	x	x	4a	10	
NO0100_0808	870	1000	12	14	JR KŽC
NO01mm_0808	870	1000	12	15	JR KŽC
NO0100_08mm	870	1000	24	17	JR KŽC
NO01mm_08mm	870	1000	24	18	JR KŽC
NO0100_0608	830	1000	27	19	JR KŽC
NO0100_0608	830	1000	27	20	JR KŽC
NO0100_0808	870	1000	34a	22	JR KŽC
NO0100_0808	870	1000	36a	1	JR KŽC
NO0100_0909	920	1000	36a	2	JR KŽC
NO0100_0808	870	1000	37	3	JR KŽC
NO0100_0808	870	1000	37	4	JR KŽC
PR0105_0000	840	1010	37	5	JR KŽC
NO0100_0808	870	1000	38	6	JR KŽC
PR0103_0000	870	1010	41	8	JR KŽC
PR0103_0200	x	x	45	10	
NO1700_0610	870	970	45	11	JR KŽC
NO1700_0610	870	970	45	12	JR KŽC
NO0100_0506	830	1000	49	13	JR KŽC
NO0100_0808	870	1000	49	14	JR KŽC
PR0103_0200	x	x	58	20	
NO0100_mmmm	x	x	59	21	
NO0100_0607	830	950	83	9	JR KŽC
NO0100_0708	900	1010	83	10	JR KŽC
NO0100_0808	870	1000	96	11	JR KŽC
NO0100_0909	920	1000		15	JR KŽC
NO0100_0808	870	1000		16	JR KŽC
PR0201_0000	800	950		17	JR KŽC
special type				18	

Fig. 48b: Bled Island, typo-chronology of grave jewellery.

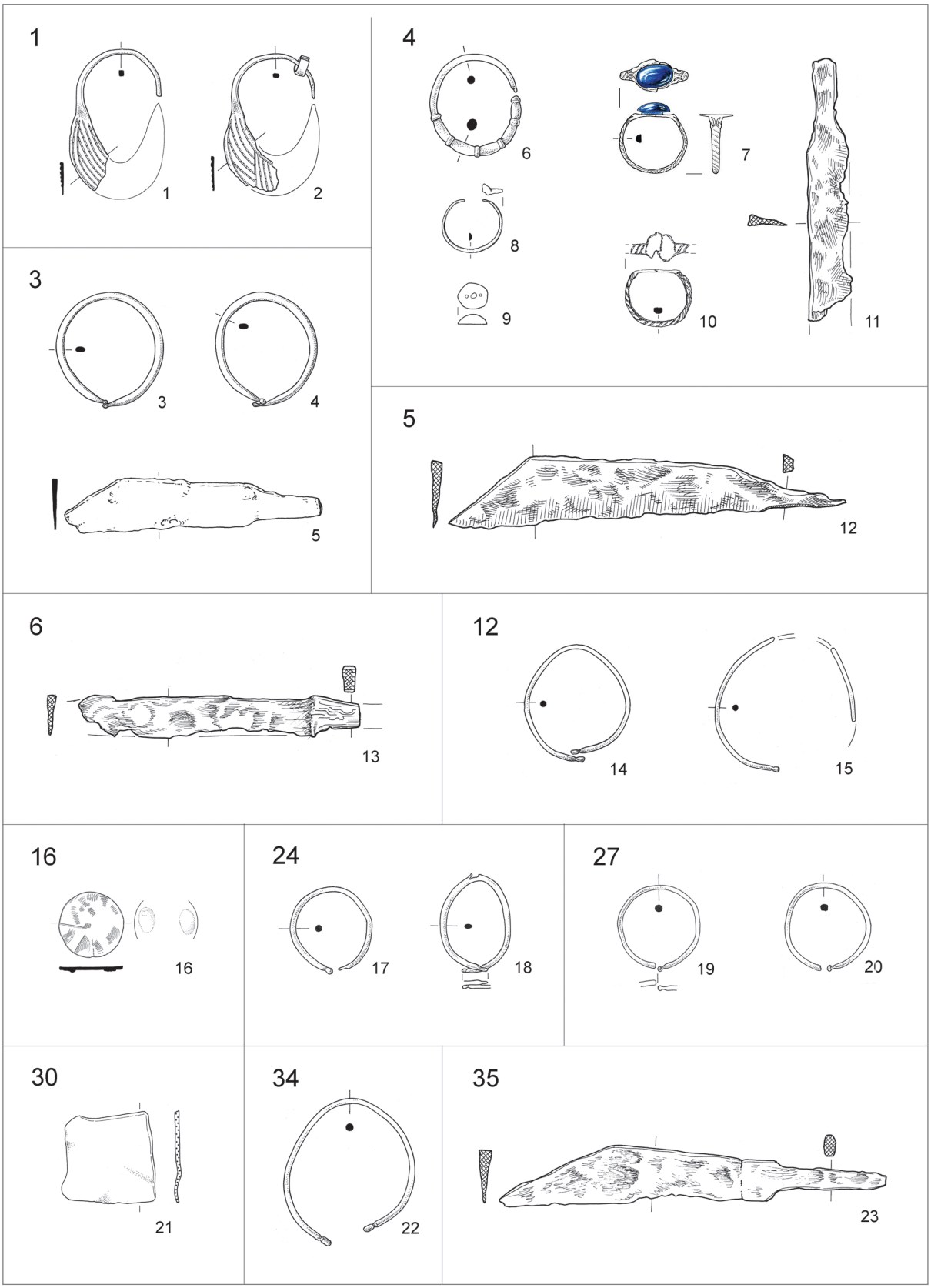

Fig. 49: Bled Island, grave goods in Graves 1, 3–6, 12, 16, 24, 27, 30, 34 and 35. 1–4,6–10,14–20, 22 bronze; 5,11–13,23 iron; 7,9 glass, 21 lead. Scale = 1:2. Drawing: 1,2,7,16,21 I. Murgelj, 3,4,6,7,10–15, 17–20,22,23 D. Knific Lunder; 5, 8 V. Stare; 2,9,10 (Štular 2020, Pl. 1).

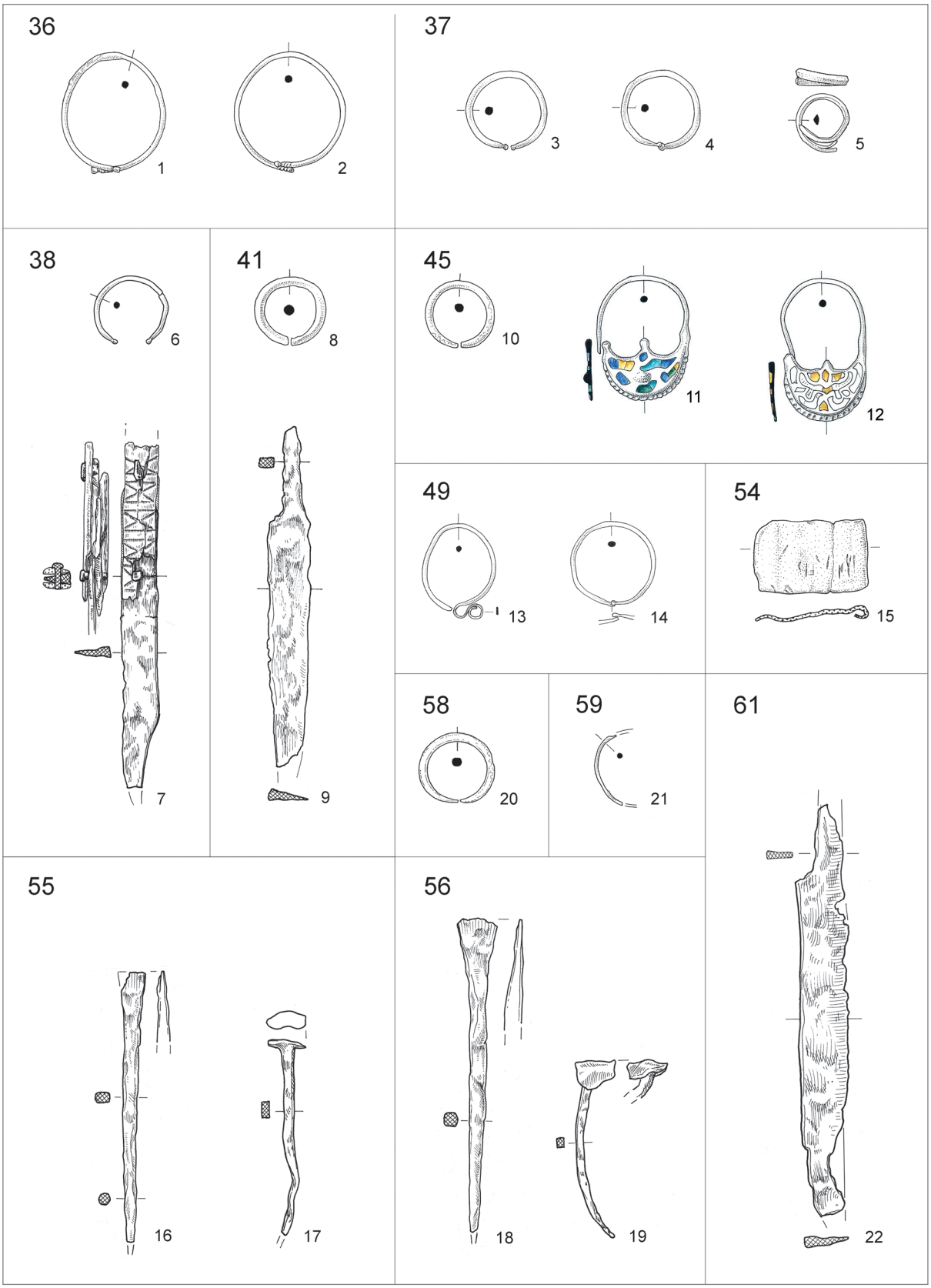

Fig. 50: Bled Island, grave goods in Graves 36–38, 41, 45, 49, 54–56, 58, 59, and 61.
1–6,8,10–14, 20,21 bronze; 7,9,16–19, 22 iron; 7 bone or horn, 11,12 enamel; 15 lead. Scale = 1:2. Drawing: D. Knific Lunder (Štular 2020, Pl. 2).

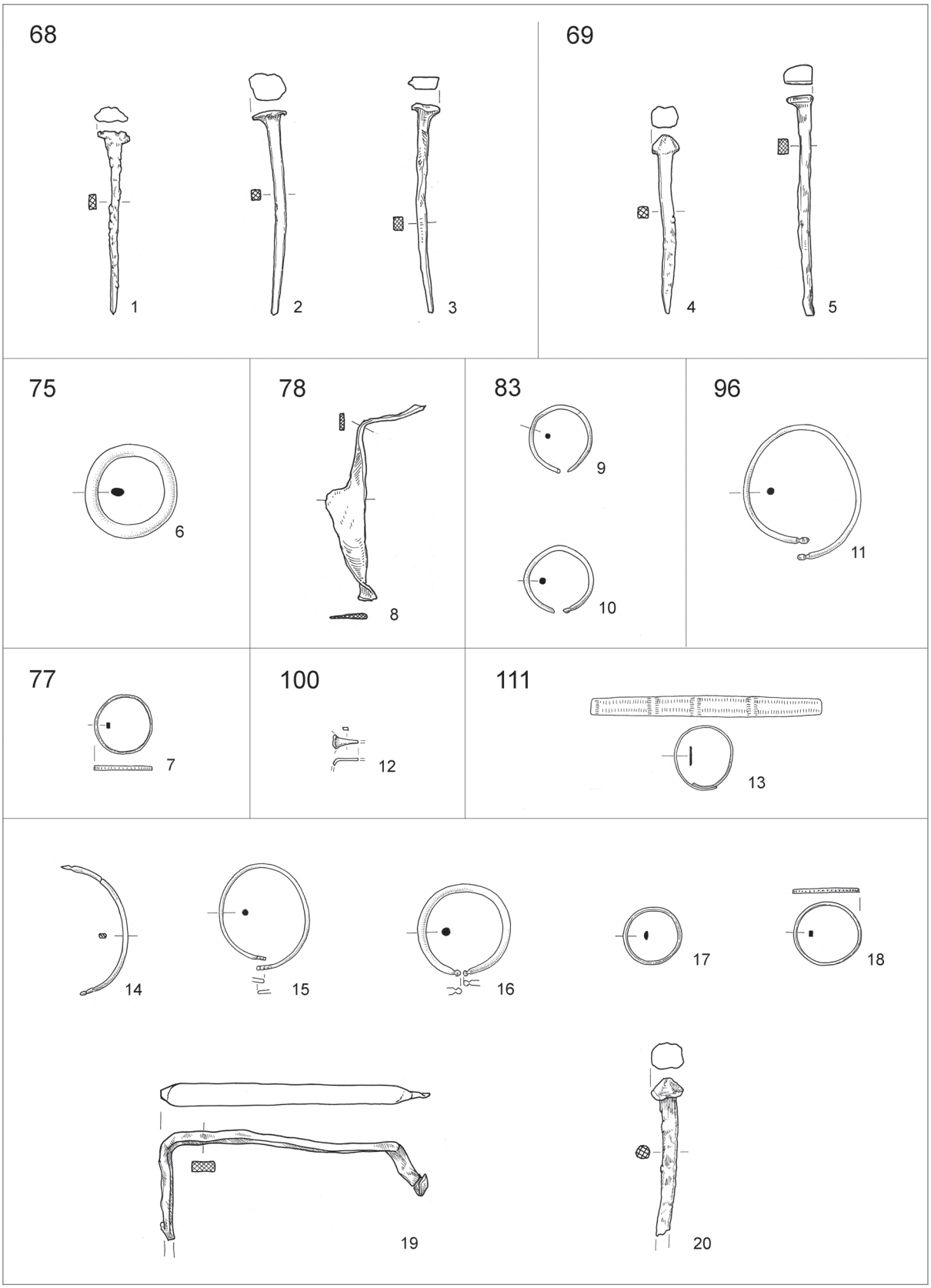

Fig. 51: Bled Island, grave goods in Graves 68, 69, 75, 77, 78, 83, 96, 100 and 111 (1–13) as well as scattered finds. 1–5,8,19,20 iron; 6,7,9–13,15–18 bronze; 14 silver. Scale = 1:2. Drawing: 1,2,4,7,12,20 I. Murgelj; 3,5,6,8–11,13–19 D. Knific Lunder (Štular 2020, Pl. 3).

Second, the reason why most of the finds are from the most recent graves is because the earlier graves have been disturbed and not because more people would be buried in the later period.

Third, it is possible to define the time span of the Early Medieval cemetery based on three pieces of information. To begin with, the longest possible time span (range of dates) is between 830 and 1030 CE, and the shortest (intersection of dates) is between 960 and 990 CE. The range of mean dates is between 900 and 1010 CE; the latter is consistent with my intuitive dating. Then, the predominant type of jewellery is temple ring with a single thickening (Type NO0100_0808; all type codes after Rihter 2020), which occur in both the stratigraphically earliest and latest graves. The span of use of these rings between the years 870 and 1000 CE is thus another indication of the duration of the cemetery. And finally, also noteworthy is the absence of temple rings with a hook, which were ubiquitous in this region in the ninth century, but occurred only exceptionally after the first decade of the 10th century (Rihter 2020; *cf.* Pleterski 2013a). So, their absence indicates that this cemetery was not used until approximately the first decade of the 10th century.[25] I inferred on the basis of all three pieces of information, that the interment occurred throughout the 10th century and in the first decade of the 11th century.

Fourth, in eleven decades four generations were interred in the Early Medieval cemetery on the Bled Island. The stratigraphy evidences at least four generations; the duration of the use of the cemetery evidences no more than four generations. Taken together, then, exactly four generations were interred there. The evidence and inference for this are presented in more detail in the discourse below.

In cemeteries with marked graves, with sufficient space, and with clear rules for choosing the burial plot, centuries could pass without a single reburial. In the Bled Island cemetery none of these conditions was met and grave disturbance or even reburial was commonplace. In the Early Medieval cemetery stratigraphic analysis revealed three triple reburials, i.e., four deceased (original burial plus three reburials) were interred successively in the same plot. This means at least four generations.

The question remains, however, whether there were only four generations or more? As noted above, the cemetery was in use for 11 decades. The only missing piece of evidence is the duration of a generation. There are three clues from different sources that can answer this question: grave taphonomy, reburial taboo, and biological generation.

First, grave taphonomy, or more precisely, observation of the disarticulation of the corpse (*cf.* Knüsel, Robb 2016, 667–668). The plan drawings of the graves provide evidence that individual bones, rather than limbs or body parts, were moved during reburial. In particular, the bones moved were mostly skulls and long leg and arm bones. This is evidence that the decomposition of the body was already in the final stages of skeletonization (i.e., the final stage of decomposition, during which the soft tissues have decayed to the point that the skeleton is exposed), as the ligaments of the legs are the last soft tissue to decompose (Pinheiro 2006, 110–112). To give an example, skeletonization of exposed bodies of large mammals takes up to five years (Hill, Behrensmeyer 1984; Rebmann, David, Sorg 2000, 126; *cf.* Clark, Worell, Pless 1997, 159–160). However, in the case of buried human bodies, the process is longer and depends on several factors (Daniell 1997, 109–121; Pinheiro 2006). The only known factor in the case study on Bled Island (and in most other archaeological examples) is the soil conditions after burial. The clayey soils on Bled Island slow down the skeletonization process (*cf.* Esteves da Silva et al. 2009). In view of this, one can roughly estimate that the skeletonization process on Bled Island took at least a decade. However, after only a decade, hair and nails are still preserved and due to the adipocere the unpleasant smells are still very much present (*cf.* Parker Pearson 1999, 14).

Second, the taboo of reburial. Since Medieval people believed that the soul does not leave the body until it is completely disintegrated (Daniel 1997, 62–64; *cf.* Williams 2006, 83–84), the taboo of reburial must have persisted at least as long as the unpleasant smells. Indirect evidence of such a taboo can be found in a spell from the end of the 15th or beginning of the 16th century: *Die chunnen mir hewt als wenig geschaden als der man, der vor xxx Jaren ist pegrabenn* (Javor-Briški 1998, 9).[26] This spell is to be understood in the sense that the remains in a grave lost the social status of the deceased after three decades; at that point the remaining bones acquired the social status of an inanimate objects. In oder words, after three decades, the body of the deceased ceases to be a taboo and becomes a mere disposable object. In the case of the Bled Island reburials, the attitude of the mourners towards the exhumed bones was disrespectful from the point of view of a modern observer, e.g., individual bones were carelessly disposed of. This indicates that the time of the respectful taboo – 30 years in the above example – was already over at the time of the reburial.

Third, the generation time, that is, the average time between two successive generations in the lineage of a population. It can be calculated with various formulae and is typically between 22 and 33 years in human populations (e.g., Bienvenu, Legender 2015). However, the data for the Early Medieval population in the Bled area is insufficient. For other archaeological populations, there are rough estimates ranging from 25 (e.g.,

[25] I would like to thank A. Pleterski for this information.

[26] Today they can do me as little harm as a man buried 30 years ago.

Grave No.	Intersected dat.			Stratigraphy
	from	to	mean	
1a	840	960	900	x
27	830	1000	915	1/2
45	870	970	920	1/2
83	900	950	925	x
72	895	972	934	x
38	870	1000	935	1/2
37	870	1000	935	3
41	870	1000	935	3
49	870	1000	935	3
3a	870	1000	935	4
12	870	1000	935	4
34a	870	1000	935	4
36a	920	1000	960	4
4a	990	1030	1010	4

Fig. 52: Bled Island, chronological distribution of graves based on the earliest artefact in the grave in chronological order (according to the median date); the stratigraphic position is simplified (for the actual stratigraphic position see Fig. 54).

Hazelwood, Steele 2004, 677) to 35 (e.g., Arnold 2002, 136) or exceptionally 40 years (Pleterski 2013a). If the latter example is excluded, the average generation time in archaeological populations is estimated to be 30 years.

It can be concluded that there is direct evidence that the graves in the Bled Island cemetery were not exhumed or disturbed for at least a decade, which is as long as the skeletonization takes. However, based on the Medieval taboos and the generation time, we estimate that this period lasted approximately three decades.

This means that the burial of four generations required at least nine decades between the end of the first generation and the end of the fourth generation. However, all members of a generation are never buried in the same year. The range of mean dates of the first generation graves dated with artefacts (***Fig. 52***: graves 1, 27, 45) tells us that the burial of this generation took place over two decades. Adding these two to the nine decades gives an expected time span of eleven decades for the burial of four generations on the Bled Island. This corresponds exactly to the time span of the cemetery calculated in the typo-chronological analysis presented above.

Returning from the discourse, I can thus say with some conviction that in 10th century and in the first decade of the 11th century four generations were buried in the Early Medieval cemetery on the Bled Island (***Fig. 54***).

Based on the stratigraphic analysis, it can be said that at least seven deceased were buried in the first generation (***Fig. 53:*** graves 1b, 7b, 27, 38, 45, 61, 72). Considering the chronology of the artefacts and the duration of each generation, the first two generations were interred in the first half of the 10th century. The earliest graves are 1 and 27. Together with most of the first generation graves (38, 45, 72), they belong to a group that is homogeneous both in terms of their location in the cemetery and their unorthodox orientation (see *Chap. 7*; ***Fig. 54a:*** B).

The second generation probably included 14 deceased (***Fig. 53:*** graves 1a, 7a, 13, 14, 15, 28, 31, 35, 37, 42, 46, 54, 57, 64b), but due to the insufficient number of stratigraphic relationships, the precise distinction between the first two generations cannot be established. With this generation, a new system of organisation of interment was introduced: burial in rows or *Reihengräberfeld* (***Fig. 54a:*** C). This means that approximately in the second quarter of the 10th century a significant change in burial practice was introduced in the Bled Island cemetery.

At least 18 deceased were buried in the third generation between the sixth and eighth decades of the 10th century (***Fig. 53:*** graves 4b, 5, 6, 8, 9, 12, 16, 21, 23, 34b, 36b, 40, 41, 43, 56, 59, 62, 63). At the beginning of this generation, the entire area of the cemetery suitable for burials was already occupied and the burials thus had to be "squeezed in" (***Fig. 54b:*** D).

The fourth generation includes at least 14 graves (***Fig. 53:*** graves 3, 4, 18, 19, 22, 25, 30, 34a, 36a, 39a, 39b, 39c, 49, 60) dating to the last two decades of the 10th century and the first decade of the 11th century (***Fig. 54b:*** E).

The most interesting among them is Grave 4, in which by far the latest artefact in the cemetery was found. The artefact in question is a temple ring (Type NO0700_0810; ***Fig. 49:*** 6) dated between 990 and 1030 CE. The mean date is 1010 CE, which is consistent with the estimated end of use of this cemetery. This grave also differs from all other Early Medieval graves in that it is the only grave that is oriented parallel to the church building. This is a reliable indication that the church was already built at the time of this burial.

Grave 4 is thus a biritual burial of a woman. The grave pit was dug parallel to the church building, as was customary for Christian church burials. However, the body was placed in the grave together with headdresses in accordance with pre-Christian burials (i.e., burials in cemeteries without a church). As this is the only such grave in the cemetery, it is evidence that this biritualism was a unique event. One could even assume that this woman was buried after the start of the construction

Fig. 53: Bled Island, cemetery plan. Walls of the present church are marked light grey. Scale 1:200.

work but before the dedication of the church. Namely, before the church was built the grave could not have been oriented parallel to it; but after the dedication of the church only burials without grave goods would have been allowed. This is thus the latest grave in the Early Medieval cemetery and, according to the grave goods, the burial took place most likely in the first decade of the 11th century.

There are eighteen graves for which there is no chronological data (***Fig. 53:*** graves 10, 11, 17, 20, 24, 26, 29, 32, 33, 44, 47, 48, 50, 51, 52, 53, 55, 58).

A child's grave (83) with two temple rings lies somewhat distant from the rest but is contemporary with the Early Medieval cemetery. The first temple ring (Type NO0100_0607; ***Fig. 51:*** 9) is dated to 830 to 950 CE, and the second (Type NO0100_0708; ***Fig. 51:*** 10) to 900 to 1010 CE. The intersection dates the grave to 900 to 950 CE. The grave is thus contemporary with the first two generations of the Early Medieval cemetery.

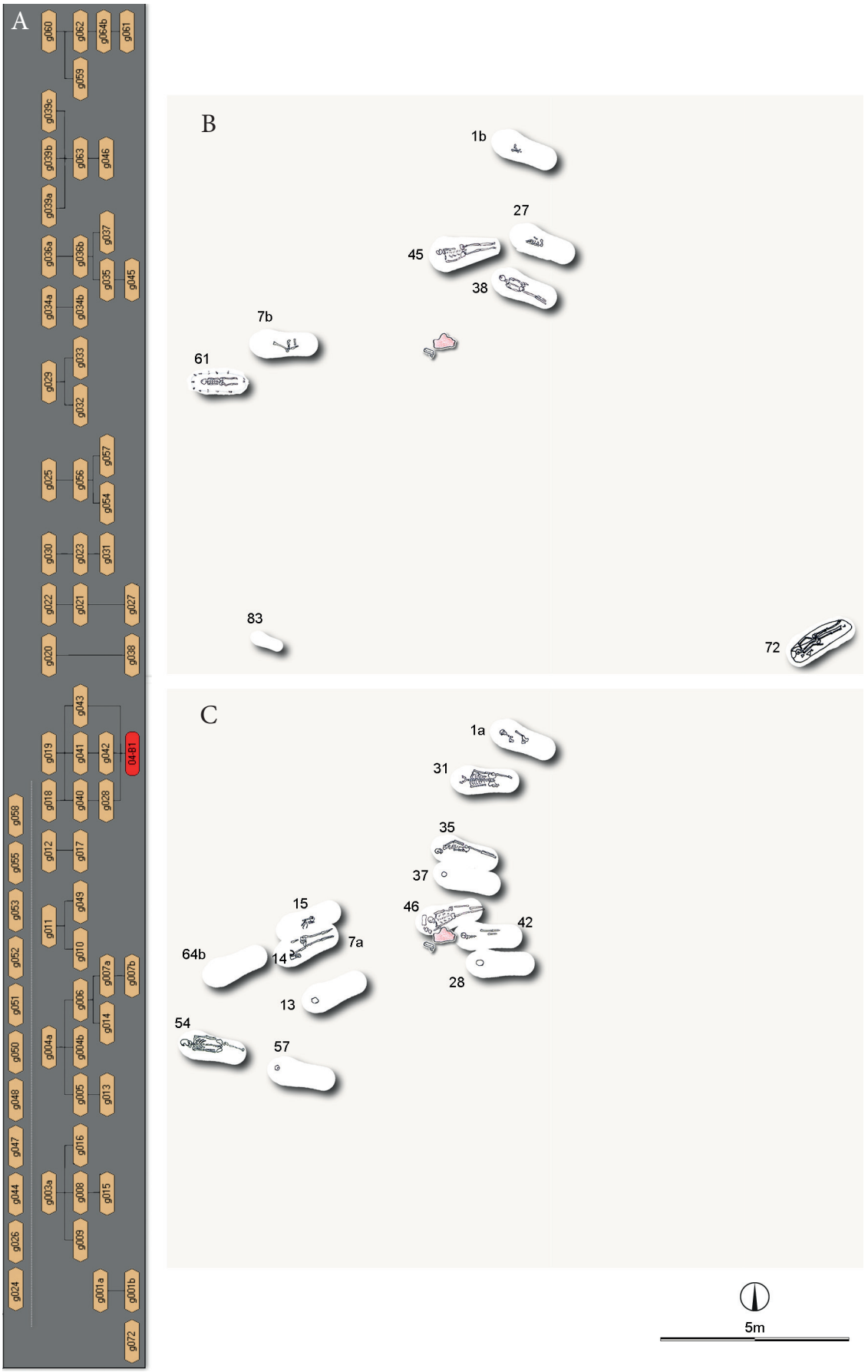

Fig. 54a: Bled Island, A: Harris matrix of cemetery group G1; B: First generation; C: Second generation.

Fig. 54b: Bled Island, A: Harris matrix of cemetery group G1; D: Third generation; E: fourth generation.

10.3 HIGH MEDIEVAL CEMETERY

There were only three artefacts found in the graves that belong to the High Medieval cemetery (***Fig. 18:*** G4), all of them in the backfill of the graves.

The backfill of Grave 96 contained a temple ring with a double thickening (Type NO0100_0808; ***Fig. 51:*** 11). Such temple rings are the most common type of grave goods in the Early Medieval graves only a few metres away. The artefact can be interpreted as a residual find, i.e., an artefact belonged to a nearby disturbed Early Medieval grave and was inadvertently incorporated in the backfill of this grave. The same applies to a small fragment – probably a fragment of the loop of a temple ring with a forged loop – from the backfill of Grave 100.

In Grave 77a a bronze ring was found, also as a residual find in the backfill. The ring has a rectangular cross-section and is decorated on the outside with a series of small dimples (***Fig. 51:*** 7). Such finger rings can only be roughly dated to the High Middle Ages. For example, they do not occur in the Župna cerkev cemetery in Kranj, where there are no artefacts in graves after the first decades of the 11th century. This indicates that the first decade of the 11th century is a *terminus post quem*. On the other hand, the Late Medieval cemetery near the church of St Bartholomew in Šentjernej, for instance, does not contain any such rings either (Predovnik, Dacar, Lavrinc 2008). Late Medieval period is thus a *terminus ante quem* and the ring from the backfill of Grave 77a is the only High Medieval artefact in the cemetery. Unlike the temple rings mentioned above, it cannot be interpreted as a residual find from a nearby High Medieval grave, as there are none there. On the other hand, Grave 77a belongs to a series of five reburials in the same tomb. Consequently, this ring almost certainly belonged to one of the earlier burials in the tomb, which was used at least since sometime after the first decades of the 11th century. On this basis, these graves, which are very homogeneous in terms of burial rites, can be dated very loosely to the High Middle Ages.

In the absence of other artefacts, the only option left is to date these graves on the basis of the wider context. These graves were located next to the church. In the High Middle Ages (almost) all graves were located near a church. However, not all churches were allowed to foster burial grounds. Höffler (2016a, 64) has convincingly demonstrated that the church on Bled Island was a proprietary church, i.e., owned by a landlord. Between the end of the 10th and the end of the 12th century, some owners were more successful than others in converting such churches into benefices. The owners of the Bled Island church were not successful and the church was downgraded to the level of a filial church. One of the consequences of this downgrading was the loss of burial rights. Thus, at the latest after the end of the 12th century, the cemetery on Bled Island could no longer legally exist. In Medieval practice, this meant that from that time onwards only individual burials could occur either in the church or immediately next to it (the latter seems to have been legally equal to the former). The end of the 12th century is thus the *terminus ante quem* for the High Medieval cemetery.

Based on the stratigraphic analysis, the shortest possible period of use can be determined using the same method as for the Early Medieval cemetery. In one of the central tombs (***Fig. 53:*** graves 81a, 82a, 82b, 102, 103, 104; ***Fig. 44***) there is reliable evidence for five reburials, which means that at least six generations (the original burial plus five reburials) were interred. Under the same assumption that the duration of one generation was 30 years and the time of burial of the first generation 20 years, this cemetery was used for at least 170 years. This period corresponds directly to the time between the *post* and *ante* dates mentioned above. Burial in the High Medieval cemetery thus began approximately in the second third of the 11th century and lasted approximately until the end of the 12th century.

Thus, the first generation was interred approximately between 1030 and 1050, the second between 1050 and 1080, the third between 1080 and 1110, the fourth between 1110 and 1140, the fifth between 1140 and 1170, and the sixth generation between 1170 and 1200. However, it should be stressed that the accuracy of these dates is much lower than for the Early Medieval cemetery and should consequently only be understood as a chronological framework.

10.4 CHURCHES

Dating the church buildings was one of the main goals of the 1960s excavations on the Bled Island. Unfortunetely, the correlation of church buildings with graves is the only available information for absolute dating.

A *terminus post quem* for the construction of the **first** Pre-Romanesque **church** is provided by Grave 72, which is C14 dated to the time after 779 CE or with 94.2% probability between 869 and 1013 CE (see *Chap. 4.2*). More precise chronological information is provided by Grave 4, which contained the so-called astragal temple ring (Type NO0700_0810; ***Fig. 49:*** 6). As already mentioned, such temple rings were used between 990 and 1030 CE, but the grave was dated in the first decade of the 11th century. If the above interpretations that this burial in the Early Medieval cemetery was contemporaneous with the construction of the church are correct, then the first pre-Romanesque church was built in the **first decade of the 11th century**.

The dating of the **second** Pre-Romanesque **church** roughly to the end of the Early Middle Ages is supported not only by the architecture but also by two fragments of Early Medieval pottery discovered in the layer sepa-

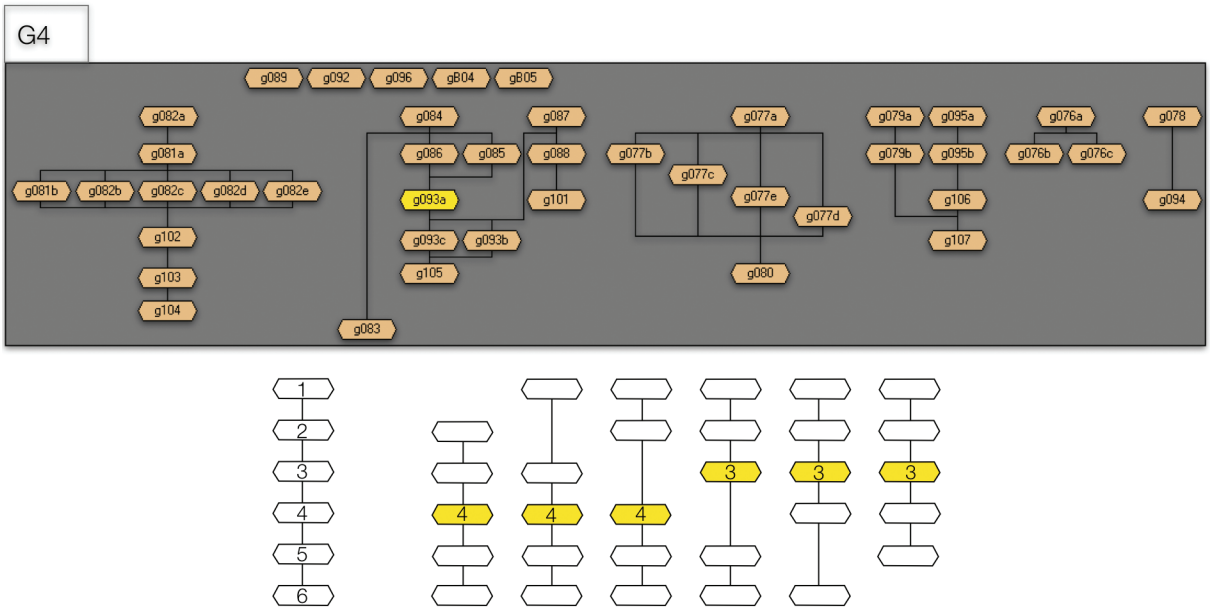

Fig. 55: Bled Island. Top: Harris matrix of cemetery group G4; bottom: all possible stratigraphic positions within G4 of the grave with mortar No. 93a (yellow).

rating the first and the second church (see *Chap. 4.3*). Further chronological clues result from the interpretation of the stratigraphy and dating of the High Medieval cemetery: The southernmost grave is in line with the southern wall of the second pre-Romanesque church (***Fig. 44***). The accuracy of the alignment leaves little possibility for coincidence and leads to the conclusion that the High Medieval cemetery was delimited while the second church was still standing, that is, the earliest graves were contemporary with the second church. Thus, the *terminus post quem* are the earliest burials in the High medieval cemetery, which occurred after approximately **1030**.

The **third church**, built in the Romanesque style, can also be correlated to the tombs of the High Medieval cemetery. In particular, the eastern ends of the tombs, i.e., the legs of the skeletons, almost touch the west wall of the church building. This proves that these tombs were still adhered to when the third church was built, i.e., the church wall was not allowed to be built on top of these tombs. This interpretation is further confirmed and clarified by mortar fragments in the backfill of several graves (77a, 82a, 84, 87, 88, 93a, 101). These fragments could only have originated from the west wall of the third church (see *Chap. 9.3*). Stratigraphically, the earliest grave with mortar fragments is Grave 93a. Since it is in the middle of a stratigraphic chain of five graves, it belongs either to the third or to the fourth generation of the High Medieval cemetery (***Fig. 55***). The *terminus ante quem* for this church is thus approximately the year **1140**, or more broadly, the church was already standing sometime between 1080 and 1140 CE.

The archaeological data agrees well with the interpretations of historians, who point to the deed of donation in 1004 for the first church and the dedication of a church in 1142 for the third church (see *Chap. 11.1*).

11 INTERPRETATION OF THE BLED ISLAND IN THE MIDDLE AGES

11.1 WRITTEN SOURCES

Until now, it was assumed that the Church of the Assumption of the Blessed Virgin Mary on Bled Island was built between the second half of the 9th and the third quarter of the 10th century. It was supposedly founded as a proprietary church of the local landlord, *župan*, but came into the hands of the East Frankish lords before 1004 (Pleterski 2013b, 169; *cf.* Höfler 2016b, 212). According to Höfler, the church and the estate passed into the possession of the Bishopric of Brixen soon after 1004. They allegedly rebuilt the church and appointed a provost.

This retrograde interpretation is based on the fact that the Bishopric of Brixen held the patronage and other rights to the island church in 1185 (Höfler 2015, 50; 2016b, 212). In the king's charter that bestowed the Brixenes the Bled estate in 1004 – the earliest written document that mentions Bled – the church on the island is not listed. However, the 1004 charter contains a summary of the infrastructure elements of the Bled estate: churches (*aecclesiis*), buildings, mills, unfree inhabitants, various arable and nonarable plots, rights and sources of income.

The same formula is found in a very similar charter from 1011. Such formulas (*pertinentio*) were more or less formalised in similar charters of the time (Štih 2004, 22–23; Štih 2011, 14–19 with source references). Interestingly, according to Štih's analysis of the document of 1004, such formulae take into account, at least to some extent, the natural, economic and social realities of the property given away (Štih 2004, 22), whereas when he writes about the document of 1011, which was drawn up according to the same formula, it is to be understood as a purely formal element (Štih 2011, 23).

The church on Bled Island was thus first mentioned in written sources only in 1185 as the Chapel of St Mary with a provost (*prepositi sanctę Marię in lacu Veldes*) (Bizjak 2006, 59–60; Höfler 2015, 49–50; Gornik 1990, 150–152; all with source references). With this document, Bishop of Brixen Henry II (Bishop 1178–1196) confirmed the estate of the provostry, which included 18 farms, a fee, a mill in Mlino,[27] and four plots in Zaka. These posessions came from the Bishopric of Brixen and from various private donors from the nearby villages of Mlino, Koritno, Bodešče, Bitnje, Zaka and Moste near Žirovnica. All listed donations were made after 1140, starting with the one from Bishop Hartmann of Brixen (Štih 2004, 22; Bizjak 2006, 59–60; Pleterski 2013b, 173, passim). Before the 1140s, the provostry – a legal body comprised of the church and the estate – probably included only Bled Island with the church and a small non-arable plot of land called Vadiše, but its income probably also included donations from pilgrims. Indeed, analysis of the ownership described in the sources suggests that the church on the Bled Island was probably already a place of pilgrimage in 1004 (Gornik 1967, 146; Gornik 1990, 173–176; Pleterski 2013b, 97–98; *cf.* Štih 2004, 21–22). Judging by the example of the nearby chapel of the Assumption of Mary in Lesce (Bizjak 2012 with source references), pilgrims eagerly flocked to the church with offerings on the feast day of Mary on 15 August from near and far.

The sudden popularity of donations to the provostry (and thus indirectly to the Bishopric of Brixen) after 1140 can be understood as a consequence of the Bishopric's active policy of trying to exploit people's concern for their souls (Pleterski 2013b, 173) to establish the estate of the provostry and, in a broader context, to further consolidate its domain of the Bled estate.

One way of achieving this goal may have been a church building programme, as can be identified in the case of the above-mentioned Chapel of the Assumption of St Mary in Lesce, only a few kilometres away. A wooden chapel was built there in the middle of the 11th century at the latest. After a long time had passed (*post multorum vero cursum temporum*), Dietmar, Archdeacon of Aquileia (Bishop of Trieste 1121–1145), and Herwig, parish priest of Rodine, demanded that the owner tear down the wooden church and build a stone one instead, which could then be consecrated. The owner, Brixen's ministerialis (local lord) Nantwin, did so. The church was consecrated with the assistance

[27] Mlino is a derivative of a Slovenian word for mill.

of the aforementioned persons (*presidio eorum*), which very probably meant a formal permission of Patriarch Ulrich I of Aquileia (Patriarch 1085–1121). The church, rebuilt in stone, was consecrated by Bishop Eberhard, the Patriarch's vicar, as can be seen from a document issued between 1115 and 1121 (Bizjak 2012).

In this case, several elements can be understood to indicate that this action was part of a broader scheme of replacing earlier wooden churches with stone ones: the appeal was initiated by the regional (ecclesiastical) administration, the construction was carried out by the owner (who at the same time represented the local administration) and the execution was supervised by the regional (ecclesiastical) administration and confirmed by the act of consecration.

The next document pertinent to the island of Bled concerns the consecration of a church in the area of Bled by Patriarch Pellegrinus I of Aquileia (1131–1161) in 1142 (Gornik 1990, 153; Štih 2004, 22 with source references). Since the church was consecrated by the patriarch himself – unlike the ordinary church of Lesce, which was consecrated by a bishop, the patriarch's vicar – it must have been an important church.

There are only two possibilities, either the parish church of St Martin in Bled or the church on the Bled Island. The building programme of the patriarch assumed above and the simultaneous efforts of the Bishopric of Brixen to expand the possession of the provostry on Bled Island do not completely rule out the parish church. However, these two arguments strongly suggest that the stone church, consecrated on 11 December 1142 in place of a wooden predecessor, is the church of St Mary on Bled Island.

In this context, it should be noted that the construction of such a church could have taken between a few years and a few decades (*cf.* Štular 2013, 138; Trueman 2019). It is possible that the construction of the church on the island and the church in Lesce both started in the second decade of the 12th century; however, the completion of the former with a much more ambitious architecture took two decades. The consecration by the patriarch could be seen primarily as a political event linked both to the beginning of the ambitious career of Bishop Hartmann of Brixen (bishop 1141–1163) and to the completion of the church building.

The next mention of the church on Bled Island is in a tithe list of the Patriarchate of Aquileia from 1247, where the church is listed together with monasteries and other provostries (*ecclesia Valdensis*). It is also mentioned as a provostry in a tithe list from 1296 (*prepositura Insule, prepositura de Veldis*). These two references are better understood in the context of an installation document from 1309, in which the Patriarch of Aquileia confirms the appointment of a chapel rector, who was installed by the Bishop of Brixen. It is clear from the document that there had previously been disputes between Aquileia and Brixen about jurisdiction over the church.

Höfler's interpretation of the situation in the 13th century is that the patriarchs of Aquileia acquired the church on the island with full rights between 1185 and 1247. Nevertheless, two centuries later, in 1459, the papal court in Rome confirmed all rights to the island church to the Bishopric of Brixen. This means that at the end of the Middle Ages the Bishopric of Brixen administered the church as their own proprietary church with full jurisdiction, but the dispute ended only with an agreement between the dioceses of Brixen and Ljubljana (the latter as successor to the Aquileian patriarchs) in 1688 (Gornik 1990, 195–204; Höfler 2015, 50 with sources).

A brief comment should be made on the patron saint of the Bled Island church. While the present church is dedicated to the Assumption of St Mary, it is mentioned in the medieval sources only as the church of St Mary (*sancte Marie in lacu Veldes*). Based on a marginal note from the 16th or 17th century in the Matricula of Radovljica, Höfler (1988, 224–225) assumed that the church was originally dedicated to the Nativity of St Mary. This would be typical for the time around 1004 (Höfler 2016b, 212), while the earliest Marian churches were dedicated to the Assumption. However, the orientation of the church convincingly shows that its original dedication was to the Assumption of St Mary, while the note in the margin, dated three quarters of a millennium after the church was built and a century before the birth of modern historiography, is likely to remain an interesting curiosity.

The above interpretation of the written sources must be understood in the light of the fact that the provost, and with him indirectly the church on the island of Bled, was first mentioned only in 1185, which was followed by two modest notes in the 13th century. It is important to recognise that before 1185 all inferences based on written sources were no more than that: inferences. Moreover, all the interpretations of the written sources mentioned above, with the exception of that of Gornik (1967), were influenced by Šribar's interpretations of the same archaeological data that are the subject of my analysis. In other words, the existence of the church on the island before 1185 cannot be proven by written sources but only by archaeological analysis. Otherwise, circular reasoning occurs: Interpretations of written sources that include earlier interpretations of archaeological data influence the archaeological interpretation of the same archaeological data.

Written sources, on the other hand, give a good overview of the legal status of the Church of the Assumption on Bled Island from the late 12th century onwards. The church never rose above the level of a provost's chapel. In the course of the regulation of proprietary churches, which took place between the end of the 10th

Fig. 56: Bled Island, view of the ongoing excavation north of the present church building (north-western corner, top left); the unused potential cemetery area mentioned in the text, top right (source: NMS archive OA film No. 8541).

and the 12th century, it belonged to the proprietary churches whose owners could not convert them into benefices. Thus, the Bled Island church on the island of Bled dropped to the level of a filial church and it lost the right of burial at the end of the 12th century at the latest (Höffler 2016a, 64).

A comment on the congruency of dating between archaeological and historiographical sources is in order. Archaeology dates the first church to the first decade of the 11th century and the *terminus ante quem* for the third church is approximately 1140. This agrees very well with the interpretations of historians, who point to the deed of gift from 1004 for the first church and to the consecration of a church in 1142 for the third church. Since these interpretations are based on completely different sources, the concept of consilience of induction can be applied. This scientific principle is also known as convergence of evidence and it states that the same conclusion is much stronger when it comes from independent and unrelated sources. Confidence is strongest when evidence from different fields is considered because the methods and/or data are different (e.g., Štular et al. 2022, 7). The dating of the first church to the first decade of the 11th century and the *terminus ante quem* for the third church in the 5th decade of the 12th century are therefore very conclusive.

11.2 EARLY MEDIEVAL CEMETERY

The Early Medieval cemetery without a church was used in the 10th century and the first decade of the 11th century. It was located mostly in a small flat area in the centre of the island. The cemetery consists of graves in clusters and graves in rows (***Fig. 53***).

The westernmost row contains six graves (54, 55, 59–62). Two stratigraphically later graves of non-adults partially protrude from the orderly row. North of this row is an unused area large enough for two or three graves. As can be said from the documentation (***Fig. 56***), the unused space was suitable for burial, but was never used.

The second row is the largest, containing the remains of 19 graves (3–17, 25, 34, 56, 57) with at least 24 deceased. The row is somewhat irregular, but the desire to form a row while adapting to the terrain configuration is clear. Typical of this row are reburials, which are more numerous than in the adjacent rows. The position of the graves in relation to each other clearly shows that the diggers of the later graves were not aware of the exact location of the earlier graves. This is direct archaeological evidence that the graves were not permanently marked.

Although only three graves (49–51) can be assigned with certainty to the third row, it probably contained

the remains of two others (44, 53). The row is bounded to the north by a rocky ridge, while to the south it was not fully excavated due to later pavement. Taking into account the density of burials in the row and the location of Grave 44, which indicates how far the graves in this row extend, one can assume that at least one more grave remained unexcavated under the said pavement.

The existence of the fourth and fifth rows identified by Šribar (1972, 390–391) is questionable. The graves around the fireplace were certainly not arranged in rows. The possible fourth row might have contained four graves (35–37, 45) with an unused space in the middle. Six graves (1, 20, 22, 29, 30, 38) may have been placed in the potential fifth row. However, in this part of the cemetery, the gaps alternate with areas of high burial density in a kind of chequerboard pattern, which does not occur in the first three rows. The main argument against the existence of the fourth and fifth rows is the overlap: the legs of the graves in the fourth row overlap with the graves in the fifth row. If there were actually two rows, the entire fourth row would be later than the fifth, which is not likely.

Instead of rows four and five, the graves in the east part of the cemetery seem to have been arranged in clusters, perhaps reflecting a kind of cemetery plots. At least 13 deceased were packed around the contemporary fireplace in the southern cluster (Graves 18, 19, 28, 39, 40–43, 46, 63). The second cluster from the south consists of two graves (20, 38) and a small remnant of another earlier burial (20). There is a large difference (17°) between the orientations of the stratigraphically earlier and later graves within the cluster. The third cluster contained at least five deceased (35–37, 45). In one case, the difference in orientation between an earlier and a later grave is again very striking (19°). In the northernmost group, there are eight graves (21–23, 27, 29–31, 33) containing a triple reburial.

North of the above clusters are two single graves (1, 24), each with a double reburial.

The final part of the Early Medieval cemetery consisted of a cluster of 11 graves (111–117, 121–124) on a small terrace on the eastern slope, about 3 m below and 8.1 m east of the rest of the cemetery (***Fig. 57***). They were dug into a narrow crevice in the rock (*cf.* Šribar 1972, 390), which determined their orientation. The only artefact from these graves is a finger ring from the backfill of Grave 111, which can only be broadly dated to the Early Middle Ages (***Fig. 51:*** 13). However, these graves are stratigraphically earlier than the first church and are thus at least roughly contemporary to the burials described above. So, this appears to be just another cluster in the Early Medieval cemetery, albeit isolated and somewhat distant due to the restrictive geomorphology.

Even more isolated grave (72) further south was probably the most important on the site. It was located in the place with special significance for the mourners,

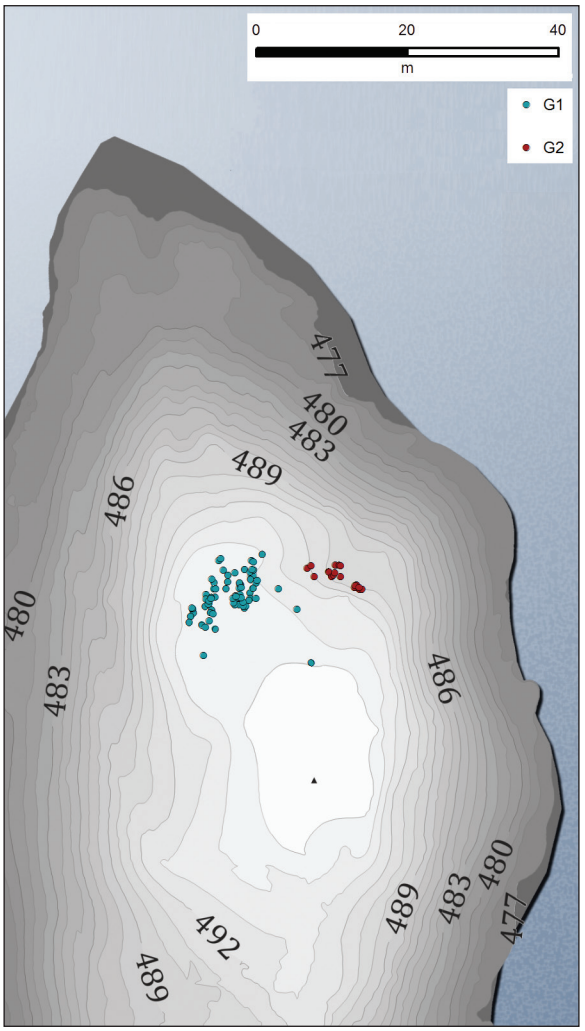

Fig. 57: Bled Island, location of cemetery groups G1 (blue) and G2 (red) and reconstructed geomorphology of the island before Medieval building processes (by B. Štular).

immediately next to the green stone that at the time of interment served as a spatial marker for (see *Chap. 4.7*). Similar isolated graves at the edge of the cemetery are known from two nearby cemeteries from the 9th and 10th centuries (Žale near Zasip – male Grave 55; Pleterski 2013b, 39, Fig. 2.3.4 – and Dlesc near Bodešče – a cenotaph Grave 14; Pleterski 2013b, 51, Fig. 2.3.16) and more prominently in the cemetery of Mali Grad in Kamnik from the end of the 10th and beginning of the 11th century (Grave 23; Štular 2007, 28, Fig. 4).

Similarly isolated is a child's grave with a female headdress (Grave 83), which lies on one of the orientation axes of the cemetery. Although it is located within the High Medieval cemetery, it is clearly stratigraphically below the High Medieval graves. Only the cranial base was preserved and the head rings lay (presumably *in*

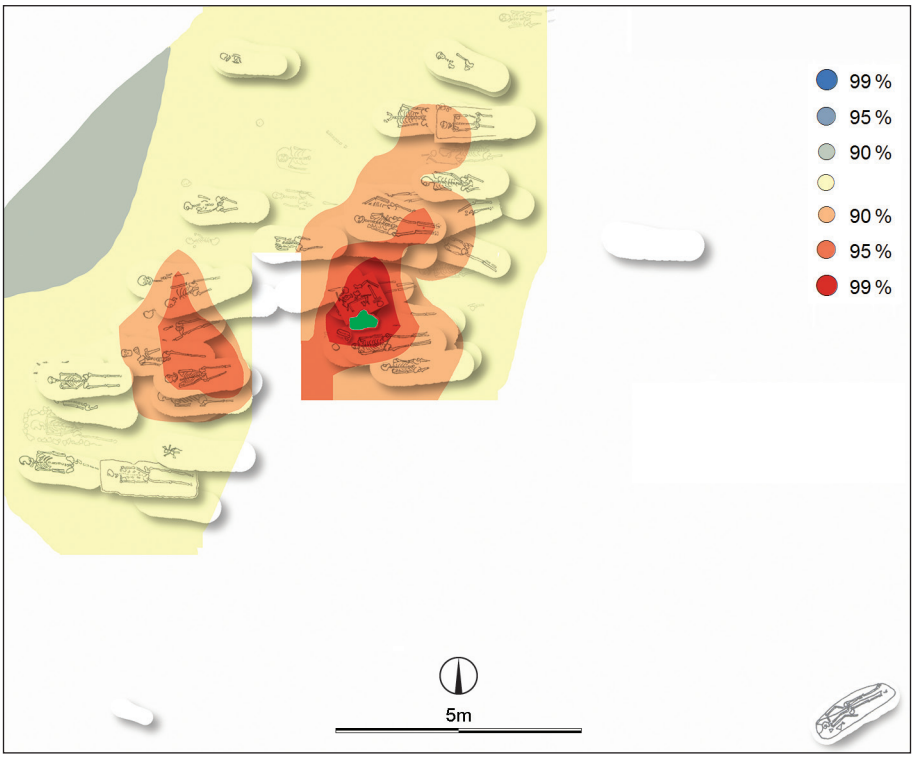

Fig. 58: Bled Island, hotspot analysis (red – hot, yellow – neutral, blue – cold) of burial density of cemetery group G1 (percentage refers to confidence level; method according to Achino et al. 2019) confirms that the burial around the fireplace (green) was the most intense.

situ) to its left and right. Comparable cemeteries often contained a separate area for children, for example, Mali Grad (Sagadin 2001; Štular 2007), Žale near Zasip (Pleterski 2014, 250–256 and Figure 3.3.6.17, as well as the literature cited there) and Dlesc near Bodešče (Pleterski 2014, 259–261 and Figure 3.3.6.31, as well as the literature cited there).

However, Grave 83 is isolated and does not appear to be the sole remnant of the children's section of the cemetery. As such, it is very similar to the Grave 41 of a child with female jewellery from the Dlesc cemetery near Bodešče, who was buried in the first generation and was avoided by later graves (Pleterski 2014, 259). Grave 83 from the Bled Island, too, is 3.7 m away from the next nearest contemporary grave and, judging by the grave goods, could belong to the first generation. Consequently, the most convincing explanation is that Grave 83 is an isolated grave of the Early Medieval cemetery, perhaps one of the graves of the first generation. This is supported by its location in the extension of the axis between the spring and the fireplace, which dictated the orientation and location of most of the first and second generation graves (***Fig. 50***).

The Early Medieval cemetery thus contains graves in rows and graves in clusters mostly located on the largest, relatively flat area of the Bled Island. Two important graves (72 and 83) are isolated from the rest. Four generations were buried in unmarked graves, in total at least 71 deceased. The homogeneous gender and age structure of the deceased indicates that a single community buried all (or most) of its deceased in this cemetery. This community never consisted of more than approximately 20 adults.

During the time of the burials of the second, third, and fourth generations, the fireplace in the central part of the cemetery became one of the focal points of the burial rites. As it is evidenced by charcoal fragments in four graves (18, 22, 46, 63), the fireplace was lit at least four times during the interment. The thickness of the burnt soil, ranging from 6 to 15 cm (Bitenc, Knific 2020a, 27), reflects the high temperatures caused by a large fire. Another indication that this large fire was lit during the interment is the fact that the fireplace was avoided by the graves.

Unfortunately, due to the small size of the cemetery and the non-stratigraphic excavation method, there is no data on whether a fire was lit during each interment. What can be demonstrated is that proximity to the fireplace was considered prestigious, as evidenced by a spatial analysis indicating the highest density of burials around the fireplace (***Fig. 58***; for the method, see Achino et al. 2019).

Another argument underlining the importance of the proximity to the fireplace is the secondary burial of cranial and long bones (Grave 39). The position of the bones proves that the disarticulated bones were placed in a rectangular recipient made of organic material, probably a wooden box. The secondary burial is reminiscent of High Medieval ossuaries, which is highly unusual in Early Medieval cemeteries.

It is also similar to reliquaries, for example, the one made of lime wood in the 5th century and found in a 6th century church at Hemmaberg in present-day Austria (Binder, Ladstätter 2019). However, the Late Antiquity reliquaries in the Alpine region are usually only half the size of the recepticle from Bled Island, which was about 40 by 80 centimetres.

The latest burial in this cemetery was that of a woman buried in the first decade of the 11th century (Grave 4). The orientation of the grave is parallel to the church building, which must have been already in place at the time of this burial, or at least its ground plan was already marked. This was a biritual burial, combining a pre-Christian element (grave goods) and a Christian element (orientation paralel to the church building).

Thus, the Early Medieval cemetery on Bled Island was used in the 10th century and the first decade of the 11th century. During this time the burial rite changed three times.

First, the initial generation of the deceased was buried in the first two decades of the 10th century perpendicular to an orientation axis connecting the fireplace and the spring. Such burial rite is known in several cemeteries from the period between the 9th and the end of the 10th century.

In the second generation, approximately between 920 and 950, efforts were made to align the graves in rows or arrange them in clusters. Some graves were carefully oriented towards cardinal east, which demonstrates a high degree of astronomical knowledge. The meaning of this orientation could not be determined, but the fact that it was the result of a conscious and deliberate decision was proven beyond doubt. The cemetery area expanded to cover all available space with deep enough soil.

Third, the last deceased was buried in this cemetery in the first decade of the 11th century. It was aligned parallel to the church building according to the Christian canon and contained jewellery according to pre-Christian rites.

So, the cemetery is a mixed ritual cemetery where three different burial rites were used. The changes follow each other chronologically and do not seem to overlap in time. To our knowledge, this is the first time such diversity has been documented in what is essentially a small and short-lived Early Medieval cemetery.

11.3 HIGH MEDIEVAL GUARDIANS

The stratigraphic phase that followed the Early Medieval cemetery was marked by the construction of the first wooden church in the pre-Romanesque style, dedicated to St Mary of the Assumption. The nave, with an area of 35.9 m^2, was just large enough to accommodate the members of a small congregation the size of that which used the earlier cemetery. This could be a coincidence, however, because it is not known which community used the cemetery or who built the church for whom. However, we do know that many details were taken into account when this church was built. The church was oriented precisely in the direction of sunrise on the calendar day of the church's patron saint, that is, on 15 August, when the Assumption of St Mary is venerated. The orientation possibly served a purpose: during the morning service on that day, the rising sun illuminated the altar, which certainly made a strong impression on churchgoers in a time of modest artificial lighting.

The building was planned according to the of Pre-Romanesque architecture guidelines, which stipulated that the interior should reflect the ratio $1 : \sqrt{2}$. This intent was abandoned because of the difficult terrain. The exact position of the church was chosen so, that the holiest part of the church, the apsidal area with the altar, was built over the most important grave of the preceding cemetery (Grave 72) and an even earlier spatial marker. From today's perspective, this may seem unusual or even destructive, but in the Middle Ages it was a common practise. In Ireland, for example, several Medieval churches were built over the central graves of earlier cemeteries because the bones of an important person were believed to offer protection to the church (Fry 1999, 67–68). Thus, the seemingly modest church of St Mary on the Bled Island had a powerful symbolic function. It combined the demonstration of the power of the new religion (the appearance of being able to control sunlight) with the reliance on pre-Christian power (protection by the bones of an important person). Another element of continuity in the construction of the first church is the above mentioned grave (4), which was dug parallel to the church.

Soon, perhaps after only a few decades, the small church was rebuilt. A somewhat larger building with an area of 52.3 m^2 was erected. The interior was painted with frescoes. The building was symmetrical, with the sides approaching a ratio of $\sqrt{3} : 2$, typical of the pre-Romanesque style. On the west side, the nave was later extended by a narrow room in the form of an irregular trapezoid.

Two graves were excavated right next to the two pre-Romanesque churches: Grave 71 next to the first church and Grave 67 next to the second. Analysis of ground plans and field diaries shows that Grave 71 is

the earlier of the two. At some point, it was exhumed and filled with soil. Exhumation can perhaps be understood in the context of the phenomenon known as the removal of a saint's body for relics (*cf.* Klevnas et al. 2021; Kjellström 2022). The only evidence that it originally contained a body are tiny fragments of human bones. After the Grave 71 was emptied and backfilled, the pit for Grave 67 was dug about half a metre further south, disturbing the northern part of Grave 71. These two graves are the only ones in whose backfill sand was found. The deceased in Grave 67 was the only one in the entire cemetery who was buried with his hands folded on his chest in prayer. The location of the two graves is particularly revealing: the earlier one (71) was immediately in front of the earlier church and the later one immediately in front of the later church, while both were most likely under the threshold of the respective church entrances (***Fig. 22***; also Šribar 1972, 391). Both were covered by a mortar pavement that contained numerous pottery fragments and animal bones in its lower part. This means that the pavement was laid directly on the remains of an activity related to the manipulation of foodstuffs. These activities took place after the backfilling of Grave 67 and before the laying of the pavement. Given that the pavement was intended to cover the grave, it can be assumed that the backfilling of the grave, the manipulation of the foodstuffs, and the laying of the pavement all took place in a relatively short period of time, i.e. they were all part of the interment. This then is direct evidence of a Christian burial rite involving manipulation of foodstuffs. There is evidence of such burial rites in Medieval written sources (Fry 1999, 93–94), and the term funeral feast is sometimes used to describe it (Makarovič 1995, 152).

The same pattern was repeated in Grave 118 from the next stratigraphic phase (Phase 3), which was contemporaneous with the third church built in the Romanesque architectural style. Grave 118 was carved into the bedrock under the threshold of the Romanesque church, had the traces of several reburials, and was overlaid with a mortar pavement (*cf.* Šribar 1966, 173–174, 228). Šribar (1966, 231) concluded that this grave had to be connected with the functionality of the south-western entrance of the church, i.e., the grave was under the church's threshold.

These three graves (67, 71, 118) thus share five characteristics. First, they were not part of the contemporary cemetery, but were directly connected to the contemporary church. Second, they were positioned under the church's threshold. Third, they had elements of ritual acts that occurred during interment (pottery and animal bones). Fourth, their location was marked with mortar pavement (which was the only paved surface outside the church at that time). Fifth, there were multiple manipulations of the remains of the body (exhumation of the body).

Burials of adults in prominent places outside church entrances are mentioned by two Irish medieval written sources, the first on the life of St Senán of Scattery and the second on the burial of the king's son Magnus in 1244 (Fry 1999, 170–171 with source references). The latter contains three elements of interest. First, the location under the threshold of the church was explicitly mentioned, which confirms its significance. Second, the church had been desecrated at the time of burial, which could be the reason why the grave was not placed inside the church. Third, the deceased died during an attack on the church and thus had a direct connection to it. Similar burials are also known from Merovingian Europe (Effros 2003, 212) and Early Medieval England (Kjølbye-Biddle 1975, 101).[28]

Based on the analysis of the sources, such burials can be understood as church burials of special significance, which were believed to ward off enemies or provide some protection for the church (Fry 1999, 170–171).

On the basis of these analogies, the graves under the thresholds of the Bled Island first three churches can be understood as burials with special meaning. The two earlier graves had a position as prestigious as the burials inside the church would have had. Thus, they might have been substitutes for the more common burials inside the church. Based on the Irish analogy one could assume that the church on the Bled Island was not (properly?) consecrated, just as the wooden church of St Mary of the Assumption in Lesce was not (properly?) consecrated until the middle of the 12th century.

The graves were thus clearly marked, but were nevertheless disturbed several times. Each time the entrance to the church was moved, a new grave with the same characteristics was created, the third more than a century after the first. This testifies to a continuing awareness of the special meaning of these graves; an enduring tradition rather than a one-off action following an extraordinary event such as the death of the king's son Magnus in the Irish example. Here, the location was more important than the deceased. The interpretation that churchgoers believed that these burials would provide additional protection to the church seems very likely. So, it can be said that the grave under the threshold was indeed believed to be the guardian of the church.

11.4 HIGH MEDIEVAL CHURCH CEMETERY

The third church was built from stone between 1080 and 1140 in place of the wooden church. It was built in the Romanesque architectural style in stratigraphic

[28] The author would like to thank J. Rihter for the information.

Phase 3. Stratigraphically contemporaneous with the thirdchurch were the graves located directly adjacent to the west wall of the church. I understand this compact group of 24 graves (***Fig. 18***: G4) with at least 42 deceased to be a High Medieval church cemetery. The position to the west of the church was unusual, as most Medieval cemeteries extended around the church (e.g., Predovnik, Dacar, Lavrinc 2008). The most prestigious locations were to the east of the church (near the altar) or near the entrance, which in this case is to the south. The unusual location of the Bled Island cemetery cannot be explained by a challenging geomorphology, because the graves were carved into the bedrock, which would be possible anywhere. The cemetery was most likely restricted to a small area west of the church due to other factors. One possible explanation is that the graves were located in the antechamber of the portico. Thus, in the eyes of the church regulations, this would not be considered a church cemetery, but burials in the church reserved for the affluent.

The structure of the cemetery provides us with further information. The graves (79–89, 92–96, 101–107, B04, B05) are characterised by deep pits, partly carved into the bedrock. There were six contemporary grave plots, two of which were for double graves.

Each grave was used for several reburials so that there are at least 48 individuals buried in the cemetery. With each new interment, most of the bones were removed or destroyed (the data are too scanty to distinguish between the two cases). Only in two tombs (82, 93) were the skulls of earlier burials carefully placed at the edge. The burials often disturbed neighbouring graves (e.g., 102 and 103 or 90, 107 and 94).

Taken together, the deeply cut pits, the reburials, and the secondary placement of the skulls are characteristic of tombs.

In addition to the six tombs, there is an additional grave on the southern edge of the cemetery (***Fig. 44***).

The complete absence of finds in the graves (with the exception of a ring) on the one hand, and the uniform position of the hands in the lap on the other, are indications that the bodies were probably naked and wrapped in a shroud. There are no pins, which means that the shrouds were either sewn or tied together (*cf.* Daniell 1997, 38–39, 45, 109, and 155).

There is another way of preparing the body of the deceased for a funeral that would leave the same archaeological traces: dressing the body of a monk, as described by Lanfranc (+ 1089) in his monastic guidelines (Fry 1999, 125-126):

> *The chamberlain should be present with grave-clothes of the right kind, thread, and a needle for sewing... When it is (the corpse) washed, shall be clad in a new shirt, or one newly washed, and a cowl; a head-cloth of linsey-wolsey belonging to the cowl shall be brought over this and attached in three places with thread. Gaiters of the same material reaching to the knees shall be put on the legs and night shoes on feet. The hands shall be sewn together from arm to arm, and round the legs likewise. So dressed, the corpse shall be set in the hearse and covered with a pall.*[29]

However, Bled Island was not a monastery and there are also women and children buried there. This is thus a cemetery of lay people, and it is unlikely that their bodies were prepared for funeral in the same way as those of the monks. Thus, the deceased from the Bled Island were most likely wrapped in a shroud. The uniformity of the bodies over almost two centuries demonstrates that this was a controlled action in which strict rules were observed, including the manipulation of arm posture. All this testifies that these were the tombs of a small, orthodox, and conservative community.

Forty-eight individuals in at least six generations means that on average eight deceased were buried per generation. This corresponds to the space available in four single and two double tombs. The number corresponds to a small social group in which men, women and children were equally represented, perhaps an extended family. Compared to the Early Medieval cemetery, this is half the number of people per generation, a clear indication that this was a different community.

Due to its continuous use for almost two centuries, the equal number of deceased in each generation, the balanced gender and age structure, conservative and orthodox burial rites, and the exceptional location near or even inside the island church, the entire cemetery can be understood as the burial place of a lay but pious social group of the highest social status in the local community. The local community at that time was, of course, the Bled estate, which belonged to the Bishopric of Brixen. The high social status of the cemetery community on Bled Island thus presupposes a very close connection with the Bishopric of Brixen, which is confirmed by the piety expressed in the burials. The most obvious choice is the family of a ministerialis, the estate manager.

The above archaeological evidence testifies that an interment in this cemetery can be imagined very much like an English depiction from the late 1400s (***Fig. 59***; *cf.* Hamilton 1980): the tomb, which has not been used for at least 30 years, has just been emptied; bones of earlier deceased lie scattered around, but do not disturb the small pious congregation led by a clergyman; laymen lover a body in a tomb; the body is wrapped in a funeral shroud, and a priest reads prayers over it from a juxtaposed missal.

[29] Translation Fry 1999, 125.

Fig. 59: Leicester (UK), Wygston house, 18 Highcross Street: detail of painted window panel glass, 1490–1500: Burial scene, long bones, probably human, scattered below beside a typical medieval wooden spade. The inclusion of the latter in the depiction is a clear indication of the indifference to human bones in a medieval cemetery
(source: https://www.storyofleicester.info/a-place-to-live/ wygston-s-house/; the window panel is kept in the Newarke Houses Museum, Leicester).

In addition to this clearly delimited cemetery there were seven other stratigraphically contemporaneous graves whose position was directly related to the church. Some of the graves are located in the southeast part of the church, while others are outside, just south of the apse.

The grave with the most direct connection to the church was Grave 120. It was located east of the altar in the central axis of the apse. To understand the exceptionality of this burial, one must be familiar with the rules about who could be buried in a church and where.

Mediaeval Christian interment rituals and ceremonies had evolved from various pre-existing traditions. Thus, Christian interment was not uniform, as different authorities interpreted God's will differently. The 12th century Camaldolese monk Gratian was one of the first to summarise laws on burial in his *Decretum* (e.g., Landingham 1993). He turned to a statute of the Council of Mainz of 813 to answer the question of who can be buried in a church:

> *Nullus mortuus infra ecclesiam sepeliatur, nisi episcopi, aut abbates, aut digni presbiteri, vel fideles laici.*[30]

This rule excluded practically no one but the poor and it realistically reflected practices in the Middle Ages, where the rich and powerful competed for the best burial places.

Regarding where exactly, burials in churches were restricted to the area in front of the portico (a vestibule, lat. *porticus*; *cf.* Sorries 2003, 35) and in vicinity of, but by no means under the altar (Fry 1999, 169–170; Hartmann 2003, 137–138; Schlokmann 2003, 204; Krznar 2012, 26). This tradition is exemplified by the order of Theodulf of Orleans (+ 818):

[30] Decretum 13 q. 2 c. 18 (Translation Landingham 1993, note 25): No one shall be buried inside the church, except for bishops, abbots, worthy priests, or faithful laymen.

Prohibendum etiam secundum maiorum instituta, ut in ecclesia nullatenus sepeliantur, sed in atrio aut in porticu aut exedra ecclesiae. Infra ecclesiam vero autprope altare, ubi corpus domini et sanguis conficitur, nullatenus habeat licentiam sepeliendi.[31]

Theoduf's decree was still observed at the beginning of the 11th century, when it was included in the work of Burchard of Worms (Hartmann 2003, 134) and it was not overlooked by Gratian in the 12th century. In the Late Middle Ages and even more so in the post-Medieval period, the rules became more relaxed, but the immediate vicinity of the altar was still the most esteemed position (Rodwell 1989, 153–160; Scholkmann 2002, 212–217).

To be specific, the most prestigious position among the already prestigious burials inside of the church was to the east of the altar (Hartmann 2003, 134; Pedersen 2003, 172; Scholkmann 2003, 206–210; Wemhoff 2003, 102–103; Kenzler 2015, 150). The exceptionality of the position is highlighted by Bede the Venerable in the parable about an Irish saint Fursey.

For the first 27 days after his death, Fursey's body lay in the portico. When the people went to bury him near the altar, they discovered that the body had not yet begun to decay, and after four years they moved him, his body still in pristine condition, to a newly built church to bury him to the east of the altar (Miller 1999, 99). The parable shows that Fursey, a venerable missionary, was to be buried near the altar. However, when his body did not decompose, indicating that he was a saint, a new church was built. St Fursey had to be buried immediately east of the altar. In other words, any burial near the altar is exceptional, but a burial east of the altar and sometimes referred to as the founder grave (e.g., Halsall 2009, 211–212 and 372) is unique.

Consequently, one should expect a cleric of exceptionally high status in Grave 120. This is further emphasized by the fact, that the above described tombs in the High Medieval cemetery were in the antithetical position to Grave 120. This was no doubt a deliberate connection symbolising the shepard (a priest or a bishop) and his flock (lay population). But it was a child who was buried there (Bitenc, Knific 2020b, 324–325). This makes the grave unique, not only on Bled Island but also in the wider context of the European Middle Ages.

There are thus two graves that have a strong and direct connection to the third church: „the guardian" in Grave 118 and "the saint" in Grave 120. The chronological relationship between the two is and will likely remain unknown (unless new, currently unknown methods of dating emerge). Regardless, these two graves were a strong element of continuity between the pre-Romanesque first and second churches (Phase 2) and the Romanesque third church (Phase 3). "The guardian" (Grave 118) reflects the old tradition, and "the saint" (Grave 120) the beginning of a new tradition.

There were six more graves (65, 66, 68, B05, B04) in the church. Most were badly damaged by the subsequent construction works. The exceptions were Graves 65 and 66 positioned near the altar, whose pits were carved into the bedrock. Grave 109 was positioned outside the church, just south of the apse. The body was laid at the bottom of the grave pit cut in the bedrock and the backfill contained numerous bones from disturbed graves. At least one other unexcavated grave lay to the south of it and was badly damaged during the subsequent construction works.

There are no archaeological data to unequivocally date these six graves. The only element that can help in dating is that they are stratigraphically contemporaneous with the third chur. The only thing that can be said about these graves is that they are High Medieval burials in prestigious locations within or immediately adjacent to the church. Judging by the small number of graves and their positions, they are not a separate cemetery or a separate part of a cemetery, but individual graves. As mentioned above, the graves inside the church are likely those of important ecclesiastical figures, while the graves outside could belong to high-ranking lay people who earned or paid for a position of honour (*cf.* Fry 1999, 170). For example, some of the late 12th century donors to the provostry of Bled Island could be among them.

All graves of this phase are directly related to the church building and thus to the Church. They can be described as church graves.

11.5 LATE MEDIEVAL AND POST-MEDIEVAL CHURCH GRAVES

The Late Medieval graves are located in the south-east part of the church or outside, directly south of the apse. These graves are stratigraphically contemporaneous with the Late Medieval church, which was built in the Gothic style (Phase 4).

Five graves (90, 91, 98–100) with the remains of at least 11 individuals were located next to the south wall of the church. Furthermore, a single grave (119) was located on the outside of the south wall of the portico. Its unusual north-south orientation is perpendicular to the church wall and suggests that it was marked with a gravestone set into the church wall. All six of these graves with 12 individuals can also be described as

[31] Capit. I.11. (Translation B.Š.): It is forbidden according to the institutions of the ancients, that bodies could be buried in the church, only in the churchyard, or portico, or in the apse of the church. No one may be buried inside the church or close to the altar, where the body and blood of the Lord are prepared.

church graves, possibly belonging to lay people of high social status.

Two graves (69 and 70) lie under the western gallery in the northwest part of the nave. They are of Post-Medieval and possibly Modern era date, as they are stratigraphically later than the last reconstruction of the stone floor in the nave. They are also church graves.

11.6 CONCLUSION

Based on the archaeological evidence it can be concluded that the object of a pre-Christian worship on the Bled Island of supralocal importance was the spring. Judging from the analogies in the written sources, it is likely that the spring was positioned in a grove or at least in the shade of a tree. The vegetation on the island and the appearance of the island seen from the mainland were thus probably similar to today, only without the church and stairs (***Fig. 10***). Ritually connected to the spring was a nearby place of special meaning, which in the 10th century was marked with a green stone. There is no direct archaeological evidence on when this place gained its special meaning. The only direct chronological clue is a pit under the stone, carved into the bedrock and surrounded by prehistoric pottery and an axe with a polished surface. Consequently, it is fairly safe to assume that this part of Bled Island held a special meaning long before the 10th century, perhaps since prehistory.

Indirect evidence of pre-Christian worship on Bled Island predating the cemetery may be the recently discovered of a watercraft, specifically a logboat or monoxylon. It was discovered sunk in the lake on the shore of the island and C14 dated approximately to the second half of the 8th century and the beginning of the 9th century CE. The current working hypothesis of the researchers working on its recovery is that the logboat was submerged on the shore of the isle for safe-keeping, but was never recovered (Gaspari, Humerca, Žvan 2021; ZVKD 2022). This finding is therefore a direct evidence of activity on the Bled Island, since someone was obviously visiting the isle. However, it does not provide direct evidence of the nature of the activity. In the context of the archaeological evidence presented in this volume – which testifies only to ritual activity, whereas the settlement activity is highly unlikely given the restrictive geomorphology of the isle as reconstructed – the most likely inference is that pre-Christian worship on the Bled Island was already taking place in the second half of the 8th century and the beginning of the 9th century.

In the early 10th century, a small community began to bury their dead in the flat area between the spring and the green stone. The original design of the cemetery symbolically connected it with the spring, which was worshipped on the island, and with the central place of the world of the dead in the Early Medieval landscape of the area around Bled, the Višelnica bonfire site. Archaeological evidence of this symbolism is embodied in what is probably the most important Early Medieval grave (72) on the Bled Island. The deceased was buried with his legs right next to the green stone, and the grave was oriented with its side facing the Višelnica bonfire site. Other archaeological evidence of this symbolism is the carefully selected locations of three first-generation burials and the fireplace where the fire burned during (some of) the burials. The second generation reorganised the cemetery. They arranged the graves in rows. Some faced the cardinal east, suggesting considerable astronomical knowledge. The last interment in this cemetery occurred in the first decade of the 11th century. The deceased woman was placed in the grave with jewellery, but the orientation of the grave already corresponded to the orientation of the first Christian church. Thus, this was a biritual burial, in which both the pre-Christian (jewellery) and the Christian (orientation) rites were followed. It was the only biritual burial on the Bled Island and at the same time the last deceased from this community to be buried on the islet.

In the first decade of the 11th century, probably shortly after the Bishopric of Brixen formally received the Bled estate in 1004, a small wooden church was built on the island. It was dedicated to the Assumption of St Mary, and it was carefully placed so that its holiest part, the apse, stood directly on the earlier place of worship marked with the green stone. This was by no means accidental. Rather, it was entirely in keeping with the customary procedure of the time to Christianise pre-Christian places of venerated springs. A burial under the threshold, the guardian, offered symbolic protection to the church.

Despite its apparent modesty, the construction of the church required some cutting-edge architectural and astronomical knowledge at the time. The alignment with the sunrise on the day of the Assumption is material evidence that vividly demonstrates the difference between the pre-Christian and Christian models of placing religious objects in space. The pre-Christian model is multicentric and strives to accommodate as many direct connections to the divine as possible. In this case, this was expressed through the connection of the cemetery to the venerated spring, the venerated green rock, and the wider mortuary landscape. In the Christian model, the connection with God is monopolised and centralised in the church. The church is not connected to a place in the landscape, but symbolically directly to the Divine.

On the Bled Island, the symbolic connection to the Divine was established by the astronomical orientation of the church according to the sunrise on 15 August.

However, this direct connection existed only for those who were attended the service that was held in the church building each year on that day. And access was controlled by the Church. In particular, it seems that only pilgrims with offerings were allowed entry. In this way, Christianity legitimised the concentration of power (***Fig. 60***; *cf*. Fabech 1999, 469–470).

After only a few decades, the original wooden church was demolished and replaced by a slightly larger and more decorated building made (partly) of wood. This church was also protected by the burial of the guardian. To the west of the church, in the shadow of sunrise on the day of the Assumption, a small community of mixed gender and age buried their dead. The community was orthodox and conservative, which was reflected in the strict observance of the same rules for Christian burials for almost two centuries. This and the exceptional location of the islet mean that this community belonged to the circle of those who were involved in the administrative and defensive apparatus of the Bishopric of Brixen.

After almost a hundred years, perhaps in the second decade of the 12th century, the wooden church was demolished and the construction of a new stone church began. It was a relatively ambitious Romanesque architecture, whose area was more than three times that of its predecessor and which changed the image of Bled Island forever. The islet with a small church near a spring in a grove was transformed into the church on an islet. Immediately east of the altar, the holiest place in the Christian world (usually reserved for saints or at least bishops), a non-adult person was buried in the new church. The continuity with the old church is reflected in the burial of the third guardian and in the continued burials to the west of the church.

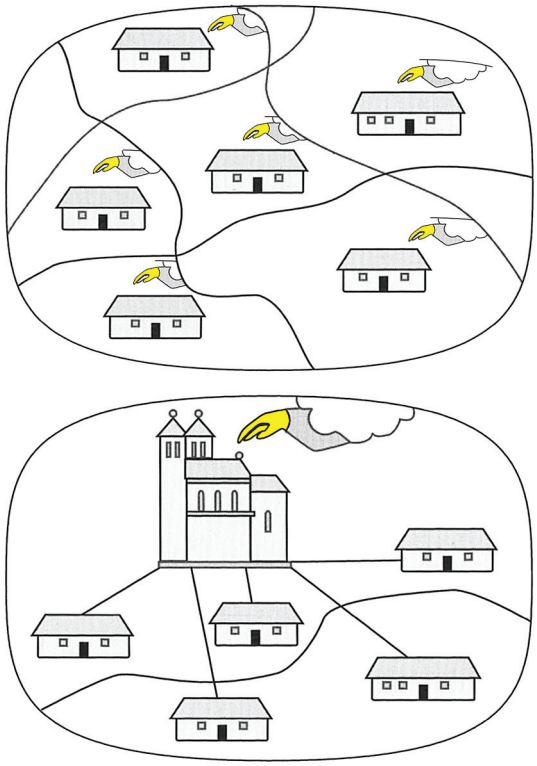

Fig. 60: Illustration of the differences in centrality between the pre-Christian (top) and the Christian (bottom) landscape. In the pre-Christian cosmos, the farm was a nodal point that provided direct access to the gods, and no place was ranked above the others. In the Christian cosmos, the communication with God was only possible in church. Christianity legitimised the concentration of power mostly in the churches and thus the Church representatives controlled access to God (by B. Štular; source: Fabech 1999, Fig. 12).

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