

Structures in the Area of Lauterhofen in Bavaria

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Lauterhofen lies northwest of Regensburg in Germany. A necropolis dating to the second half of the 7th and the first half of the 8th centuries is situated here. The area of the cemetery is organized such that the place of burial could symbolize the gender, age and social status of the deceased. The measuring system of the necropolis corresponds with religious and astronomical foundations and furthermore, it repeats itself in the topography of the mythical surrounding landscape.

The Late Merovingian necropolis on the Geißäcker field in Lauterhofen, northwest of Regensburg, lies in the direct vicinity of territory that Slavs formerly settled (cf.: Losert 1993, Abb. 3). Investigations proceeded during the period between 1953 and 1960. A total of 91 graves were documented under the numbers of 1 to 86. The cemetery was excavated almost in its entirety; only in the northwestern section, does there remain the possibility that some grave may have “escaped” the attention of archaeologists (Dannheimer 1968, 38). Following the analyses of the artefacts, graves and site in a spatial and historical context, the author of the publication suggests the period between 670 and 750 AD as the time of burial. The upper time limit of the cemetery is determined historically. The necropolis was presumably abandoned once burials were carried out alongside the newly constructed church of St Martin in Lauterhofen. The latter may have come into existence as a component of the new kings’ court in the mid 8th century (Dannheimer 1968, 41, 56, 61, t. 25: 1). The data for our analysis originates from Dannheimer’s publication and was further supplemented with a review of the finds preserved in the Historisches Museum in Regensburg. The orientation of the graves was measured according to the plan of the necropolis. Dannheimer fails to cite how North was determined on this plan, however as it also includes geodetic data (the plot borders, boundary stones, houses), presumably North is not magnetic, determined only by a compass, but rather geographical. As such, our measurements cannot deviate substantially from the actual situation. Dannheimer attained his basic anthropological data regarding gender and age, which were thereupon published in a separate monograph, from Kurt Gerhardt (Gerhardt 1975).

Structures within the necropolis area

Methodology

Burials take place in time and space according to certain principles of human activity. **This is a dynamic system, where the distribution of characteristics depends upon**

the space, time and human principles at the time. Our focus shall be upon those groups of characteristics, where the structure of their distribution within the necropolis is repetitive. The repetition of apparently congruous structures enables us to distinguish – at least in idealized form – the actual existing historical structure, which may then also be interpreted (cf.: Pleterski 2002, 7; Pleterski 2002a, 67).

Results

Already upon first glance of the necropolis plan, it is obvious that the buriers conformed to certain rules. The majority of graves are distributed in parallel lines. Drawing a line amongst the graves (*fig. 1*), and cutting through as few grave pits as possible, reveals at least five. Parallel, they run precisely in a north-south direction. If the buriers knew how to determine this direction with such precision, then its perpendicular, the west-east direction, certainly did not present a problem either. It is not surprising then that the histogram showing the orientation of graves (*fig. 2*) first peaks near the direction 90°. Graves oriented strictly west-east are more or less absent in the northwestern and southwestern sections (*fig. 1*). Furthermore, this orientation is in no connection with the time, gender or even age of the deceased individuals.

The composition of a rectangular structure is discerned (*fig. 3*) by the graves 29, 31, 40-42, 45, 46, 57, 60, 68, 70-72, 74-76, 78. These graves lie along three lines, two of which are parallel (*fig. 3*: I, II) and one which is perpendicular to the latter two (*fig. 3*: III).

The graves with stratigraphic relations (*fig. 4*) also demonstrate the existence of line II. They also evidence the line IV, which runs parallel to line I and perpendicular to lines II and III. This also leads to the possible explanation of the origin of stratigraphic relations. The positioning of the grave along lines II and IV was more important than the prospect of damaging the earlier grave. The latter grave was perhaps insignificant. Furthermore, the space for the earlier grave had the additional advantage, as was evidenced by the graves in the northern section in particular, of having enough room for burying one alongside another. Graves 18 and 20 demonstrate the potentiality of there being yet another

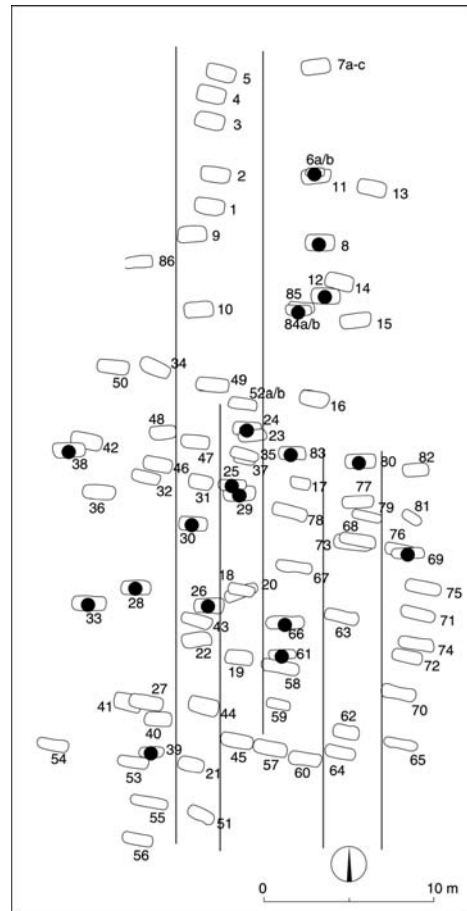


Fig. 1. Lauterhofen. Rows of graves and graves with an orientation of 88° - 92°.

Sl. 1. Lauterhofen. Vrste grobov in grobovi s smerjo 88° - 92°.

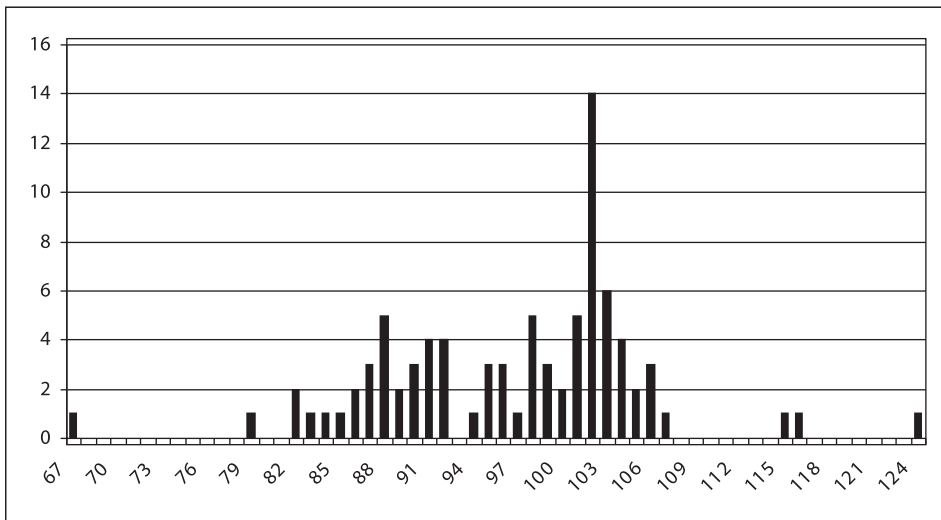


Fig. 2. Lauterhofen. Orientation of graves. The height of the column shows the number of graves for each deviation from North.

Sl. 2. Lauterhofen. Smeri grobov. Višina stolpca kaže število grobov posameznega odklona od severa.

measurement line V. Its probability augments with the distribution of graves according to the gender of the deceased (fig. 5).

Line V divides a group of male graves 63, 67, 71, 74, 75 from a group of female graves 58, 59, 61, 62, 66, 72. The intention to distribute males and females in separate groups is also evident otherwise. The space of the necropolis was thus arranged in groups. Consequently, a more probable explanation for the exceptionally small number of child graves is that deceased children were buried elsewhere, as opposed to the supposition that the child graves were so shallow that ploughing in later centuries entirely destroyed them. Klaus-Dieter Dollhopf does indeed contradict the existence of a separate children's necropolis; supposedly none have been discovered in southern Germany as of yet. At the same time, following his investigation of the depths of child and adult graves at a series of necropolises, he determined that the alternate explanation of the researched examples also fails to hold true (Dollhopf 2002). Furthermore, the anthropologist Kurt Gerhardt cautions that the number of child graves at the neighbouring Early Medieval necropolis alongside the church of St Martin in Lauterhofen is exceptionally high: of the 51 deceased, 15 are new-born children (Gerhardt 1975, 18).

The earliest graves (check: Pleterski, Belak 2004) are distributed more or less in a line across the entire area of burials (fig. 6). This row is so distinctive that it also serves to determine the measuring line VI. This latter line cuts through line IV right where graves 24, 29, 31, 47 and 49 are situated. As such, this area possesses a special appeal and it is not surprising that already Dannheimer interpreted this area as the core of the necropolis. Grave 45 lies at the intersection of lines III and VI, and grave 41 at the intersection of lines III and IV, which clarifies its marginal position.

Later graves cover the greater portion of the necropolis (fig. 7). It is noticeable that, west of line IV, they lie primarily near the intersecting line II. All the graves reliably dated to the latest period are positioned at the margins of lines II and IV. This is perhaps the

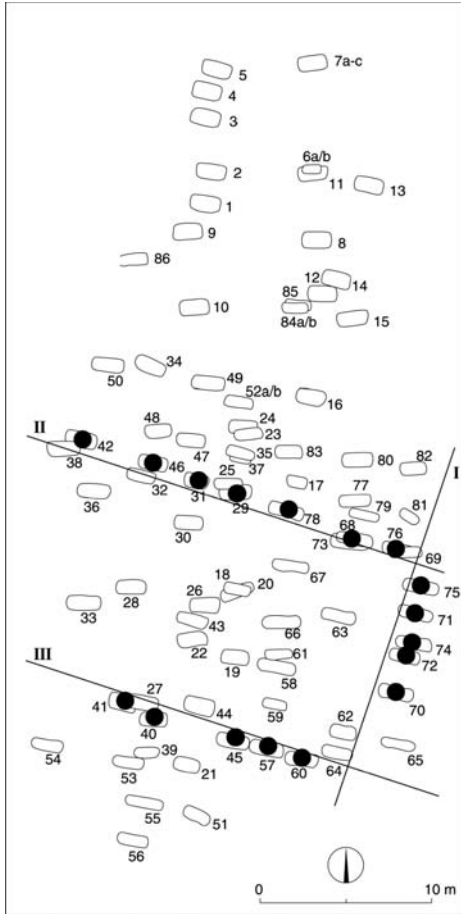


Fig. 3. Lauterhofen. Graves composing a rectangular structure.

Sl. 3. Lauterhofen. Grobovi, ki sestavljajo pravokotasto strukturo.

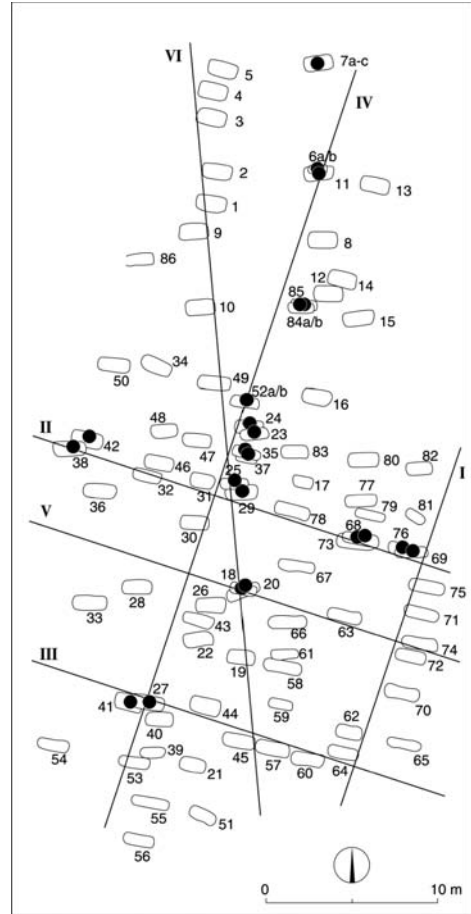


Fig. 4. Lauterhofen. Graves with stratigraphic relations.

Sl. 4. Lauterhofen. Grobovi, ki so si v stratigrafskih odnosih.

result of these graves having to have been determined stratigraphically, and all such graves are situated along the above-mentioned intersecting lines. What is more extraordinary is that shallow graves are also concentrated along these intersecting lines (fig. 8).

Some such graves are indeed attributed to the later group of graves in stratigraphic position (fig. 4), however the basic impression continues to hold. Shallow graves distributed as such counter argue that they would be the result of a subsequent transformation of the surface, which might have coincidentally “known” where the measuring lines intersect.

Graves with clasp knives and fire striking tools (fig. 9) are also positioned along lines II and IV. All these graves are male graves from the later period.

Male graves with arrowheads also conform to the network of measuring lines (fig. 10).

The distribution of male graves with swords, spurs and belt sets of many parts is also typically along the measuring lines (fig. 11) and especially as regards the concentration at

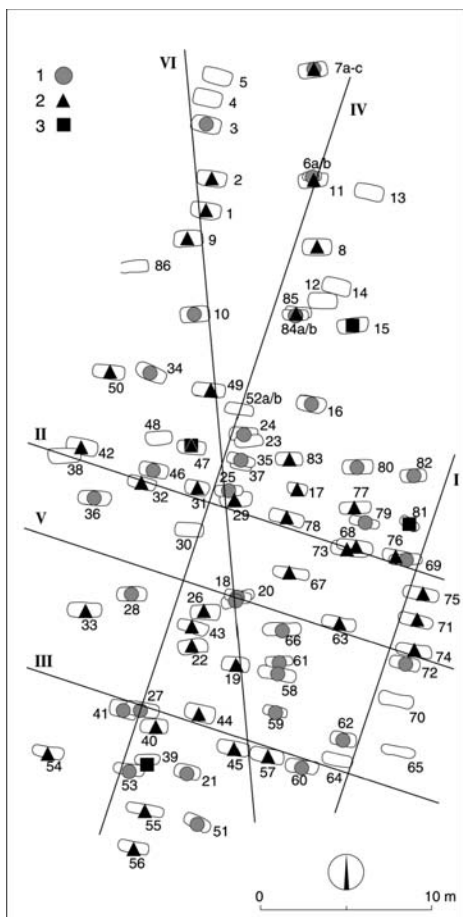


Fig. 5. Lauterhofen. 1 - females, 2 - males, 3 - children.
Sl. 5. Lauterhofen. 1 - ženske, 2 - moški, 3 - otroci.

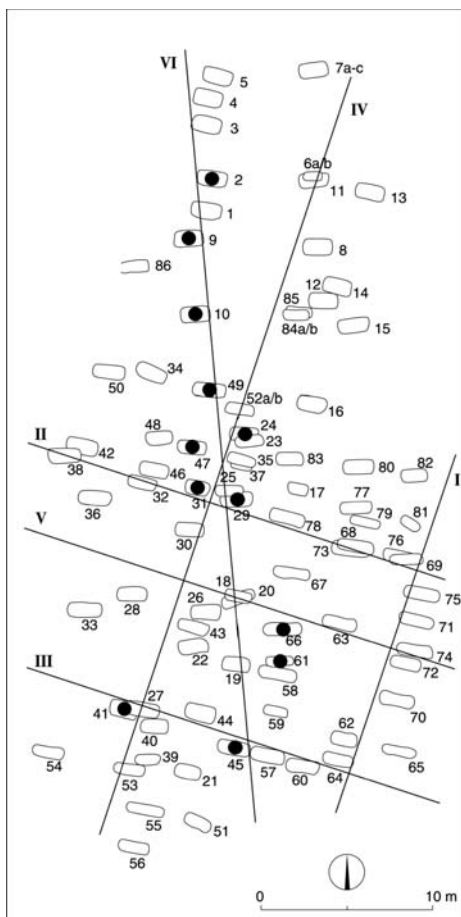


Fig. 6. Lauterhofen. The earliest graves.
Sl. 6. Lauterhofen. Najstarejši grobovi.

the intersection of the main lines IV and VI. This significance is probably also connected with the find of a spur adjacent to graves 23 and 24. Parts of the belt set from grave 59, the positioning of which somewhat deviates from the rest, were found in secondary use in a female grave.

Deceased individuals with at least one folded arm also correspond to the measuring lines II and VI (fig. 12).

Line IV also delineates the area in which elderly individuals were buried (fig. 13). Aside from three exceptions, all graves with elderly individuals were situated east of the line. However, if individuals who died after approximately 50 years of age are regarded, then all such graves are positioned east of line IV.

Two groups of grave orientations were established already above (fig. 2). We have already reviewed the west-east orientation (fig. 1). The second group of grave orientation remains to be reviewed; this group has a declination of 102° from North (fig. 14). Graves attributed to this group are distinctively concentrated along the measuring lines I, II and III. Consequently, this grave orientation also carried a symbolic significance.

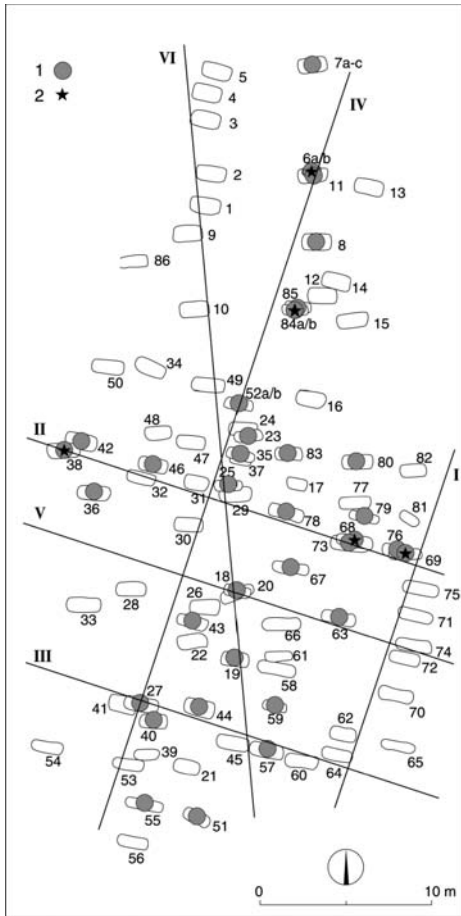


Fig. 7. Later graves. 1 – from approx. 690 onwards, 2 – from approx. 720 onwards.

Sl. 7. Mlajši grobovi. 1 - od okoli 690 dalje, 2 - od okoli 720 dalje.

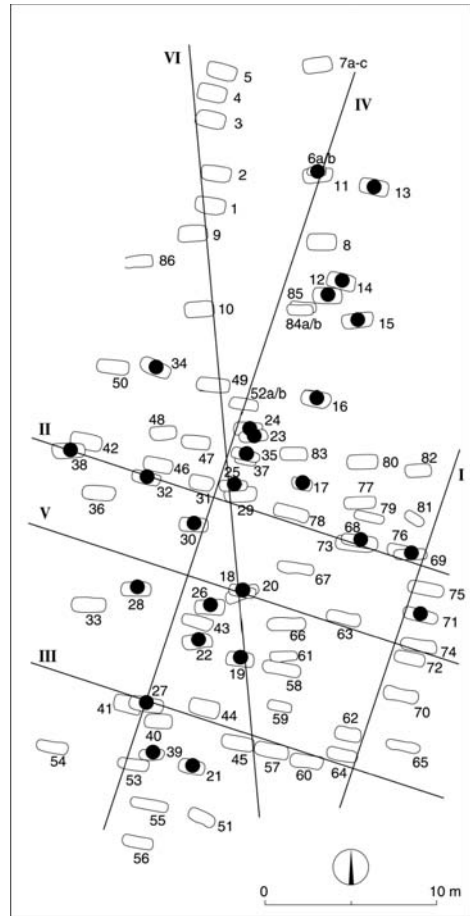


Fig. 8. Graves with a depth of less than 30 cm.

Sl. 8. Grobovi z globino manjšo od 30 cm.

Discussion

Some groups of graves demonstrate the presence of the measuring network (fig. 15), which also aided in establishing the space of individual burials. The positions of the lines are determined by the graves that border them. If graves are situated along both sides of the line then its position is determined with relative precision, i.e. line VI (fig. 6). The group of earliest graves established this line, which further confirms the reliability of our chronological classifications. Where the graves are aligned along only one side of the measuring line, this line may be placed on one or the other side or even through the middle, i.e. line I (fig. 3). Consequently, the reciprocal distances between the parallel lines are not reliable, although their orientation is. It is highly likely that there are even more measuring lines, however only the more convincing ones are presented: I (fig. 3, 14), II (fig. 3, 4, 5, 7, 8, 9, 12, 14), III (fig. 3, 10, 14), IV (fig. 4, 7, 8, 9, 13), V (fig. 5), VI (fig. 6, 10, 12). The effort to bury

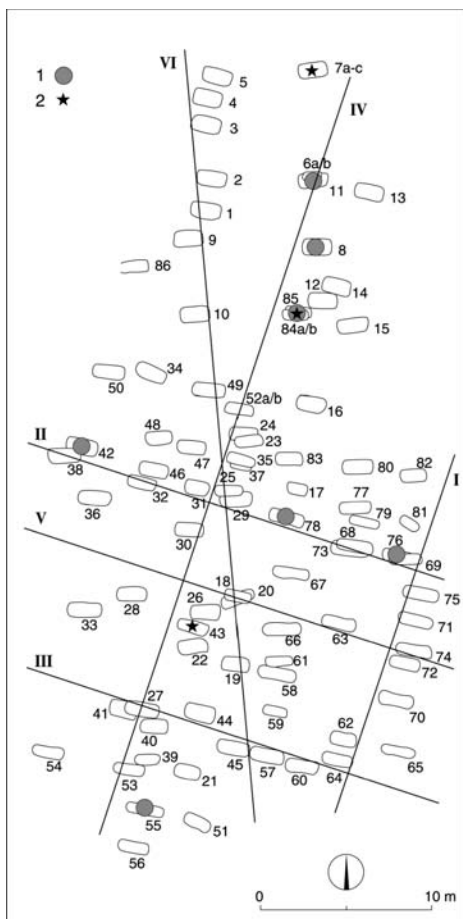


Fig. 9. Lauterhofen. 1 - clasp knife, 2 - fire striking tool.

Sl. 9. Lauterhofen. 1 - zaklepní nož, 2 - kresilno orodje.

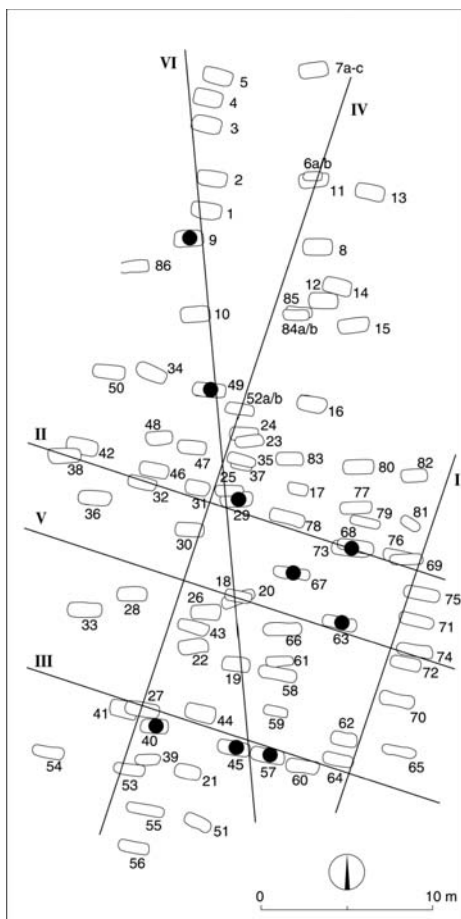


Fig. 10. Lauterhofen. Arrowheads.

Sl. 10. Lauterhofen. Puščice.

males along the lines, especially those containing grave finds of clasp knives, fire-striking tools (fig. 9), arrowheads (fig. 10), spurs (fig. 11), is evident. Two burials with swords are situated at the intersection of two lines (fig. 11). The correlation between the positioning of female graves and the measuring lines is different. The lines only help to establish the areas in which groups of females were buried (fig. 5). Line IV plays a similar role in establishing the limits of social groups as it represents the western border of burials of individuals older than approximately 50 years (fig. 13). Hence, it represents a division regarding age, independent of gender. Similar holds true for burials oriented at $\pm 102^\circ$ and distributed along the lines I, II and III (fig. 14), which is undoubtedly not coincidental. Nor does it seem coincidental that all the deceased with a folded arm are buried along the lines II and VI (fig. 12).

There are also groups of graves that do not show any correlation to the measuring network. One such group, located in the eastern central part of the necropolis, is of male graves with a needle. Female burials with yellow beads are positioned in the central part

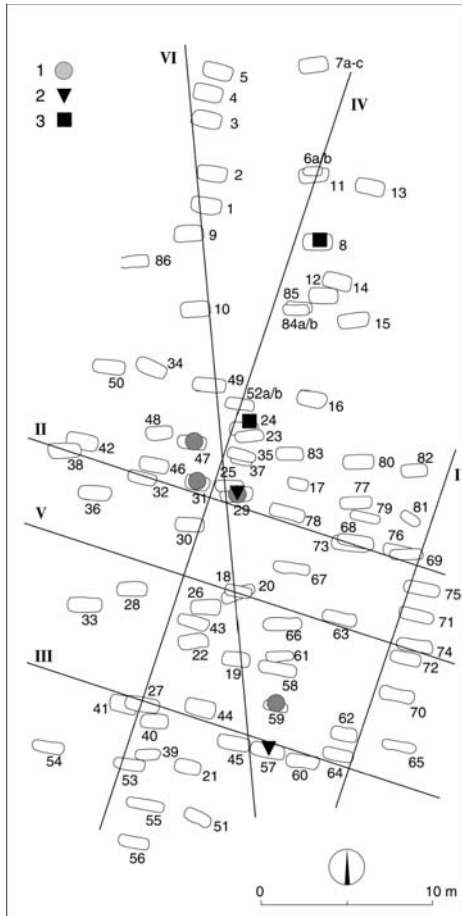


Fig. 11. Lauterhofen. 1 – many parts belt set, 2 - sword, 3 - spur.

Sl. 11. Lauterhofen. 1 - mnogodelni pasni sestav, 2 - meč, 3 - ostroga.

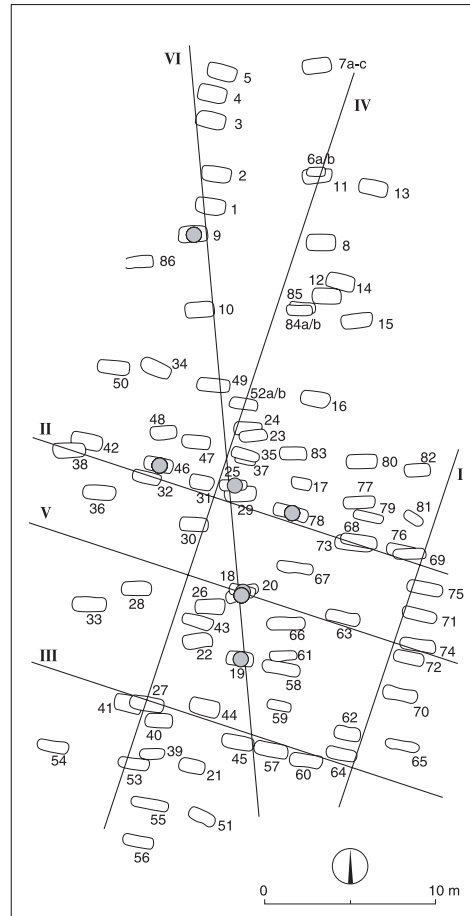


Fig. 12. Lauterhofen. Folded arms.

Sl. 12. Lauterhofen. Zapognjene roke.

of the cemetery, and further south a group of graves bearing bracelets, two fibulae and a fingerring, connects.

The row of female graves 58-61 and 66, delimited by the lines III and V, are exceptional as regards their inclusion of a knife, earrings and black and blue beads; at the same time, these graves are also all oriented north-south (*fig. 1*). The hypothesis that these females were of similar identity is further substantiated by the anthropological determination that the two deceased individuals in graves 60 and 58 each had a scaphoid-cephalism, which as a hereditary factor even establishes the possibility of kinship between the two (Gerhardt 1975, 13-14 and 52).

Therefore, it would seem that the gender and age of the deceased influenced upon where the grave would be situated, as well as the social standing and affiliation to a particular identity group. As such, the necropolis area represents a chessboard of interests, which measuring lines additionally helped to arrange. Measuring lines played a similar

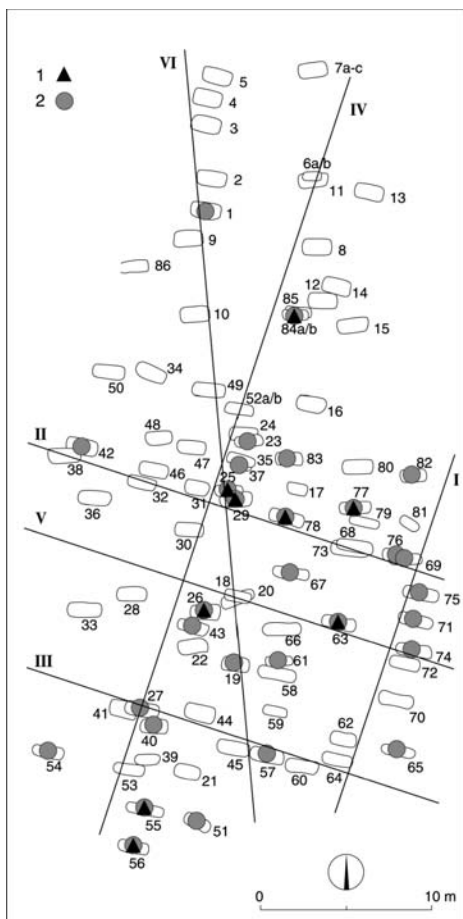


Fig. 13. Lauterhofen. 1 - *maturus* II or *senilis*, 2 - *maturus* or *senilis*.

Sl. 13. Lauterhofen. 1 - *maturus* II ali *senilis*, 2 - *maturus* ali *senilis*.

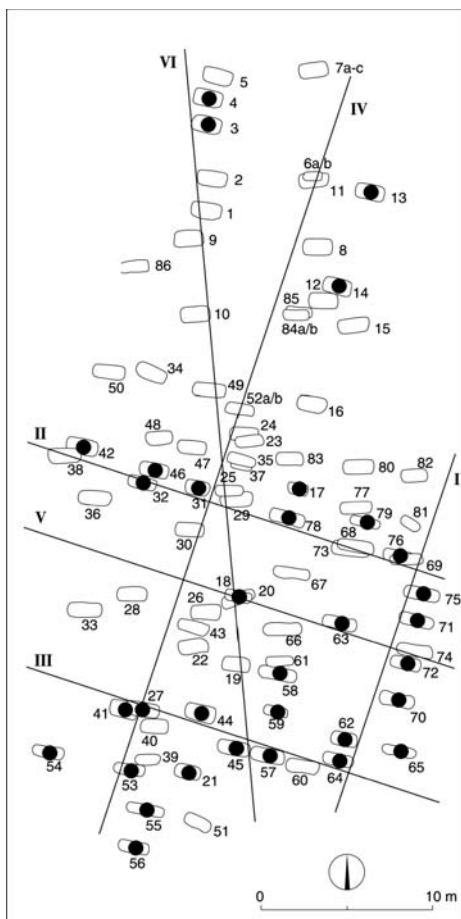


Fig. 14. Lauterhofen. Graves with a declination of 100° - 105° from North.

Sl. 14. Lauterhofen. Grobovi z odklonom od severa 100° - 105° .

role in Altenerding (Pleterski 2002a, 187 pgs). A rectangular structure comparable to that delineated in Lauterhofen by lines I, II and III would at Altenerding correspond with the space of individual groups of inhabitants military organized (Pleterski 2002a, 113 pgs).

If the black-and-white explanation - that graves with goods are pagan and those without are Christian - is rejected (its critique for the southern German area: Schülke 1998; 1999; 1999/2000) and if the possibility that older funerary customs continued on for some time after the formal advent of Christianization is accepted (cf.: Pauli 1978, 156-157), then it seems perfectly plausible that all those buried at Lauterhofen were already Christians. Ludwig Pauli advocates that the mixing of old and new is clearly illustrated in the instance of graves 60 and 58 at Lauterhofen, where he hypothesizes that amulets, bearing also Christian symbols, were used in an attempt to hide the deformity of the deceased female (Pauli 1978). The significance of the cross that the lines II and IV delineated is evident; it also seemed to emit a particularly alluring force on the graves (fig. 4, 7, 8,

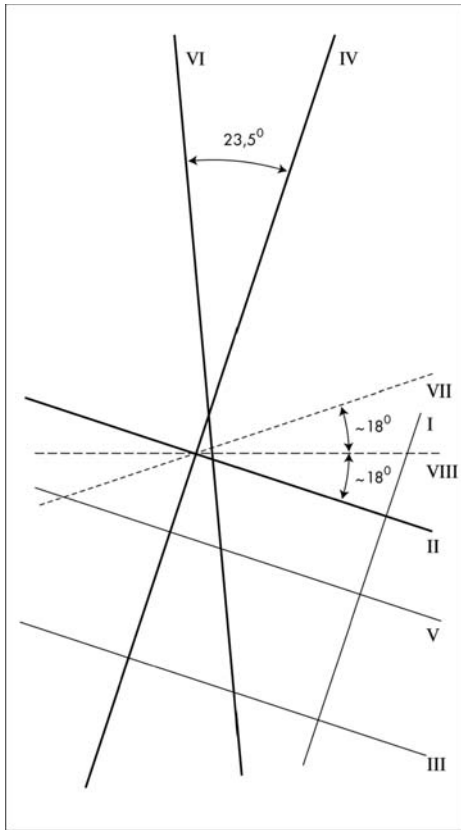


Fig. 15. Lauterhofen. Measuring network.
Sl. 15. Lauterhofen. Merska mreža.

9). Two similar crosses from the 7th century were discovered also at Altenerding and associated with the Christian ideology in effect at the time (Pleterski 2002a, 212 pgs, fig.: 172, 188, 193). The orientation of the cross was known already in the earliest period of burial (fig. 6).

The orientations of the measuring network are also of some consequence to us. The apparent discordance of the orientation of line VI with those of the other lines is particularly striking. Establishing an angle of 23.5° with line IV (fig. 15), this angle has a symbolic significance (the explanation is below) and as such both directions are components of the same system. The perpendicular line II crossing line IV deviates 18° from the west-east direction (fig. 15: VIII). That this is an astronomic direction with the significance of a calendar shall be demonstrated below. Perhaps there was also its mirror-twin (fig. 15: VII), which the graves 26, 20, 67, 73, 81 and the unusual orientation of grave 20 all suggest.

Perhaps the measuring network is only wild speculation? There is a way to test this. If there was indeed a measuring network, then it is more than likely that those who established and used it also arranged the wider

area in a similar manner. To the merit of Hermann Dannheimer, who incorporated an excellent historic-geographic context for the necropolis in his publication, we now have the prospect of researching analogous measurements at the necropolis on the Geißäcker field, with others from Early Medieval sites in Lauterhofen.

The measuring arrangement near the necropolis

Methodology

The angle of $\pm 23.5^\circ$ and the 18° deviation from the west-east direction are the object of investigation. The following explanation is currently the most likely: the angle $23.5^\circ \pm 1.5^\circ$ represents the difference between the height of the noon sun during the equinox and both solar solstices. This difference occurs because the Earth's axis is not perpendicular to the plane of its orbit around the sun; rather it is inclined at the above-mentioned angle. For purely technical reasons we shall refer to the $\pm 23.5^\circ$ angle as the *ritual angle*. According to topographic observations (Pleterski 1996) this angle relates three cult localities that are dedicated to the two counterbalanced gods of light (sky, warmth, summer...) and dark

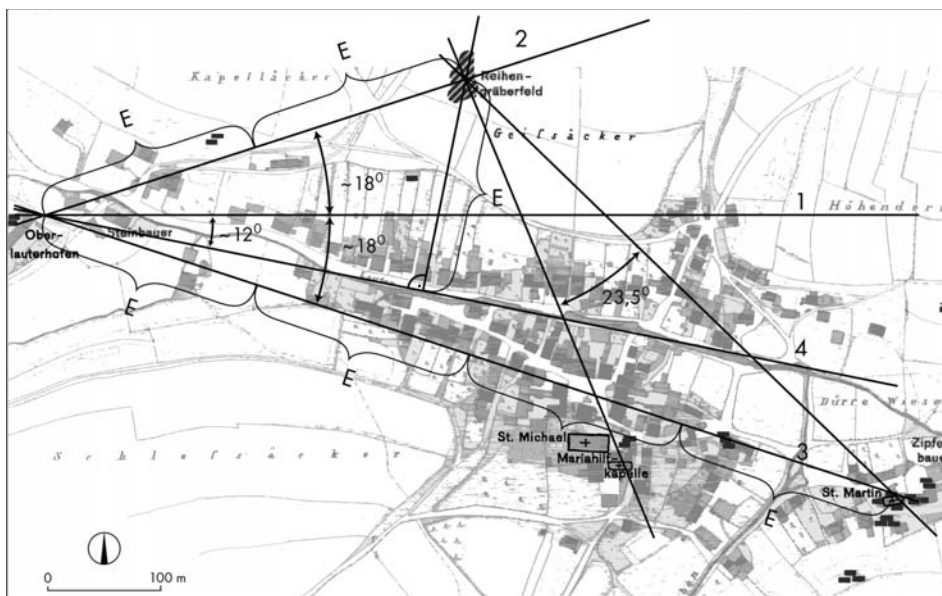


Fig. 16. Lauterhofen. Settlement, church and necropolis. E – unit of distance, 1 – west-east direction, 2 – direction $\delta = 18^\circ$ northwards, 3 – direction $\delta = 18^\circ$ southwards, 4 – direction, with a 102° declination from North (foundation layer according to: Dannheimer 1968, Table 48).

Sl. 16. Lauterhofen. Naselje, cerkve in grobišča. E - enota razdalje, 1 - smer zahod-vzhod, 2 - smer $\delta = 18^\circ$ proti severu, 3 - smer $\delta = 18^\circ$ proti jugu, 4 - smer, ki je doklonjena od severa 102° (podlaga po: Dannheimer 1968, Tafel 48).

(cold, winter, death...) as well as the god, who maintains equilibrium between these two. Folklore relates that each solstice characterizes when the gods of summer and winter are at their apex. Their supremacy interchanges at the spring and autumn equinoxes. That is, one of them seemingly dies as the other comes to life. The repetition of the *ritual angle* signifies the strengthening of cosmic order and natural equilibrium, which is of great importance for the survival of people. A ritual site and the right moment are those aspects, in which chaos is overcome to make room for the establishment of cosmic order and equilibrium once again (cf.: Tilak 1987, 218; Belaj 1998, 26-27 and 103). It is not inconsequential where and when people perform their ceremonies. A basic comprehension of the calendar and the concept of measuring time are essential (cf.: Belaj 1998, 104).

At this point, we shall limit our discussion to the solar calendar. It is highly likely that people designated as the most significant position of the sun along its ecliptic (the apparent annual path of the sun on the sky) that with a declination of $\delta = 11.7^\circ$, that is $\frac{1}{2} \varepsilon = 23.5^\circ$. This is the angle between the ecliptic and the celestial equator (the great circle lying on the celestial sphere, an imaginary sphere, which corresponds to the projection of the Earth's equator in the universe). This particular declination determines four significant points in time, all of which are 31 days prior to or after both equinoxes. In the past 3000 years there have been almost exactly 186 (= 6 X 31) days between the two equinoxes during the summer half of the year, which also represents the 'greater' half of the year. This enabled, despite the annual irregularity in the Earth's orbit, a precise enough calculation of the calendar. In the past, people could designate the date of the above-mentioned declina-

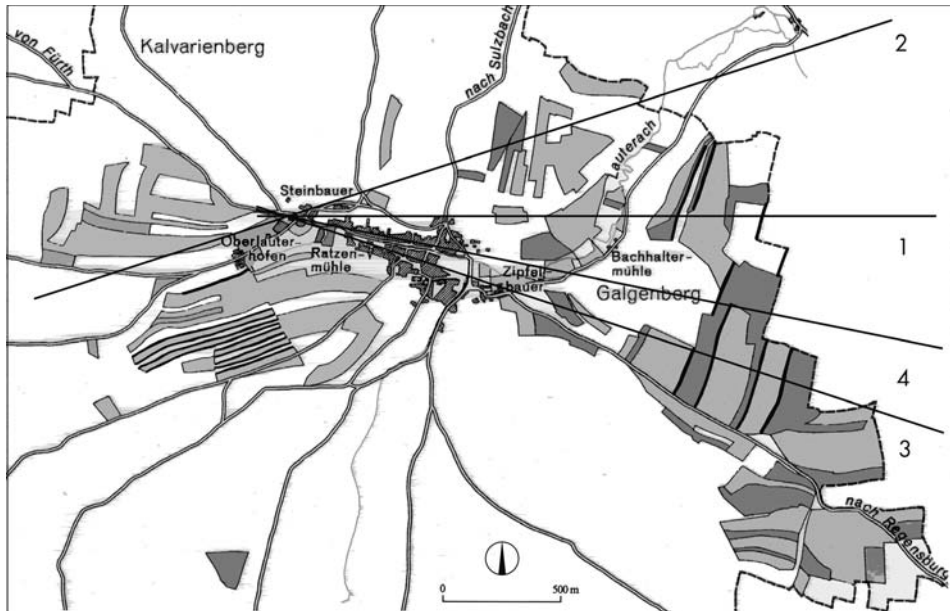


Fig. 17. Lauterhofen. Field. 1 – west-east direction, 2 – direction $\delta = 18^\circ$ northwards, 3 – direction $\delta = 18^\circ$ southwards, 4 – direction, with a 102° declination from North (foundation layer according to: Dannheimer 1968, Table 49: 1).

Sl. 17. Lauterhofen. Polje. 1 - smer zahod-vzhod, 2 - smer $\delta = 18^\circ$ proti severu, 3 - smer $\delta = 18^\circ$ proti jugu, 4 - smer, ki je doklonjena od severa 102° (podlaga po: Dannheimer 1968, Tafel 49: 1).

tion with a straight line directed toward the sunrise or sunset. The latitude of 50° has its azimuth at $\pm 18.4^\circ$, while it is $\pm 17.9^\circ$ at the latitude of 49° ; this is approximately 18° on the Lauterhofen plain, which lies in between (in greater detail: Pleterski, Mareš 2003).

Results

The intersection of the measuring lines lies at Oberlauterhofen, which is where Dannheimer reconstructed the pre-Carolingian period court, coeval with the necropolis on the Geißäcker field (Dannheimer 1968, 58 pgs, Table 49). The line connecting these two (fig. 16: 2) has a direction of approximately 18° north of the west-east direction (fig. 16: 1). The same deviation, only southwards, is manifested by the direction of the line (fig. 16: 3) connecting Oberlauterhofen and the positioning of the Early Medieval church of St Martin (Dannheimer 1968, 43 pgs). The Lauterach riverbed runs through Lauterhofen more or less straightly. The axis of this riverbed (fig. 16: 4) cuts through the intersection of lines 1, 2 and 3, and its direction deviates 12° southwards from the west-east direction, or 102° from North. Setting the distance between the latter line and the necropolis at the Geißäcker field as the unit of measure – E, then the distance between the necropolis and Oberlauterhofen measures 2 E, and 4 E between Oberlauterhofen and the church of St Martin (fig. 16). E is approximately 200 m. The proportion of the sides formed by the right triangle, designated by the axis of the Lauterach riverbed, the line between Oberlauterhofen and the Geißäcker necropolis and the line between the necropolis and the riverbed are $1 : 2 : \sqrt{3}$. The two lines connecting the Geißäcker necropolis and the church of St Mar-

tin as well as the necropolis and the parish church of St Michael with the chapel of Mary, establish an angle of 23.5° .

Taking into view the wider region of Lauterhofen, which also includes tillable land, it is evident that the directions 2 and 3 were also decisive in the arrangement of land parcelling (*fig. 17*). Numerous parcelling borders in the field of the Oberlauterhofen court correspond with the direction of line 2, while parcelling borders of the Early Medieval kings court more to the east correspond with direction of line 4 (Dannheimer 1968, 58 pgs, Table 49: 2), to which they are perpendicular.

Discussion

The area of the necropolis, the settlement and the fields were evidently organized according to a unified system of measurement. Consequently, the directions and angles determined at the necropolis repeat themselves in the wider region. The measurement network of the necropolis was not mere speculation. Even the orientation of graves at 102° was reiterated in the landscape. Although what exactly was being signified has yet to be clarified. One possible speculation is that the direction of line 4 runs through the Galgenberg field (*fig. 17*). Perhaps medieval gallows were later situated here in a place bearing its own already established significance. In such an instance, line 4 would connect this locality with Oberlauterhofen.

The angle of 23.5° , established by the Geißäcker necropolis, the churches of St Martin and St Michael with the chapel of Mary, suggests that these three localities each carried their own significance already at the very beginnings of Lauterhofen. And if it seems plausible that this locality with (a later?) the church of St Martin embodied any particular significance already at the onset of burials in the Geißäcker field - there being very many child graves at the first and almost none at the second - then the conjecture follows that the area of the church of St Martin was initially intended for the burial of children. Only later would it come to serve as a general cemetery. Confirmation of such a hypothesis would definitely require research into the age of the child burials by the church of St Martin. The approximate age of some of the graves could be determined stratigraphically. All such child graves are attributed to the early period of the necropolis (cf.: Gerhardt 1975, 68 pg).

Count Berengar of Sulzbach donated the church of St Michael, which he commissioned to be built in Lauterhofen, to the Kastl monastery in 1125; this is known. The present-day chapel of Mary is a former Romanic ossuary, which was supposedly built in the early 13th century (Dannheimer 1968, 13, 57). The existence of an earlier cult locality might have influenced upon the selection of where to build the new church. It is not clear how old the patronage of Mary is here. The straight Lauterach riverbed and the unusual curve it runs through the centre of this locality (*fig. 16*) lead us to believe that the present-day riverbed is artificial and that the original course ran further south, past the area where the church of St Michael and the chapel of Mary now stand. Corresponding with the structure of the three cult localities, which form an angle of $\pm 23.5^\circ$, the Geißäcker necropolis would thus represent the forces of death, the area of St Martin's church would signify celestial forces, and the area of the church of St Michael and the chapel of Mary by the water would be a place where the forces help to form equilibrium. Despite that this explanation presents a pre-Christian structure, this does not mean that these localities could not have served for the processes of Christian ceremonies. In fact, corresponding with

the syncretism in Lauterhofen, which already Ludwig Pauli mentions (1978) such activity seems highly likely.

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Strukture v prostoru Lauterhofna na Bavarskem

Andrej Pleterski, Mateja Belak

Poznomerovinškodobno grobišče na ledini Geißäcker v Lauterhofnu severozahodno od Regensburga leži v neposredni bližini ozemlja, ki so ga nekoč naseljevali Slovani (prim. Losert 1993, Abb. 3). Raziskano je bilo v letih 1953–1960. Dokumentiranih je bilo 91 grobov s številkami od 1 do 86. Grobišče je bilo izkopano bolj ali manj v celoti, samo na njegovem severozahodu je mogoče, da se je arheologom kak preostali grob tudi »izmaknil« (Dannheimer 1968, 38). Avtor objave po opravljeni analizi predmetov, grobov in najdišča v prostorskem in historičnem kontekstu kot čas pokopavanja predlaga obdobje med letoma 670 in 750. Zgornja časovna meja grobišča je določena historično. Grobišče naj bi opustili, ko so začeli pokopavati ob novozgrajeni cerkvi sv. Martina v Lauterhofnu. Slednja bi lahko nastala v sklopu novega kraljevega dvora sredi 8. stoletja (Dannheimer 1968, 41, 56, 61, Tafel 25: 1). Podatki za našo analizo so iz Dannheimerjeve objave in dopolnjeni z ogledom najdb v muzejskem depoju (Historisches Museum) v Regensburgu. Smeri grobov smo izmerili po načrtu grobišča. Dannheimer sicer ne navaja, kako je bil načrtom določen sever. Ker pa ti vsebujejo tudi geodetske podatke (parcelne meje, mejnike, hiše), je verjetno, da tudi sever ni magnetni, določen samo s kompasom, ampak geografski. Potem tudi naše meritve ne morejo biti bistveno drugačne od dejanskega stanja. Osnovne antropološke podatke o spolu in starosti je Dannheimer dobil od Kurta Gerhardta, ki jih je nato monografsko predstavil nekaj let pozneje (Gerhardt 1975).

Strukture v prostoru grobišča

Metoda

Pokopavanje poteka v času in v prostoru po nekih pravilih človekovega delovanja. Opraviti imamo z dinamičnim sistemom, kjer je razporeditev lastnosti odvisna od prostora, časa in vsakokratnih pravil. Osredotočili se bomo na tiste skupine lastnosti, pri katerih se struktura njihove razprostranjenosti v grobišču ponavlja. Ponavljanje očitno skladnih struktur nam omogoča razpoznati – vsaj v idealizirani obliki – dejansko obstoječo historično strukturo, ki jo nato lahko interpretiramo (prim. Pleterski 2002a, 7; Pleterski 2002b, 67).

Rezultati

Že prvi pogled na načrt grobišča pokaže, da so pogrebci upoštevali neka pravila. Večina grobov je namreč razporejenih po vzporednih pasovih. Ko potegnemo med njimi črte (*sl. 1*) tako, da sekajo čimmanj grobnih jam, jih dobimo najmanj pet. Povsem vzporedne so in tečejo natančno v smeri sever–jug. In če so znali pogrebci tako natančno določiti to smer, potem tudi njena pravokotnica v smeri zahod–vzhod ni bila problem. Zato ne preseneča, da ima grafikon smeri grobov (*sl. 2*) prvi vrh okrog smeri 90°. Bolj ali manj pravilno od zahoda proti vzhodu usmerjenih grobov ni na severozahodu in jugovzhodu (*sl. 1*). Sicer pa ta smer ni povezana niti s časom, niti s spolom, niti s starostjo pokojnih.

Nadalje je opazna pravokotniška struktura (*sl. 3*), ki jo sestavljajo grobovi 29, 31, 40–42, 45, 46, 57, 60, 68, 70–72, 74–76, 78. Ležijo vzdolž treh črt, dve sta si vzporedni (*sl. 3: I, II*), tretja je nanju pravokotna (*sl. 3: III*).

Črto II nakazujejo tudi grobovi, ki so si v stratigrafskih razmerjih (*sl. 4*). Dodatno opozarjajo na črto IV, ki je vzporedna črti I in pravokotna na črti II in III. S tem se kaže tudi možna razlaga nastanka stratigrafskih razmerij. Lega groba ob črtah II in IV je bila pomembnejša od možnosti, da poškodujejo starejši grob. Slednje morda niti ni bilo pomembno. Še več, prostor starejšega groba je imel celo prednost, kar dokazujejo zlasti grobovi na severu, kjer bi bilo dovolj prostora za pokope drugega ob drugem. Grobova 18, 20 nakazujeta možnost še ene merske črte V. Njeno verjetnost krepi razprostranjenost grobov po spolu (*sl. 5*).

Črta V loči skupino moških grobov 63, 67, 71, 74, 75 od skupine ženskih grobov 58, 59, 61, 62, 66, 72. Tudi sicer je razviden namen razporejati moške in ženske v skupine enega spola. Prostor grobišča je bil torej skupinsko urejen. Izjemno majhno število otroških grobov je potem verjetneje razložiti s tem, da je bilo za umrle otroke poskrbljeno drugod, kakor z domnevo, da so bili otroški grobovi tako plitvi, da jih je pluzenje v mlajših stoletjih povsem uničilo. Klaus-Dieter Dollhopf sicer oporeka možnosti posebnih otroških grobišč, ker doslej v južni Nemčiji naj ne bi bila odkrita, hkrati pa je s preučevanjem globine grobov otrok in odraslih na vrsti najdišč ugotovil, da tudi druga razlaga v preiskanih primerih ne drži (Dollhopf 2002). Antropolog Kurt Gerhardt opozarja, da je na sosednjem zgodnjerednejveškem pokopališču ob cerkvi Sv. Martina v Lauterhofnu število otrok izjemno visoko: od 51 umrlih je kar 15 najmanjših dojenčkov (Gerhardt 1975, 18).

Najstarejši grobovi (glej Pleterski, Belak 2004) so razvrščeni bolj ali manj v vrsti prek vsega prostora pokopavanja (*sl. 6*). Vrsta je tako izrazita, da lahko z njo določimo mersko črto VI. Ta seka črto IV na mestu, ki ga obdajajo grobovi 24, 29, 31, 47, 49. Gre torej za mesto s posebno privlačnostjo, zato ne preseneča, da je jedro grobišča tu določil že Dannheimer. Grob 45 leži ob sečišču črt III in VI, 41 pa III in IV, kar pojasnjuje njegovo lego ob strani.

Mlajši grobovi zavzemajo večjo površino (*sl. 7*). Opazno pa je, da so zahodno od črte IV predvsem ob križni črti II. Vsi zanesljivo v najmlajše obdobje datirani grobovi ležijo na obrobju.

Vsi zanesljivo najmlajši grobovi ležijo pri črtah II in IV. To je lahko zgolj posledica tega, da je bilo mogoče te grobove časovno določiti samo stratigrafsko, taki pa so vsi na omenjenem križu. Bolj presenetljivo je, da se ob njiju osredotočajo tudi plitvi grobovi (*sl. 8*). Res je, da nekaj takih grobov pripada mlajšim grobovom v stratigrafski legi (*sl. 4*), vendar osnovni vtis ostaja. Takšna razporeditev plitvih grobov nasprotuje možnosti, da bi šlo za posledice poznejšega preoblikovanja površine, ki bi naključno »poznalo« križanje merskih črt.

Ob črtah II in IV ležijo tudi grobovi z zaklepnimi noži in kresilnim orodjem (*sl. 9*). Vsi so v mlajših moških grobovih.

Mreži merskih črt sledijo tudi moški grobovi s puščicami (*sl. 10*).

Tudi za razporeditev moških grobov z meči, ostrogami in mnogodelnimi pasnimi sestavi je značilna lega ob merskih črtah (*sl. 11*) in predvsem koncentracija ob sečišču glavnih črt IV in VI. S pomenom te točke je verjetno povezana tudi najdba ostroge izven grobov 23, 24. Deli mnogodelnega pasnega sestava v grobu 59, ki po legi nekoliko odstopa, pa so bili v drugotni uporabi v ženskem grobu.

Z merskima črtama II in VI se ujemajo tudi pokojniki, ki imajo vsaj eno roko zapognjeno (sl. 12).

Črta IV tudi omejuje prostor, na katerem so pokopavali starejše osebe (sl. 13). Razen treh izjem so vsi grobovi s starejšimi pokojniki vzhodno od črte. Če pa se omejimo na tiste, ki so umrli po približno 50. letu starosti, so prav vsi vzhodno od črte IV.

Že prej smo videli, da prevladujeta dve skupini smeri grobov (sl. 2). Smer zahod-vzhod smo si že ogledali (sl. 1). Preostane še druga skupina okrog smeri, ki je od severa odklonjena za 102° (sl. 14). Grobovi, ki ji pripadajo, se zelo opazno kopičijo ob merskih črtah I, II in III., kar tudi tej smeri daje določen simbolični pomen.

Razprava

Nekatere skupine grobov kažejo na mersko mrežo (sl. 15), ki je pomagala določati prostor pokopov. Lego njenih črt določajo grobovi, ki mejijo nanje. Če nanje mejijo z dveh strani, je lega določena razmeroma natančno, npr. črta VI (sl. 6). To črto določa skupina najstarejših grobov, kar potrjuje pravilnost naših časovnih členitev. Kjer jo določa samo enostranska vrsta grobov, je dejanska merska črta lahko potekala na eni ali drugi strani vrste ali celo po sredi prek grobov, npr. črta I (sl. 3). Zato razdalje med vzporednimi črtami niso zanesljive, zanesljiva pa je njihova smer. Zelo verjetno je bilo merskih črt še več, vendar smo opozorili samo na najbolj prepričljive: I (sl. 3, 14), II (sl. 3, 4, 5, 7, 8, 9, 12, 14), III (sl. 3, 10, 14), IV (sl. 4, 7, 8, 9, 13), V (sl. 5), VI (sl. 6, 10, 12). Opazno je prizadevanje, da bi bili moški pokopani ob črtah, še zlasti tisti, ki so jim dali v grobove zaklepne nože, kresilno orodje (sl. 9), puščice (sl. 10), ostroge (sl. 11). Pokopa z mečem sta ob sečiščih merskih črt (sl. 11). Razmerje med ženskimi grobovi in merskimi črtami je drugačno. Črte samo pomagajo določati predele, na katerih so pokopane skupine žensk (sl. 5). Podoben pomen meje družbenih skupin ima črta IV, ki predstavlja zahodno mejo pokopov ljudi, starejših od pribl. 50 let (sl. 13). Tu gre torej za starostno delitev, neodvisno od spola. Podobno so pokopi smeri $\pm 102^\circ$ razvrščeni ob črtah I, II, III (sl. 14), kar nedvomno ni naključje. Prav tako ne more biti naključje, da so vsi pokojniki z zapognjeno roko ob črtah II in VI (sl. 12).

Na grobišču so tudi skupine, ki ne kažejo jasne razmerja z mersko mrežo. Taka je skupina moških z iglo na vzhodnem srednjem delu grobišča. Pri ženskih pokopih so v osrednjem delu grobišča rumene jagode, južno se nanje priključuje skupina grobov z zapestnicami, zaponkami in prstanom.

Po opremljenosti z nožem, uhani, črnimi in modrimi jagodami je posebnost vrsta ženskih grobov 58–61, 66, ki jo omeujeta črti III in V, ter so hkrati razporejene v isti vrsti sever-jug (sl. 1). Domnevo, da gre za ženske podobne identitete, krepi antropološka ugotovitev, da imata pokojnici iz grobov 60 in 58 skafokefalijo, ki ju kot dedna značilnost postavlja v možno sorodstveno razmerje (Gerhardt 1975, 13–14 in 52).

Tako se zdi, da so pri izbiri prostora za grob upoštevali spol in starost pokojnika, njegov družbeni položaj in pripadnost določeni identitetni skupini. To je iz prostora grobišča naredilo pravo šahovnico interesov, ki so jo pomagale urejati merske črte. Podobno vlogo merskih črt je bilo mogoče ugotoviti tudi v Altenerdingu (Pleterski 2002a, 187 ss.). Podobno pravokotasto strukturo, kot jo v Lauterhofnu omejujejo črte I, II, III, bi bilo v Altenerdingu mogoče povezati s prostorom vojaško organizirane skupine prebivalstva (Pleterski 2002a, 113 ss.).

Če se odpovemo črno-beli razlagi (njena kritika za južnonemški prostor: Schülke 1998; 1999; 1999/2000), da so grobovi s pridatki poganski, brez njih pa krščanski, in sprejmemo možnost, da so se stare pogrebne šege ohranjale še nekaj časa po formalnem pokristjanjenju (prim. Pauli 1978, 156–157), potem je sprejemljiva možnost, da so bili pokopani v Lauterhofnu vsi že krščeni. Mešanje starega in novega pri reševanju osebnih stisk posameznika Ludwig Pauli nazorno ilustrira prav na primeru grobov 60 in 58 v Lauterhofnu z domnevo, da so telesno hibo pokojnic skušali blažiti z amuleti, ki nosijo tudi krščansko simboliko (Pauli 1978). Pomen križa, ki ga sestavljata merski črti II in IV, je očiten, saj je imel posebno privlačno silo za grobove (*sl.* 4, 7, 8, 9). Podobna križa je bilo mogoče v 7. stoletju ugotoviti tudi v Altenerdingu in ju povezati z uveljavljajočo se krščansko ideologijo (Pleterski 2002a, 212 ss., *sl.*: 172, 188, 193), Smer križa pa je bila poznana že v začetnem obdobju pokopavanja (*sl.* 6).

Seveda nas zanimajo tudi smeri merske mreže. Najopaznejše je navidezno neskladje smeri črte VI s smermi drugih črt. Ker pa s črto IV skupaj določata kot 23,5° (*sl.* 15), gre za kot s simbolnim pomenom (razlaga v nadaljevanju), kar pomeni, da sta obe smeri del istega sistema. Pravokotnica II na črto IV je za 18° odklonjena od smeri zahod–vzhod (*sl.* 15: VIII). V nadaljevanju bomo pokazali, da gre za astronomsko smer s koledarskim pomenom. Morda je obstajala tudi njena zrcalna dvojčica (*sl.* 15.: VII), ki bi jo nakazovali vrsta grobov 26, 20, 67, 73, 81 in nenavadna smer groba 20.

Preveriti moramo tudi možnost, da si mersko mrežo samo domišljamo. Možnost kontrole obstaja. Če je mreža dejansko obstajala, je namreč zelo verjetno, da so tisti, ki so jo postavili in uporabljali, na podoben način uredili tudi širši prostor. Po zaslugi Hermana Dannheimerja, ki je v svoji objavi grobišču dodal tudi odličen historično-geografski kontekst, imamo priložnost raziskati merske povezave grobišča na ledini Geißäcker z drugimi zgodnjeresrednjeveškimi najdišči Lauterhofna.

Merska ureditev okolice grobišča

Metoda

Skušali smo poiskati kot $\pm 23,5^\circ$ in 18° . Prvi je *obredni kot* (Pleterski 1996), ki je simbolično pomagal postavljati kozmični red in ravnovesje (prim. Tilak 1987, 218; Belaj 1998, 26–27 in 103). Ni vseeno, kje in kdaj ljudje opravljajo svoje obrede. Za to je potrebno osnovno poznavanje koledarja in merjenja časa (prim. Belaj 1998, 104). Meritvi časa je služil kot 18° , ki je omogočal določiti sončni vzhod 31 dni pred in po obeh enakonočjih (podrobneje: Pleterski, Mareš 2003).

Rezultati

Sečišče merskih črt leži na mestu Oberlauterhofna, kjer je Dannheimer rekonstruiral predkarolinškodobni dvor, sočasen grobišču na ledini Geißäcker (Dannheimer 1968, 58 ss., Tafel 49). Črta, ki ju spaja (*sl.* 16: 2), ima smer približno 18° proti severu od smeri zahod–vzhod (*sl.* 16: 1). Enak odklon – le da proti jugu – ima smer črte (*sl.* 16: 3), ki spaja Oberlauterhofen in prostor zgodnjeresrednjeveške cerkve Sv. Martina (Dannheimer 1968, 43 ss.). Struga potoka Lauterach teče skoz Lauterhofen bolj ali manj ravno. Os struge (*sl.* 16: 4) seka sečišče črt 1, 2, 3, njena smer je za 12° odklonjena proti jugu od smeri za-

hod-vzhod oz. za 102° od smeri proti severu. Če vzamemo razdaljo med slednjo črto in grobiščem na ledini Geißäcker za mersko enoto - E, potem znaša razdalja med grobiščem in OberLauterhofnom 2 E, med Oberlauterhofnom in cerkvijo Sv. Martina pa 4 E (*sl. 16*). E je približno 200 m. Pravokotni trikotnik, ki ga določajo os struge Lauteracha, črta med Oberlauterhofnom in grobiščem Geißäcker ter črta med grobiščem in strugo potoka, ima razmerje stranic $1 : 2 : \sqrt{3}$. Črti, ki povezujeta grobišče Geißäcker in cerkev Sv. Martina ter grobišče in farno cerkev Sv. Mihaela z Marijino kapelo, določata kot $23,5^\circ$.

Gledano v širšem prostoru Lauterhofna, ki vključuje tudi polje, pa vidimo, da sta bili smeri 2 in 3 merodajni tudi pri urejanju njivske parcelacije (*sl. 17*). S smerjo 2 se ujema potek številnih parcelnih mej na polju dvora Oberlauterhofen, smer 4 pa upošteva parcelne meje zgodnesrednjeveškega kraljevega dvora vzhodnje (Dannheimer 1968, 58 ss, Tafel 49: 2), ki ležijo pravokotno nanjo.

Razprava

Prostor grobišča, naselja in polja je bil očitno mersko urejen po enotnem sistemu. Zato najdemo ponovitev smeri in kotov, ki smo jih ugotovili na grobišču, tudi v širšem prostoru. Merska mreža grobišča ni bila umišljena. Celo smer grobov 102° je dobila svojo ponovitev v pokrajini. Kaj so z njo označili, trenutno še ni jasno. Namig možne razlage je morda v tem, da črta 4 s to smerjo poteka preko ledine Galgenberg (*sl. 17*). Morda so srednjeveške vislice postavili na mesto, ki je imelo že prej svoj pomen. V tem primeru bi črta 4 povezovala to mesto z Oberlauterhofnom.

Kot $23,5^\circ$, ki ga določajo grobišče Geißäcker, Sv. Martin in Sv. Mihael z Marijino kapelo, opozarja, da so vsa tri našeta mesta imela svoj pomen že ob samem nastanku Lauterhofna. In če se nam zdi mogoče, da je prostor s (poznejšo?) cerkvijo Sv. Martina imel poseben pomen že na začetku pokopavanja na ledini Geißäcker, pri čemer je na prvem izjemno veliko otroških grobov, na drugi pa jih skoraj ni, potem je mogoča domneva, da je bil prostor cerkve Sv. Martina sprva namenjen pokopavanju otrok in je šele pozneje postal splošno pokopališče. Vsekakor pa bi bilo za potrditev te razlage potrebno ugotoviti starost pokopov otrok pri Sv. Martinu. Nekaterim grobovom je bilo mogoče približno starost določiti stratigrafsko. Vsi taki otroški pripadajo začetnemu obdobju pokopališča (prim. Gerhardt 1975, 68–69).

Poznan je podatek, da je grof Berengar iz Sulzbacha 1125 daroval samostanu Kastl cerkev Sv. Mihaela, ki jo je dal zgraditi v Lauterhofnu. Sedanja Marijina kapela je nekdanja romanska kostnica, ki naj bi bila zgrajena v zgodnjem 13. stoletju (Dannheimer 1968, 13, 57). Obstoj starejšega kulturnega mesta bi lahko vplival na izbiro prostora za novo cerkev. Ni jasno, kako star je Marijin patrocinijski na tem mestu. Ravna struga Lauteracha in nenavadno zaviti potek poti skozi središče kraja (*sl. 16*) nas napeljujeta na misel, da je sedanja struga umetna, in da je stara nekoč potekala južneje, mimo prostora, kjer zdaj stojita Mihaelova cerkev in Marijina kapela. V skladu s strukturo treh kulturnih mest, ki tvorijo kot $\pm 23,5^\circ$, bi grobišče Geißäcker predstavljalo mesto sil smrti, prostor Sv. Martina mesto nebesnih sil, prostor Sv. Mihaela in Marije ob vodi pa mesto sil, ki pomagajo k ravnotežju. Čeprav bi šlo po tej razlagi za strukturo, ki je predkrščanska, to ne pomeni, da na navedenih mestih niso mogli opravljati krščanskih obredov. V razmerah sinkretizma v Lauterhofnu, na katerega je opozoril že Ludwig Pauli (1978), se nam zdi taka možnost zelo verjetna.