SACRED LINES

EARTH MYSTERIES OF ANCIENT GERMANY



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Introduction: Geomancy in the Third Reich.

Ley Lines

The name ley lines originally derives from lines of English place names ending in -leigh or -ley (Old English for "clearing, glade"). These were places that could be connected by a line. Their existence was first described in 1921 by the Englishman Alfred Watkins. In 1969, the writer John Michell ("The View Over Atlantis") connected ley lines with spiritual and mystical theories, leading to a new interpretation of the lines. In modern geomancy (see Marco Pogacnik, "Healing the Earth"), ley lines are understood to be lines with a specific energetic characteristic. The so-called heartbeat core vibration pulsates along the line, and energy is sometimes emitted in a spiral pattern (Yin vortex).

Wilhelm Teudt

Wilhelm Teudt and Josef Heinsch reached the same conclusions as Alfred Watkins in England, namely the existence of large-scale landscape structures. Heinsch even stated that "the German landscape, in its primeval sacred spatial order, presents a vast, comprehensively unified hieroglyph." Wilhelm Teudt and Josef Heinsch can be considered the founders of German geomancy (then called cult geography) and thus significantly influenced geomancy in Germany in the past. Wilhelm Teudt came to the realization that sacred sites are

connected by a network of straight lines. His book "Germanic Sanctuaries" (1926) enjoyed quasi-cult status among the National Socialists. Teudt's fundamental thesis on Germanic prehistory states that the Germanic peoples living in the territory of later Germany already possessed their own highly developed culture before their contact with the Romans and West Franks.

The Ahnenerbe

Wilhelm Teudt briefly rose to become the head of Heinrich Himmler's Ahnenerbe (Ancestral Heritage) organization. The German Ahnenerbe dealt with everything related to Germanic traditions. This included ancient songs and dances, folklore, legends, runes, symbolism, racial studies, geomancy, megaliths, and also the paranormal. As E. Carmin demonstrates in his book “Das schwarze Reich” (The Black Reich), the inner circles of the National Socialist system, above all Himmler, had an extremely occult, or today one would say esoteric, background and purpose. We must therefore investigate the question: What connection did the National Socialists' interest in geomancy have?

The Externsteine

Teudt received direct instructions from Himmler to revive the Externsteine as a sacred monument to the German spirit, as it supposedly had been 1200 years earlier. Plans also included

placing a replica of the Irminsul on the Externsteine. The Irminsul was a sacred pillar or tree of the Saxons. Teudt even believed that the original Irminsul, the one destroyed by Charlemagne, had once stood at the Externsteine. The Externsteine form the apex of a quadrature triangle, which is known as the Externsteine Pyramid. The other two vertices of the triangle are defined by the locations Salvage (Atlantis – hypothetically present-day Lanzarote, Tenerife) and Giza (the Great Pyramid). The base of the triangle corresponds to a side of a square, and the height of the triangle is equal to the radius of the circle. The circle and the square then have the same circumference. The Externsteine Pyramid was published by Walther Machalett in 1976 and was continued in the lines published by Jens Möller in his book "Geomancy in Central Europe" (1988/92).

Wewelsburg

Furthermore, Wewelsburg Castle is directly connected to the Externsteine rock formation, a connection of paramount importance in the Third Reich. According to Nigel Pennick's book "Hitler's Secret Sciences," around 1934 Himmler believed that a geomantically central location would allow him and his Black Order to exert psychological influence overall of Germany. Geomancers within the Ahnenerbe (Ancestral Heritage Society) selected an old fortress in Westphalia for this location – Wewelsburg Castle. This may also explain Himmler's geomantic interest in Wewelsburg: he likely hoped to gain influence over the German and European grid system

through its connection to the Externsteine. This can be interpreted as an energetic attack by the National Socialists on the geomantic foundations of Europe.

Geomantic Planning in the Third Reich

The extent of the National Socialist geomantic plans is demonstrated by Erich Carmin in his work "The Black Reich," specifically in the chapter "The Planned Landscapes of the Future." As early as 1930, comprehensive landscape design plans existed within certain National Socialist leadership circles. Carmin reports on a Professor Grünberg, who worked in the planning office of the Königsberg Gauleiter Koch. There, it states verbatim (quoted by Rauschnigg): "He had maps drawn up at his institute showing transport routes, energy fields, lines of force, highways, railway lines, and canal projects. Precisely planned economic landscapes stretched across the entire east to the Black Sea and the Caucasus. On these plans, Germany and western Russia were already depicted as a vast economic and transport-political unit. Naturally, it was oriented towards Germany, planned and managed by Germany. In this planned economy, there was no longer a Poland, let alone a Lithuania. This was the connecting link of a huge continental space that was intended to extend from Vlissingen to Vladivostok in the Far East." These examples illustrate that all major architectural and landscape projects undertaken by the National Socialists were also geomantic projects, for example, Hitler's headquarters, the "Wolf's Lair," or the war memorial in Wittringen. The same applies to the National Socialist Party

Rally Ground in Nuremberg and the grand boulevards in Berlin. It should therefore also be clear that the National Socialists merely attempted to use this ancient knowledge for their own purposes. The consequence is that (grand) geomanticism in Germany is not originally a National Socialist concept, but rather a much, much older plan.

Josef Heinsch

Documents from Josef Heinsch (Nigel Pennick, "Hitler's Secret Sciences") prove that he conducted studies at Stonehenge in England and at Ordy in the former Czechoslovakia. In 1937, in his "Ortung in kultgeometrischer Sinndeutung" (Location in Cult-Geometric Interpretation), Heinsch describes the so-called God's Mountain as an expression or correspondence of the world tree Yggdrasil. The Celtic world ash tree was a three-trunked or three-branched tree, whose branches held the sky and its roots the earth. Josef Heinsch believed that "sacred mountains" represented the beginning of ley lines. This idea was later adopted by Paul Devereux and brought to England. "Accordingly, it is also a natural expression of this cosmic-sacred conception of the heavens that the mountains of God, appearing everywhere as primeval centers for cultic and national community life, can still be regularly found in all German regions today, and that, moreover, the surrounding landscape, with all its significant locations, is uniformly situated according to the same units and proportions of measurement in its directional relationships, radiating from them." Josef Heinsch is the author of the work "Prehistoric Spatial Order as an

Expression of a Magical Worldview" (1937). Contributions to journals and individual writings by him have also survived. He was also involved with the Ahnenerbe (Ancestral Heritage) for a time.

The History of Geomancy

The involvement of Hermann Wirth, Wilhelm Teudt, Joseph Heinsch, and other geomancers in the Ahnenerbe also explains why geomancy was classified as National Socialist ideology during denazification after World War II. In England, continuous geomantic research has existed since Alfred Watkins and continues to this day. The best-known researchers are Nigel Pennick, John Mitchell, and Paul Devereux. In France, geomantically oriented individuals such as Boudaille, Circare, Doumayrou, Guichard, and Guinguand can be found. At the beginning of the 20th century, and even during the German Empire and into the Third Reich, there was also significant research in the field of geomancy in Germany. After World War II, a break occurred in Germany. The integration into the National Socialist structure, particularly into the so-called "Ahnenerbe," discredited geomancy in postwar Germany. Consequently, after the Second World War, denazification in Germany led to an abrupt end to all research in the field of geomancy. It is therefore understandable why geomancy in Germany was branded as National Socialist ideology and so suppressed and taboo that it fell almost completely into oblivion for the following decades or was merely regarded as a curiosity or a matter of faith. A prime example of this is the elderly who

could still locate waterveins using dowsing rods or pendulums. It was only the rise of the New Age and esoteric movement in the 1990s that brought the topic of geomancy back to Germany and made it socially acceptable again.

Later Consequences of the Third Reich

The National Socialists' interest in geomancy had further disastrous consequences. To protect their secrets, the National Socialists destroyed numerous irreplaceable documents at the end of the war. After the war, both the Americans and British special forces (who were well aware of the Reich government's interest, as they operated according to similar criteria) confiscated the remaining material and removed it. Besides the destruction of many archives by wartime bombings, this is the main reason why many German cities have no or only incomplete records of architectural and landscape-structuring features from the last 100 years, despite the fact that this period saw a great deal of construction activity. Only from the remaining fragments and postwar research can some information be reconstructed. Furthermore, Anglo-Saxon publications on the subject still exist, such as Nigel Pennick's "Hitler's Secret Sciences." However, the majority of the old geomantic records are likely to be found in England today.

"Troytowns," F. H. Hamkens.

"Trojaburgen," *Germanien*, 1934, pp. 359–365.

Everyone is familiar with the word labyrinth – although in most cases there is nothing more behind it than an uncomfortable memory of the schoolroom. Perhaps these dim recollections can still be concentrated into names such as "Theseus", "Ariadne", and "Minotaur". But then in most cases we come to a full stop. The distribution of labyrinths, mazes, shepherd's races, Julian's bowers, Troytowns, or whatever other names may be used, is as little known as the names themselves.

The best-known Troytown is probably that at Visby on the island of Gotland (Fig. 1,3), although on this island alone there are three others. It is laid out with tracks about a foot wide by means of stones as big as a man's head, and according to tradition originated with a king's daughter who was held prisoner by pirates under the Galgenberg (Gallows Hill). Every day she placed one stone against another, until on her release the Troytown was complete. In North Slesvig, now ceded to Denmark, there exists near Visby, not far from Tondern, an earthwork which still bears the name Troiburg. A hill not far away is the Galgenberg, a name rare in those parts. Near Tondern itself old engravings show a place of the Rantzauschens, which is labelled "arx troiburgum" and is likewise situated on a Galgenberg. In the immediate neighbourhood of both these Troiburgs lies Gallehuus, which was in the news because of the golden horns found there. The Galgenberg at Meldorf in Ditmarschen is still a spiral today.

And the Troytown of Steigra (Fig. 1,4 & 2–5), which will be further discussed below, is like the one in North Slesvig 5 km away from a Galgenberg, namely that at Burgscheidungen an der Unstrut, the town where, according to Widukind von Corvey, the Saxons erected their Irminsul pillar in 530 after defeating the Thuringians (Widukind, Res Gestae Sax. 1, 12). Another German Troytown existed at Graitschen near Camburg (Fig. 1,5), south of NaumburgWrongly 'Hamburg' in 1980 version (Fig. 2). Of this only the memory is left, preserved in the municipal coat of arms, which shows a Troytown. Again, the March of Brandenburg contained similar layouts, which were there known as "Jekkendanz" or "Wunderberg". We find further examples of Troytowns from Iceland, where they are called "Völundarhus" (Wayland's House) – from Denmark, Norway and Sweden, where the name Troytown is general – from Lapland, Finland and the shores and islands of the White Sea in Northern Russia. In Russia they are called Babylon, in Wales Caer-Droia, in England Troytown, walls of Troy, way to Heaven and road to Jerusalem. The last name is also used in France: chemins de Jerusalem. The name "labyrinth" derives from Greek mythology. The Cretan mazes inscribed on coins (Fig. 1,1) go back to the sanctuary of the bull-god Labyrinthios, whose symbol was the double axe (Greek labrys = double axe). Finally we also know of Egyptian mazes, of which the best-known was laid out by Lake Moeris about 2200 BC by King Amenemhat III as a temple for the whole kingdom.

Ernst Krause cites, in connexion with the name Trojaburg or Troytown, the Old German "drajan", the Gothic "thraian", the Celtic "troian" and the Middle English "throwen". In

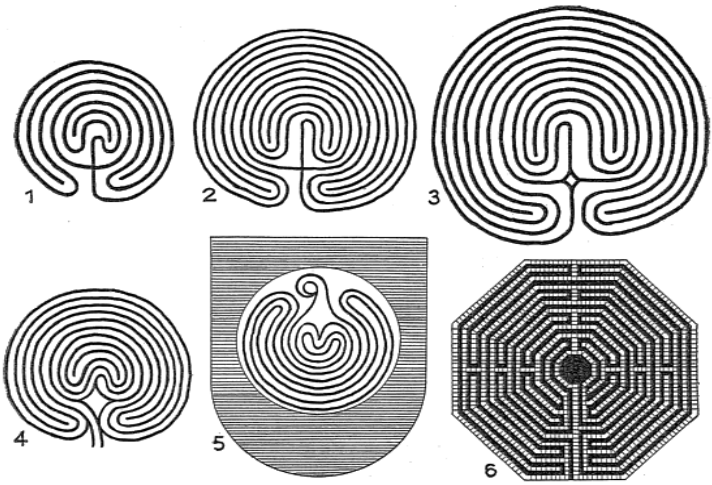


Fig. 1. Types of Troytowns.
1. Labyrinth of Knossos (image on a coin). 2. Troytown in Räntmaki church (Finland). 3. Troytown at Visby on Gotland. 4. Troytown at Steigra. 5. Arms of the community of Graitschen near Camburg. 6. Labyrinth in St. Quintinus' basilica, St. Quentin.

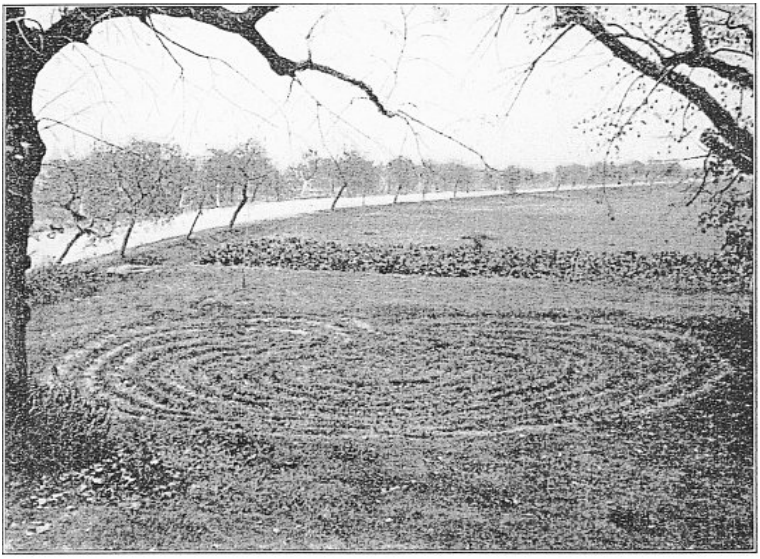


Fig. 2. The Troytown near Steigra, view towards the north, from the hill.

addition there are the Anglo-Saxon "thrawan", the Dutch and Low German "draien", the Danish "drehe" and the Swedish "dreja", and the English "throe". All these words mean "turn" and were applied to the twists and turns of the layout. Perhaps also the "Wunderberg" used in the March of Brandenburg is a corruption of an earlier "Wenderberg", in which case the word "wenden" (to turn around) would be the origin. The Low German word "traaje" also belongs here. It denotes a deep wagon track, a rut, and nowadays may be replaced by the word "spoor" (same in English). As a verb it means to follow in the track of another. In pronunciation the double a changes, as in the Nordic languages, to an almost pure O, so that "traajen" is pronounced like "trojen". From here the inference would extend to the tracks, dug in the earth or formed from stones, which one must follow on entering the Troytown. When one views the spirals cut in the turf, which look like the tracks formed by a wagon, the relationship cannot be denied.

The period at which Troytowns were laid out has been the subject of lively debate. Dr Aspelin of Finland places Troytowns in the Bronze Age, while the Russian researcher Yelisseyev considers them even older. Dr Nordström of Stockholm was of the opinion that the designs were Christian ones, which were later transferred from churches into the open air. He based this interpretation on the fact that in many old Italian and French churches such mazes still exist as pavement mosaics. However, this must be erroneous, for Pliny reports in his Natural History (Book 26, 12, 19) on Troytowns in the open fields in Italy. Also the Greek and Egyptian labyrinths are much older than the Christian church. And it seems strange that such things should have developed when they have no foundation in the Christian

religion. Actually the church took over Troytowns as it did many other things that for all its efforts it could not suppress. This is shown for example by the remarkable drawings in the vault of the parish church at Räntmaki in Finland (Fig. 1,2). If the labyrinths set into church floors can at a pinch be explained as "the way to Jerusalem" etc., in the present case any such interpretation is impossible. For at Räntmaki the Troytown is drawn on the roof of a vault, among other drawings still apparently pagan in style.

Thus only one conclusion is possible, that here a pre-Christian usage was taken over and given a new interpretation. Then during the Crusades the name "way to Jerusalem" emerged. To the same period belongs an East Prussian tradition of the Order of Teutonic Knights: in front of their castles the knights are said to have laid out mazes which they called "Jerusalem" and which they won in battle from their servants every day, amid laughter and joking. They did this in order to fulfil their vow that pledged them to unceasing struggle for the liberation of Jerusalem. Such is the tradition. It harks back to much older things and customs. And it can hardly be supposed that the knights occupied themselves with the Troytowns, nor constructed them. Much more probably, they built their castles and churches on the sites of such designs, as indeed nearly all old churches and monasteries were located on old sacred sites of pre-Christian times. The church can be given credit for one thing only: the more regular and perfect layout of the mazes, which is certainly easier to recover among church mosaics than among the pre-Christian turf and stone mazes. The artistry of many of the church labyrinths is shown by the one laid out in 1495 in the Quintinus Basilica at St. Quentin (Fig. 1,6). The

design, built up from 2200 pieces of stone, is based on 12 rings set around a central point. An artistic maze was then formed by moving only 47 pieces (Möller-Fernau, Kosmos, 1932 p. 307).

Of course the shape of the Troytown was materially altered in the process. It is a feature of all ancient designs, whether in Greece or Scandinavia, that while the rings have a common centrepoint, they are not exact circles, so that the centrepoint is displaced somewhat downwards. It can safely be assumed that the various windings of the Troytown symbolize the yearly course of the sun. The fact that there are 12 separate rings speaks in favour of this; for there are only a few Troytowns with any other division. The horizontal arms of the clearly visible cross are then perhaps to be regarded as the horizon, so that the various complicated and rather compressed turnings beneath it represent the sun's path under the earth (during the night). Perhaps this is also the origin of the bad reputation of crossroads, which must similarly have a Pagan basis because otherwise it is quite incomprehensible that the holy symbol of Christianity should be the haunt of the Devil. The crossing point is often occupied by a stone or, in turf-cut designs, marked out as a square baulk. On it sat the imprisoned maiden, who had to be freed, as we know from many customs still in use today. Something of this is preserved in the well-known children's song "Mariechen sass auf einem Stein".

From many traditions and legends we know that bewitched people were changed to stone or banished into a rock. It is thus not too much to suppose that the sun as a maiden was exiled to a stone, guarded by a dragon, i.e. the winter, and that a knight,

as spring, rescued her. The fact that these battles are often fought out in darkness or under the earth strengthens our hypothesis. For the Troytowns are regularly connected with the tradition of an imprisoned and rescued maiden, as has been briefly mentioned above for the Visby design, where the maiden actually appears as the builder of the maze. That she was kept prisoner under the Galgenberg, just as other Troytowns lie in the neighbourhood of Galgenbergs, again points to a pre-Christian origin and a subsequent satanization.

The numerous German traditions of the dragon-fight for the maiden may no doubt be assumed known, likewise the stories. The best-defined is the legend of Siegfried with the fight against the dragon, the entry into the stronghold, and the release of Brynhild from her magic sleep. In the oldest form of the Greek legend of Troy, Heracles kills the dragon before the gates of Troy and rescues Hesione. Likewise Perseus rescues Andromeda from a sea-dragon. Theseus overcomes the Minotaur in the Cretan labyrinth. He extricates himself from its false turnings with the help of a ball of thread that Ariadne has given him. Frobenius also reports a fight against a dragon in his tales from Kabylia in Algeria (Atlantis 2, p. 183 No. 20). Here the dragon-killer remains standing inside the pavement. He kills a second seven-headed dragon by the sleeping maiden in a castle (thraja). The ball of thread is here divided into a black and a white, which two men wind backwards and forwards to produce night and day. According to a Bulgarian legend Sir George again fights with a dragon before the gates of Troy, as he wishes to free the maiden.

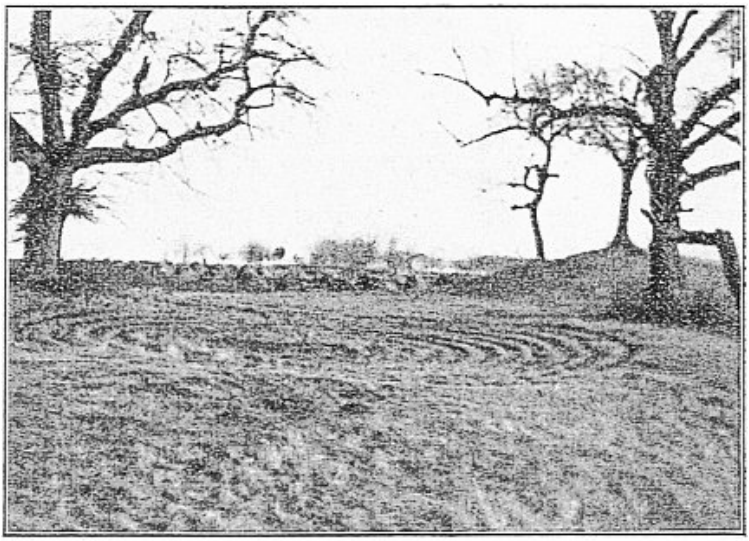


Fig. 3. The Troytown near Steigra, view towards the south-east.



Fig. 4. Troytown near Steigra, view towards the north, from the village. The Troytown lies behind the hill.

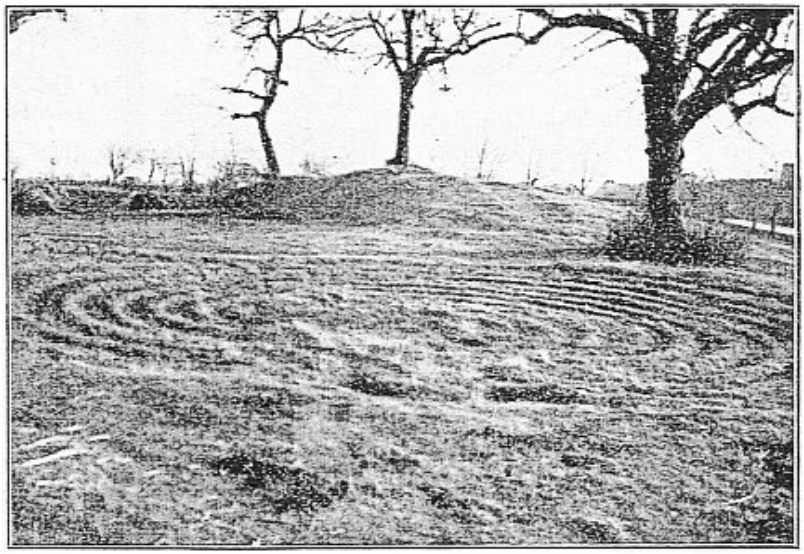


Fig. 5. Troytown near Steigra, view towards the south. The village is visible to the right.

As a folk-custom the fight with the dragon is perpetuated today in Germany, Austria, England and France. Often there is connected with it the freeing of a maiden, known as the May Queen, etc. Even the bathing in dragon's blood survives in a weakened form; for in some of these customs people try to soak up the streaming "dragon's blood" with cloths. How old these games are is evident from 14th-century manuscripts that mention the wurme spil (dragon game). At the beginning of the 15th century the schoolchildren of Magdeburg were forbidden to play the ludus draconis. And if Hans Sachs writes a new text for the dragon play, this is made to conclude with a singing of the old one. And that lasts for a very long time. Particularly often the legends and customs involve the appearance of St George, who is however nearly always known as "Sir" George.

The festivals are frequently celebrated on his day, the 23rd of April. And it can be assumed at once that the May games, May dances, riding round the Maypole, and the choice of the May king and queen have a close connexion with his festival. Often the introduction of Christian feast-days in place of the old ones is to be blamed for the displacement and disruption of the festivals. Often also the change to the present calendar. However, there are many indications that the beginning of May had twelve holy nights, analogous to the New Year. What is now called "Old May Day" ends with the three ice-saints, just as in winter the twelve nights end with three holy kings„ So it is possible that all those games were part of a single whole, which began with St George's day and was enacted in and around the Troytown.

Now Krause links the May dances in the Troytown with the morris dances. Indeed the region where these dances are at home is the countryside around Whitby in Yorkshire. But St Maurice (= morris) has his day on 22 September. Nevertheless morris dances can be connected with Troytowns to this extent, that Maurice and the dragon-fighter Michael (29 September) are the winter counterparts of Sir George. Just as the latter releases the sun in springtime, the two autumn saints take it into their care at the end of summer. The opposition between summer and winter expresses itself through many customs and traditions. Thus Shrove Tuesday and Kirmis customs are similar, and the fir-tree at Christmas corresponds with the May Tree and the Whitsuntide Birch. Further, the old calendar signs on the Gallehus horns would also agree with this, for they show May by a snake stretched full-length, and autumn by one coiled

into a spiral. St Quentin also had his day in autumn, on 4 November.

Perhaps the shells with which the Narros decorate their hats are connected with Troytowns, which are also known as "snails"; likewise the eating of snails customary during many popular festivals. St Benedict's day, 21 March, is also connected with the Troytown, for in the rural calendar his symbol is a spiral emerging from a bowl decorated with nine semicircles. Nowadays it is reinterpreted as a bishop's staff.

It may also be observed that the late middle ages used the Troytown as a symbol of human behaviour and character. At least those portraits which show a maze on the subject's breast, as embroidery or an ornament, can hardly mean anything else. The hypothesis is strengthened by the fact that occasionally the person in the painting clearly points to the labyrinth with a finger.

The only surviving Troytown in Germany, as far as I know, is that at Steigra, a village between Querfurt and Freyburg an der Unstrut. It has remained in existence to the present day (1935) because every year about Easter the villagers cut out the rings afresh. Just as the Troytown preserved in the arms of Graitschen is supposed to be a memory of Swedish rule, so the one at Steigra is called "Schwedenring", although in both cases it is quite certain that an origin in the Sweden of Gustavus Adolphus is out of the question. Of the customs once practised here no memory is left. But it is not wrong to restore the customs belonging to this spot by reference to other similar layouts. And it is a striking fact that in the region around Steigra, out as far as Merseburg, Sir George plays an important

part. There are many representations in churches of the knight and his fight against the dragon. A much-weathered one is also situated on the Querfurter Berg. The church at Steigra is dedicated to St George, and the inn bears the name "At the Sign of Sir George". If we consider the custom mentioned above, of recutting the rings at Easter, we may readily conclude that here too a spring festival was once celebrated. However, though there is no more information available about the customs and games for which the Troytown at Steigra was once used, there is still good reason to thank the village for the steadfast loyalty with which it still protects and cares for its maze, thereby preserving this unique prehistoric monument into our own time.

"A Troytown in Pomerania," Siegfried Sieber.

"Eine Trojaburg in Pommern," *Germanien*, 1936, pp. 83–86.

A Troytown in Pomerania

By Dr Siegfried Sieber, Aue

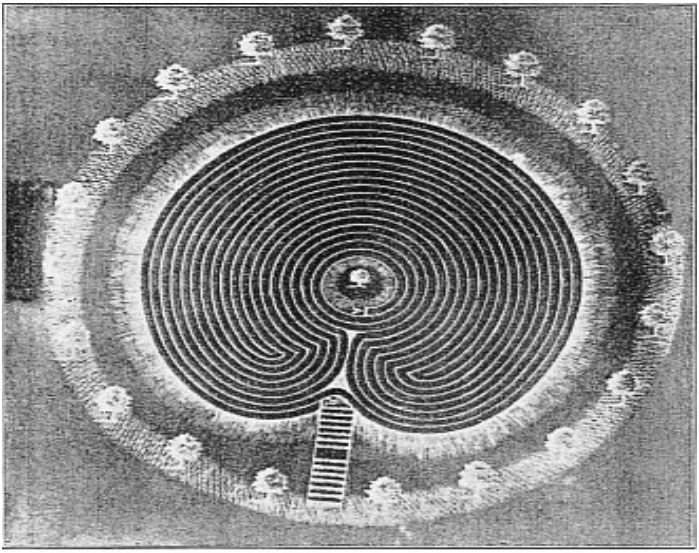
The essay by Haye Hamkens (Germanien 1934, No. 12, p. 359 ff) leaves out one of the most important German Troytowns: the one at Stolp in Pomerania. The reason why this has till now escaped researchers like Ernst Krause, Paul Liebeskind, H. Wiechel and E. Schnippel is perhaps because it bears the unusual name of Windelbahn (coil-track), and because there neither peasants nor crusaders, as on the Prussian "Jerusalem hills", but simple shoemakers performed their characteristic dance. After the last Windelbahn festival was held there in 1908, the town bought up the site, which till then had belonged to the shoemakers' guild, and had the costumes, tools, and the old groundplan of the dance-path brought into the museum.

The Windelbahn festival of the Stolp shoemakers was a genuine May festival, for it began on the Tuesday after Whitsun and also, in common with other German Whitsuntide events, included the election of a May king. Not only the sons of the upper classes, but manual workers too exercised this springtime privilege of young people in North German towns. In the morning two lads, dressed up as jesters in antique style, begged gifts for the festival; then in the afternoon there followed the solemn procession of the guild with their banners. Alongside

them marched two standard-bearers, behind these came the May king with the two treasurers of the guild, then the two elected senior and junior stewards, then the guild members, a so-called clerk, and lastly, in litters carried by the apprentices, the two jesters.

The costumes and the display of craftsmen's badges will not be gone into here. They conform to the usual practice in guild and corporation festivals. More important is the layout of the Windelbahn, to which the procession marched. At the crossing of the roads later known as Auckerstrasse and Bütowerstrasse the guild members had built a low bank, about 120 paces in circumference, and on top had planted trees at suitable intervals. Within the bank the pattern was inscribed in the turf some 150 feet in diameter, no doubt starting in the middle. There were created labyrinthine, skillfully curved lines, like those on a Bronze Age brooch which come together and then move apart again, They produced eight tracks on each side, giving the appearance of the curves that symbolize the Sun's course in old representations. A Swedish Yule loaf, with a swastika in its original form, that was on show at the religious history exhibition in Berlin in 1933, likewise shows these solar curves. On the other hand they are represented on an Iron Age spindle-whorl from Hohenwutzow near Königsberg by the old eight-pointed symbol. Such a sign was also to be found in the branches of the Mervigslinde lime-tree near Nordhausen, and it is significant that every year the shoemakers' guild of Nordhausen organized a ceremonial procession to this tree.

On arriving at the Windelbahn, the Stolp shoemakers set up their banners. Then the May king made a speech in verse and



Windelburg or Windelbahn in Stolp in Pomerania. Reproduced from an old coloured plan. A plan dating from 1882 shows another arrangement of the trees. At the beginning of the 20th century the Windelbahn disappeared.
By courtesy of the Folk Museum, Stolp, Pomerania.

afterwards began his dance with a "lapwing step" along the path, which was strewn with fresh flowers or sand. (The lapwing jumps about a metre forwards, stands on one foot, and slightly raises the other.) After about a quarter of an hour the May king had danced along half the paths and paused. Immediately the oldest member presented him with a goblet, which he drained to the cheers of the crowd. Then the dance continued in the same way, till the dancer reached the end of the path and stepped out. After him danced the two senior stewards. One began his dance from the inside, the other from the outside, In the middle they met, greeted each other, and drank from glasses

brought by the oldest member, Then they withdrew from each other along the path they had just taken. It was not easy to extricate oneself from the complicated turnings, and anyone who went along the wrong path or could not find the exit was heartily laughed at. After further speeches the two jesters stepped forward to amuse the audience with traditional shoemakers' jokes. After a solemn procession round the Windelbahn everyone went to the ball in the public house.

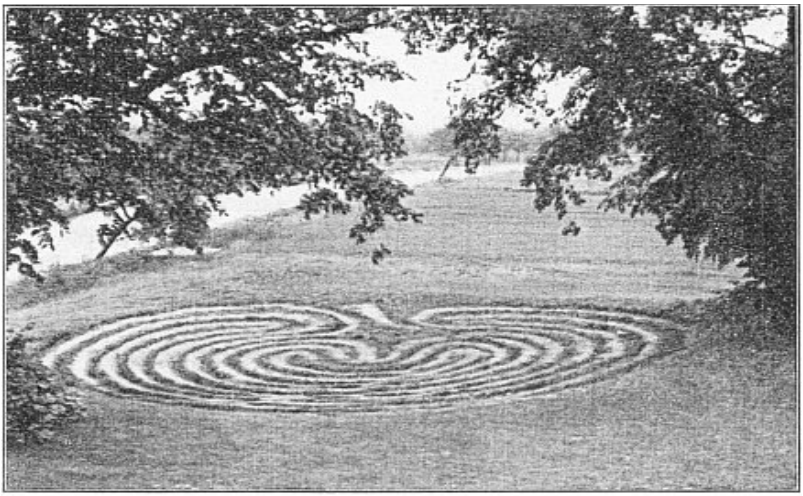
The essentials at the Windelbahn festival are not the entertainments customary at that time, such as the speeches, drinking, procession, and ball; these are additions due to later development and derive from the holiday customs of the manual workers. The banners set up on the path, and the performance by the jesters, already belong to ancient layers of folklore. But what is unique is the layout of the dance path and the obviously very ancient dance step; here called the lapwing step, after the characteristic hopping. In Crete it is called the crane dance. Now this step gives fresh significance to the preservation (not mentioned by Hamkens) of our ancestors' May festival in the skipping-game played every year by children in springtime, and known as Paradise game, Heaven and Hell, Himmelhuppe, etc. Even before World War I, H. Wiechel had carefully investigated this game in Saxony and had pointed out its connexion with Troytowns. Subsequently E. Schnippel recognized the connexion between the East Prussian "Jerusalem hills" and the children's springtime game. During the war I was able to establish the distribution of this game over the Balkan peninsula. Further, the children's skipping festival at Kaufbeuren and the "Schlangenziehen" at the Naumburg church festival were brought into consideration, Finally recent

research into the sword dance (by Kurt Meschke) has indicated that "… between the interlaced ribbon or animal ornament of the folk-migration period, and the sword dance, there is a striking coincidence of style …". The dance is a twisting and unravelling, a perpetual weaving of lines. Only the end of this continuous interlacing is particularly emphasized, and acquires a mimic content – which appears to be the real purpose of this pattern – as the main focus, towards which and around which the lines are winding.

Sword-dance figures and the pattern of lines in the Windelbahn belong to a single creative impulse. They are Germanic. Perhaps in further research into the sword dances so important for understanding the early Germanic period, the Troytowns and in particular the Windelbahn at Stolp can be taken into account. Sword dances were in fact practised very enthusiastically in the workmen's guilds of German towns; as was the Windelbahn festival by the young shoemakers here. Incidentally the morris dance mentioned by Hamkens was frequently presented by craftsmen under the name Mohrentanz; I cite here a "Morischkotanz" in Nuremberg in 1479, a morris dance in Eger, and the presentation of a morris dance by the tailors of Strasbourg in 1538. It is also reported from Winterthur, Zürich, Berne, Frankfurt am Main, and Danzig (as late as 1698). Further, this morris dance is related to the "Schemenlaufen" at Imst and the hobby horse of English dancers at Christmas. Thus it belongs to the sphere of ritual. In later times the strong awareness of this dance's archaic nature is shown by the fact that the Stolp shoemakers explained their festival as the foundation of a certain Prince Kroy, just as in

Kaufbeuren Gustavus Adolphus of Sweden is supposed to be the founder of the children's festival.

Thus the Windelbahn festival at Stolp shows that even in the context cf urban handicrafts the old traditional customs were operative for a long time. For Stolp however an ancient solar sanctuary can be assumed.



The Troytown at Steigra an der Unstrut, placed at the foot of old lime trees, corresponds in both shape and construction to the Troytown at Stolp

Photo by Werner Stief, Leipzig

"Treedance and Troytown," Friedrich Mössinger.

"Baumtanz und Trojaburg," *Germanien*, 1940, pp. 282–290.

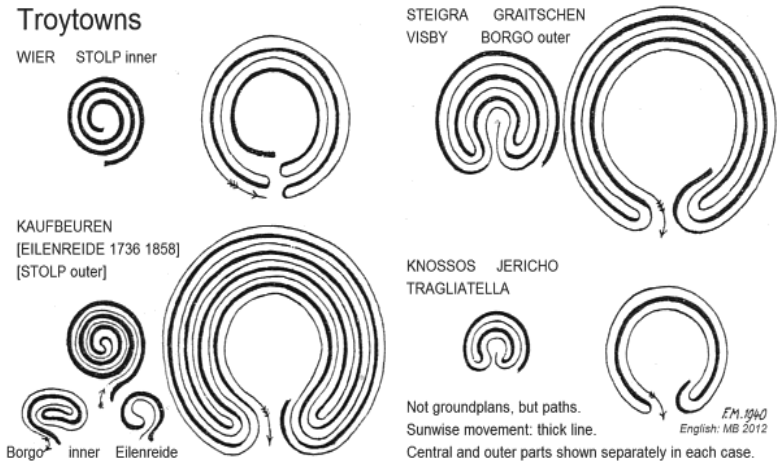
Treedance and Troytown

By Friedrich Mössinger

The rare and remarkable Troytowns have in recent years often attracted the attention of researchers. For the most part they have been identified as the sites of ritual games; their winding paths as the routes cf dances, and at the same time an image or symbol of the Sun's course, or of a lindworm or dragon coiled round a central point, Now the real "worm shape", the spiral, is very rare both in existing monuments of this kind and in those that are only preserved in pictures, for the kidney-shaped layout of the paths so typical of all Troytowns cannot be said to be wormlike or snakelike, especially when the turnings are very numerous, as is clearly shown for instance in the old picture of the Windelbahn at Stolp.

Moreover it is strange that the other aspect of this interpretation of the Troytowns, namely the dance and its relation to the singular twists and turns of the dancing-place, has until now not been taken into consideration. Plassmann is as far as I can see the only person to have referred the dance of the butchers' guild back to such a labyrinth dance (Germanien, 1939, 113ff) making use of the external form of this Shrove Tuesday dance as shown in the Schembart book. Now a treatment of Troytowns as dance paths yields important information, which places the custom in a previously known

context, covers other customs of the kind, and thus allows a clear interpretation of the subject.



Types of Troytowns

In our investigation it seems useful not to begin with the groundplans, which only give the boundaries or surrounds, but with the track of a dancer in one of these Troytowns. Let us take first the Windelbahn at Stolp, where according to an engraving and description of 1784 the dancer begins in the middle. First he describes a spiral, which circles the centrepoint three times, all in the same direction. Then follows a curious kidney-shaped layout of the paths which if looked at as a groundplan seems unclear and confusing.

But if we consider the movements of someone dancing along the path, we find to our surprise a similar very simple motion around the centrepoint, merely reversing its direction after each circuit, i.e. going first clockwise then anticlockwise. Clearly the circuit is in each case as nearly complete as possible for tracks

which lie next to one another without actually crossing. The same threefold circuit in one direction followed by several movements back and forth is clearly recognizable in the Troytown on the island of Wier. The Wunderkreis of Kaufbeuren (n. 1) is similar. Here however there are two consecutive spirals in the middle. The result is that when going in towards the middle this is encircled three times in one direction, then three times in the other. Only then do we begin the several movements back and forth in the outer circles.

Apparently the old groundplan, dated 1736, of the Wheel in the Eilenreide at Hanover (n. 2) also belongs here. It is probably not drawn quite correctly, for the track has no beginning or end. Also, the centre in the surviving drawing is very odd with its large S-shape, and one might suppose that the original contained a double spiral as at Kaufbeuren. Again, Borgo (n. 3) has a similar double spiral in the centre of the Troytown. But here we already detect a tendency towards another type, in which the centre too is completed by a figure where the direction of motion changes after each circuit.

At Steigra, Graitschen (n. 4) and Visby, whose plans are either identical or mirror-images, one can trace a back-and-forth path in the middle going three times in each direction; to this are added three similar circuits, but minus the final change in direction. Also identical or mirror-images are the labyrinths of Knossos, the Tragliatella jar, and the medieval "moon city"* of Jericho (n. 5). Here both the inside and the outside have one less back-and-forth movement than at Steigra.

* A plan of an ideal city, drawn in the shape of a half-moon.

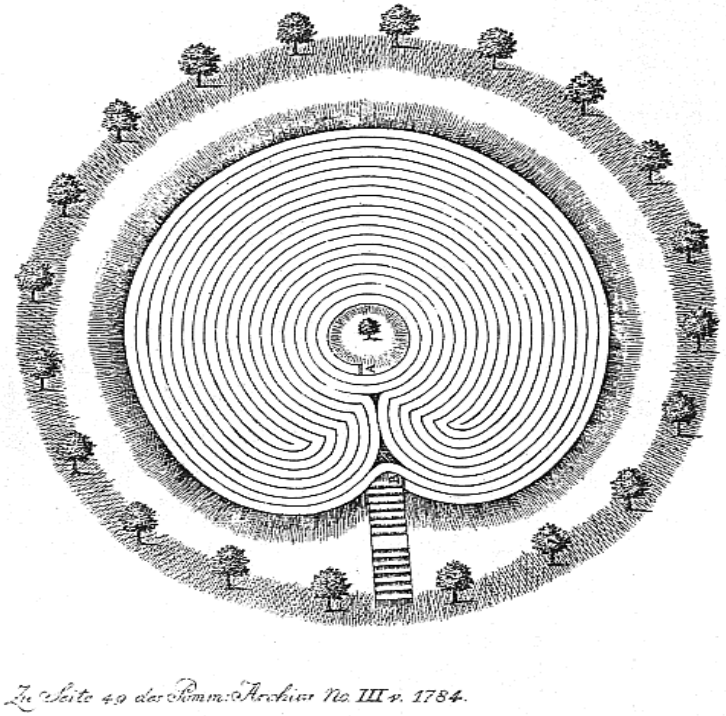


Fig. 1. Windelburg in Stolp in Pomerania, 1784.

From these shapes then one can infer a dance-form which begins with three circuits of the centre, either all in the same direction or with a back-and-forth movement, and adds three or more circuits back and forth. Yet it is not clear why this round-dance should be connected with the peculiar spiral or kidney-shape, and could not take place on a simple circle, which would have its groundplan marked out by a circle of stones or some other type of round enclosure. Now this remarkable fact, that instead of a single circular path for the dance a spiral and labyrinth shape is used, has a surprising explanation, according

to which it turns out to be really necessary, and this merely because of the special nature of the dance.

Dances of this kind did in fact take place. Although the descriptions are unfortunately not very precise, they give us the basic ideas with sufficient accuracy for our purpose. They are concerned with a peculiar dance round a tree in the middle of a festival ground, this dance being usually called the "Plantanz". In this Journal (Germanien, 1933, 349) there was a brief account of this very ancient dance, with its deep religious significance, in connexion with the village lime-tree. Let us extract here the parts relevant to the shape of Troytowns. Hessler (n. 6) reports on a kermis dance in Buchonien (Fulda region) around a tall erected spruce-tree, which was referred to as a "lime" although botanically it is a conifer. The procession of girls and boys, led by the mayor holding up a staff decorated with garlands, marched three times round the "lime" tree. Then "three rows" were danced around the tree, whilst all further dances took place in the tavern. It seems that things were much the same at the kermis in Wolfsbehringen (n. 7). Here in the middle of the village is a mound planted with limes and edged with large stones. In the middle under the biggest lime-tree lies a huge stone used as a table. The procession of dancers, led by the musicians, all the boys with rods in their hands, skip several times in a circle around the large stone. Only then does the real dance begin, with an opening figure by the Platzmeister, whom the other couples follow.

If in these dances our first type of Troytown is to be understood, with its circuit of the inner spiral part and then three rows of the outer kidney-shaped part, in other reports we

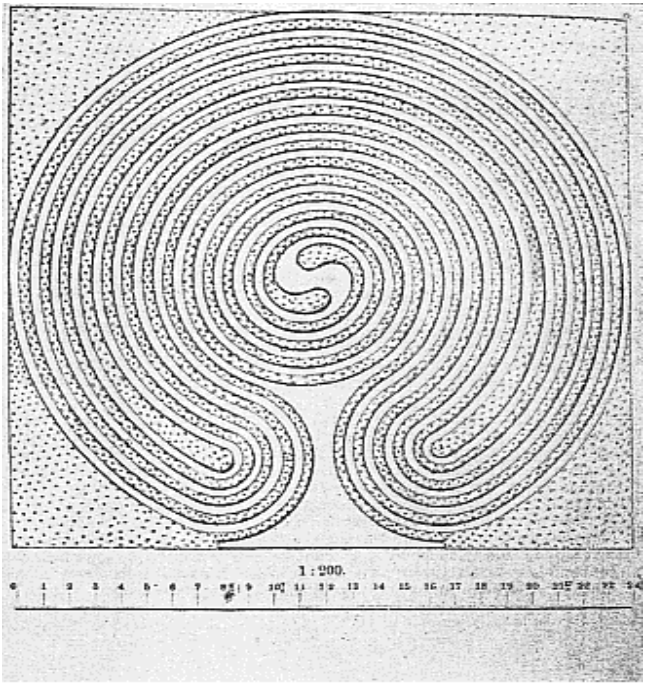


Fig. 6. "Wonder-Ring" in Kaufbeuren, Bavaria

come across the Kaufbeuren layout again. Thus Wilz (n. 8) writes concerning a French Plantanz that the procession of girls and boys marches three times round the tree, then three times in the opposite direction. "In this way the area is hallowed and consecrated and everything unclean and unholy is cast out." And here we understand why this dancing round cannot take place on a circle, for if a whole procession of dancers wants to complete the circuit as described, a double spiral as at Kaufbeuren becomes necessary. It is something different and much simpler when in the Rhön district (n. 9) the mayor first goes alone round the dancing-place "three times so and three

times so", after which all the girls and boys proceed to dance the three rows.

The third kind, represented e.g. by Graitschen and Knossos, is indicated by a report from Waltrowitz in Moravia (n. 10). "First the boys perform the so-called Rundumerdum, that is they hold hands, form a circle round the tree, and jump first in one direction, then in the other. Then they dance three numbers." Undoubtedly the pair-dance, which usually follows nowadays in the place of the three rows, is not very old. Here people dance waltzes, Scottish dances, etc. – that is, dances which we cannot ascribe to the early times we are dealing with. Nonetheless the threefold nature of the "rows", which all accounts emphasize, clearly indicates a deeper origin for these dances; in this respect it is noteworthy that the number three has survived to this day, and is performed under the trees even where ordinary dancing for pleasure takes place in a hall. So we are probably justified in assuming that in ancient times these three "rows" (reihen) were really round-dances (reigen) and went three times around the tree.

Round-dances of this kind are more often mentioned. Thus Schnitz (n. 11) reports from the Eifel region, admittedly without specifying a particular spiral or labyrinth-shape, that the kermis dance was held in front of the church by the great lime-tree. "Hundreds danced to the sound of a single shawm, and doubtless no dance except the ring-dance." Obviously a ring-dance of this length can make circuits round the central tree only in a spiral form, or if a change of direction is to be carried out, in the characteristic kidney-shape, There is also a very nice Swiss example quoted by Uhland (n. 12). "One



Fig. 5. Rad (Wheel) in the Eilenreide forest near Hanover

Sunday evening seven people began a ring-dance in the castle meadow at Greyerz, which did not cease until Tuesday morning in the great market-place at Saanen, after 700 youths and girls, men and women, had allowed themselves to be drawn in, so that the whole thing locked like a spiral ring." If the tree as the centrepoint of the dance is missing here, it reappears with particular force and relevance in the old processional dance at Salzsied in Schwäbisch-Hall (n. 13). The festival was held here every three years, on a small island shaded by limes of great antiquity. In the middle sat the musicians beneath a large lime-tree. Fifes and drums were their instruments. Each male dancer held his girl modestly by the finger and came no nearer to her throughout the dance. Yet this pair-dance (if the description does not after all refer to a round-dance of several couples)

cannot have been the truly characteristic one, for later on it is reported: "The dance remained the same all the time, except that occasionally the circle charged into a snake-like line." It must therefore have been very similar to the dance in a long line, with its twists and turns. Now all these examples show clearly just how spirals and circles as dance forms "can only be understood with reference to a centrepoint" (n. 14). They are not here an end in themselves, and have no meaning if taken alone, but are to be understood as circuits around something. Now this "something" is often present in the Troytowns.

At Visby it is a stone, at Graitschen today it is still a small turf mound, which also appears clearly in the municipal seal, although here it is wrongly not placed in the middle. The illustration of the medieval "moon city" of Jericho shows a structure that can probably be interpreted as a tree, or at least a plant. In the middle of the Troytown at Stolp stood a tree, significantly on a mound. And it is now particularly important that in a picture of Spring by Lucas von Valckenborch, 1587, a tree stands on three steps in the middle of such a Troytown formed from hedges. Certainly one may think of the mazes so beloved in the aristocratic garden layouts of those days, but it has never been questioned that while these garden mazes developed richly and strangely, they nevertheless derive ultimately from popular custom. Further the tree on three steps has been proved so clearly from countless examples to be a ritual tree of springtime, that it need not have been explicitly assigned to this time of year in Valckenborch's picture for this meaning to be established. It is even more important for us that in a similar springtime picture by Hans Bol the lime-tree on three steps is replaced by a May-tree at the centre of such a Troytown.

Here there is no doubt that we are dealing with a combination only explicable as a custom. Treedance and Troytown are therefore intimately connected, so that it was perfectly appropriate to plant a lime-tree at the centre when laying out the Wheel in the Eilenreide, and that the dancing-place was beneath trees at Graitschen, and near old limes at Steigra.

From all these references it is now clear that the basic explanation for the dance in the Troytown lies where Krause and many others after him have conjectured, in May customs with the winning of the May bride beneath the May tree.

And yet our discussion has shifted the emphasis somewhat. Of outstanding importance appears to be the role of the tree, which is honoured as a sacred tree by the threefold circuit, and

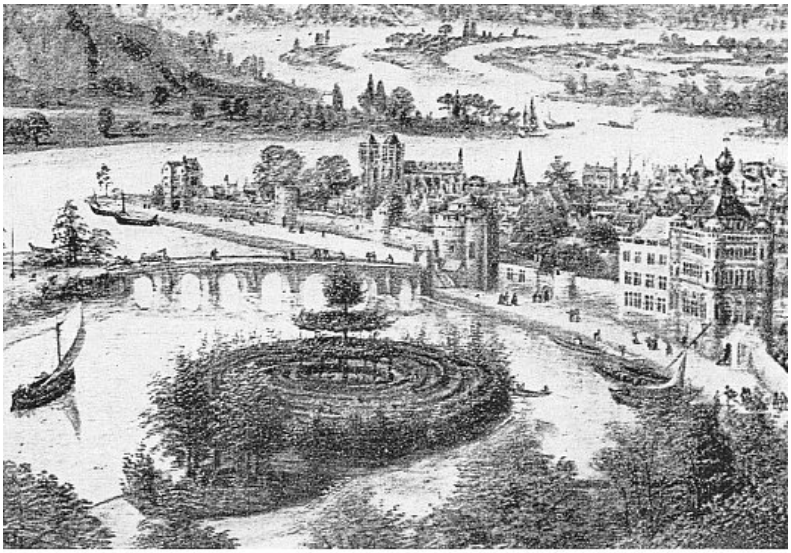


Fig. 3. Lucas van Valckenborch (c.1540–c.1625). Landscape in Spring 1587, detail

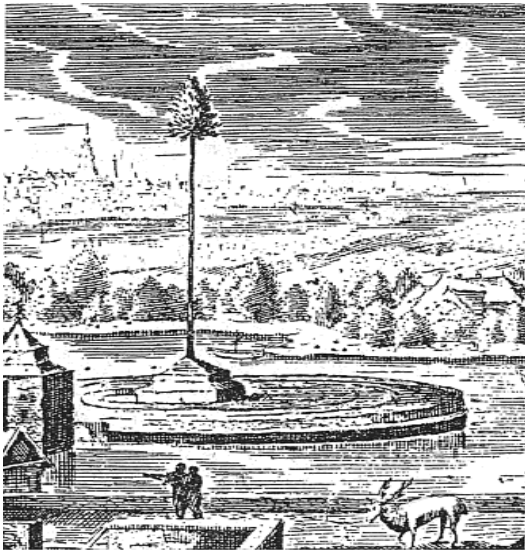


Fig. 4. Hans Bol (1543–1593), Spring, detail

which leads us back through this custom into an age which must lie long before the May bride and the fight against the dragon, an ancient time when the tree enjoyed the highest honour as a symbol of the world and of life. But from this viewpoint the shape of the Troytown has nothing to do with symbols of any kind, nor with the Sun's course nor with the lindworm. It was defined by the form of the ritual dance around the tree, became an established dance route and therefore "holy ground". Its simple original plan, which we can perhaps still detect in the Wunderkreis at Kaufbeuren, because here even for the longest train of dancers there is no end or breaking off (in Stolp or Wier only one person can begin), has undergone various changes through the millennia: from the dancing- and festival-places, still linked to the oldest customs, of the various societies and guilds, down to the labyrinths contrived on a drawing-board for

church floors and ornamental gardens. And if Troytowns today – strange, full of secrets, and almost extinct – maintain only a precarious existence, yet still there live the Plantanz and its associated kermis and other tree-dances, the lime-tree still grows at the centre of the village green in rural communities, and this and the May-tree are the centre-point of a new life for our immortal nation.



Fig. 7. Seal of the
Corporation of Graitschen

Appendix: The Troytown as a Doorway Symbol

To the foregoing fundamental statements I would like to contribute yet another image of a Troytown, which I owe to our colleague Dr Werner Schulte (in the field). It shows the labyrinth in a highly unusual place, namely as symbol on the lintel of a farmhouse in the village of Marmeke, in the Olpe district of Westphalian Sauerland (house No. 25, dating from

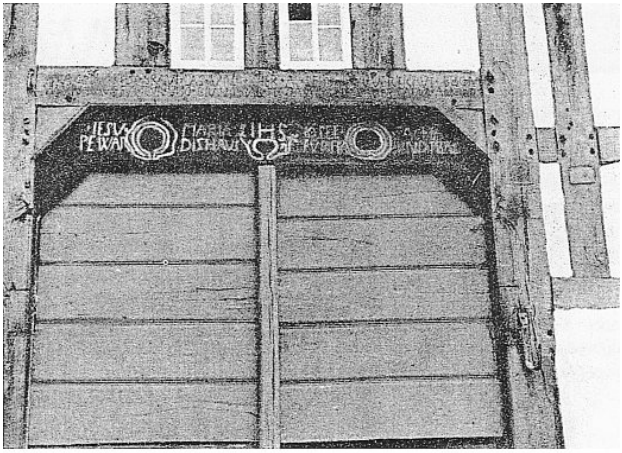
1775). The symbol – for such we may call it here – is applied twice; the two executions of it vary somewhat from one another. They are set into a saying that contains the customary prayer for protection against burning: "Jesu, Maria, Josep Saget (An?): Pewar Dis Haus Fur Für und Prand", that is, "Jesus, Mary, Joseph, say: keep this house from fire and burning". (The apparently Upper German initial P's probably tell us hardly anything about the author of the inscription, still less about the two symbols.) The three persons addressed are supposed themselves to speak the prayer against fire and burning.

Now are we to regard these signs as pure symbols, symbols of the sun's course and thus good-luck signs in a general sense? I believe that in combination with the foregoing statements by Friedrich Mössinger we can establish a narrower and more specific meaning. As Mössinger mentions, in my essay on the carnival custom of the butchers' guild (Germanien 1939, pp. 109 ff) I drew attention to the description of a custom carried out by the butchers' guild in Münster in the 16th century during a maze dance. Now this maze dance, according to Röchell's Münster Chronicle (ibid.), was also danced under the great courtyard door, which in those days the old Münster houses still had, like the farmhouses: "When they came in front of a butcher's house, the lower door had to be opened to them. Then those who were on horseback stayed in the street outside the door, while the master butchers and the 'bride'. Oldest among the unmarried daughters of the guild members went in line into the house and took hold in the rings which they carried in their hands, and one pulled another after him. Then, when it came to the servants, these pulled the linking ring so that one

fell this way, another that way, which caused a great deal of laughter."

The "lower door" is here, as I have already pointed out, the lower half of the gate leading into the hall; it is usual in Westphalian farmhouses and is called in the dialect niendör. And we see such a niendör in the picture from Marmeke; the upper part of the gate is closed, while in the lower part the right half seems to be open. We may thus probably assume that the custom of the maze dance in the lower door was not restricted to Münster but extended throughout Westphalia as an originally rural usage. And from here it is only a short step to assuming that the two Troytowns above the gate preserve the memory of the maze dance that was once danced under the gate, which explains their application to this place. They thus retain, of course, their own nature as signs of good-luck in the general sense, for the dance itself was certainly a symbolic-traditional activity that was no doubt thought to bring good luck. This piece of evidence, unique as far as I know, is important in that it allows symbol and custom to be explored in a highly unusual combination.

As regards the placename Marmeke, we may add that it represents the true Sauerland development of the Middle Low German "Marenbeke" (which as Marenbach also occurs in the neighbouring mountain country); it is composed of the Old Saxon mâri, "light, shining", and bêki, "stream".



Farmhouse in Marmeke (Sauerland) with Troytowns on the lintel

References

1. | Wiechel, Mitteil. d. Vereins f. sächs. Volksk. 6, 1912/1916, 97.

2. | K. F. Leonhardt, Sonderheft der Hannoverschen Geschichtsblätter, 1938, 52 & 63 (groundplans of 1736 & 1858).

3. | Krause, Die Trojaburgen Nordeuropas, 1893, 19, Fig. 4.

4. | Precisely because of the complete identity between Steigra and Visby, I would not assume (like Stief, Odal, 1936, 989) that a ring has been lost, particularly since the municipal seal shows the same shape, though admittedly not as a groundplan but as a path.

5. | Leonhardt, op. cit. 59.

6. | Hess. Landes u. Volkskunde 2, 1904, 351/52.

7. | Witzschel, Sagen, Sitten, u. Gebräuche aus Thüringen, 1878, 331/32.

8. | Bayr. Heimatschutz 24, 1928, 30ff.

9. | Ztschr. d. Vereins f. hess. Gesch. u. Landeskunde, Kassel, 1864, 363f.

10. | Wiener Ztschr. f. Volksk. 1937, 48ff.

11. | Sitten und Sagen des Eifler Volkes 1, 1856, 47f.

12. | Collected Works 3, 1866, 398.

13. | Böhme, Geschichte des Tanzes in Deutschland 1, 1886; 147.

14. | Hans v.d. Au, Das Volkstanzgut in Rheinfränkischen, 1939, 47.

"Rock Pictures at the Bürgstein in Bohemia," E. Gebauer.

"Felsenbilder am Bürgstein in Böhmen," *Germanien*, 1935, pp. 173–181.

Within the sandstone region that stretches from the Elbe to the Ještěd Mountain peak, 50°44′N, 14°59′E, rises the range known as the Schwoikagebirge. Its highest elevations are eruptions of volcanic masses, mostly basalt, which rises above the sandstone in pillars, plates or even spherical forms. At the foot of the Slabitschkenberg, beneath the valley known as the Betgraben, there rises from level open meadowland a huge block of sandstone, which is about 35 m high and measures some 50–60 m square at the base. The walls, which Nature has already made almost vertical, have in places been cut quite perpendicular, evidently in the earliest times. The prehistoric importance of this huge block of stone is undisputed. In the Middle Ages a castle was built upon it, the greater part of the rooms, however, being cut into the living rock.

From the topmost surface of the rock, where it is thought the wooden manor house used to stand, a circular opening about 100 cm in diameter leads downwards. Some 1.20 m beneath the upper edge this shaft opens out downwards into an average diameter of 3.30 m and continues at this width from 3 m to 6.50 m deep, down to the flat horizontal floor. This is the basic shape of bottle-graves.

This peculiar rock chamber is known as the "Pitcher" (Krug). Several similar chambers sunk into the rock are already known in Bohemia. In the seventeenth century the castle was

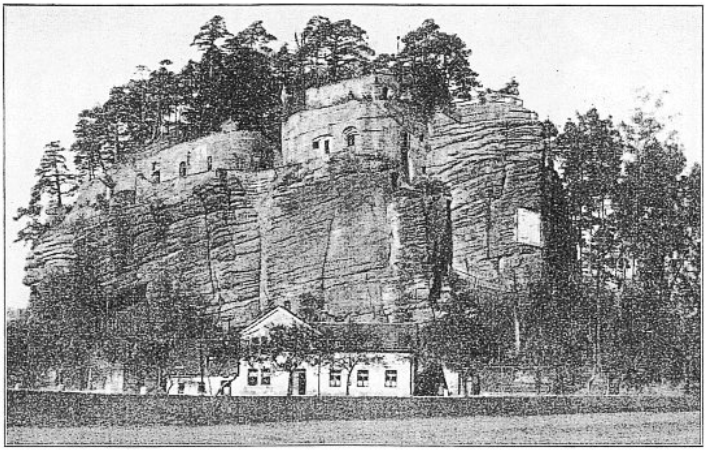


Fig. 1. The "Bürgstein" rock fortress, formerly called "Stolpen"

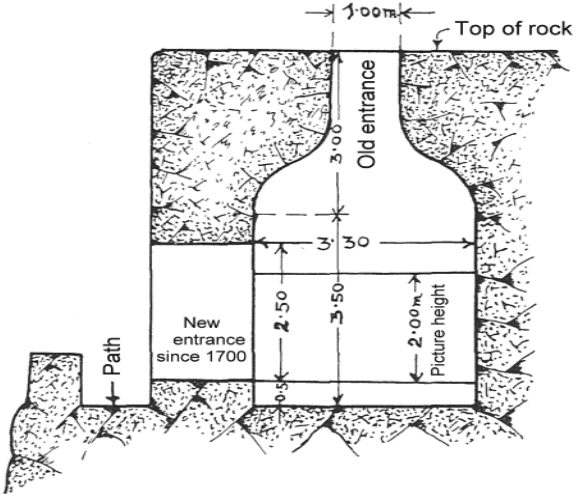


Fig. 2. The "Pitcher" at the Bürgstein

abandoned as a lord's residence and given over to hermits, who lived a god-fearing life there for decades. These men opened up the inside of the Pitcher for free entry, by breaking a door-like opening through the rock face from the side, so that since then the "dungeon" has been easily accessible.

Already on first viewing the castle some three years ago, the author noticed a picture carved in relief on the surrounding wall of this "Pitcher". Unfortunately it was not until this year that he undertook a detailed inspection of the picture. The results were surprising. The picture extends from some 50 cm to a height of 2.50 m above the floor and covers about two-thirds of the curve of the wall, which incidentally makes it 7 m long. It cannot be determined whether part of the picture was destroyed when the doorway was cut, but it is not unlikely.

Despite repeated attempts it was unfortunately not possible to get sections of the picture onto the photographic plate in such a way that all their details were immediately clearly recognizable, for photography in the cramped, more than half-dark space is fraught with great difficulties; some comments about the more important representations are therefore in order.

Figure 3 gives an overview of the greater part of the picture. Figure 4 shows a number of sun-disks, including at upper right a simple sun-wheel with a ray-centre but without rays (=division).

Above left and above middle respectively a smaller and a larger eight-divided sun-wheel. Middle left a sixteen-divided wheel. Near it another small eight-divided sun wheel, under

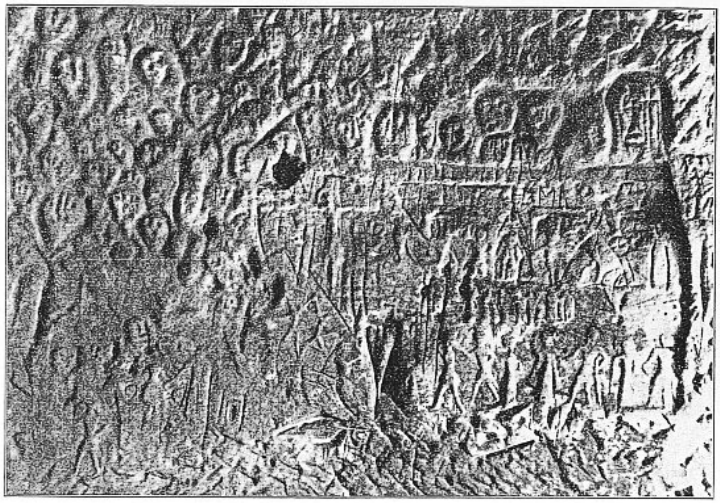


Fig. 3. Middle and right-hand parts of the whole relief

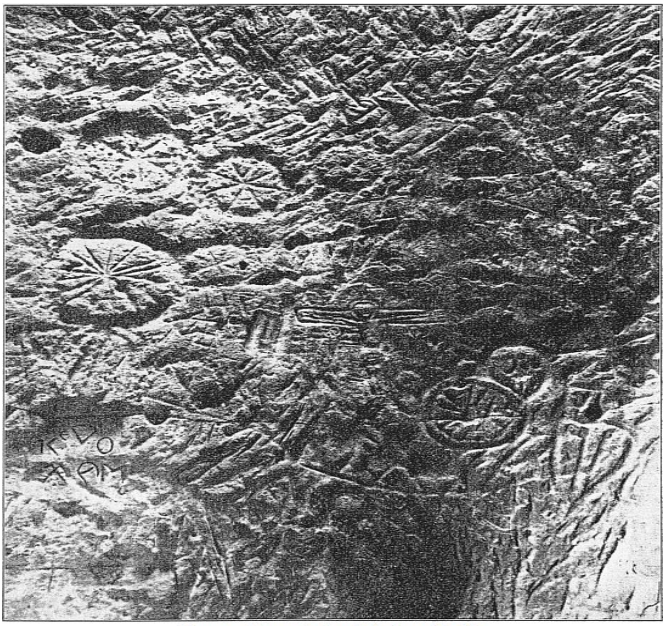


Fig. 4. Part of the left-hand side

which a snake seems to be depicted, with the end of its tail, beneath the 16-part sun disk, pointing first into then out of the rock. Its body lies coiled up in the adjoining niche, the head above. To its right, in the same niche, sits a very small human figure, whose downward-hanging legs and feet are well visible, the upper body less distinct. Below the middle to the right a cross, which can by no means represent the Christian symbol. Only the crossbeam and the upright down from the crossbeam are distinct. The upper piece of the upright is missing. Instead, half a sun ring arches over the head of the figure. Below each arm of the cross-god is a smaller cross, likewise with a human figure fastened to it, but these can hardly be meant for the thieves of Golgotha. At lower left there seem to be runes, and above them the following signs:



under these a = laf = rune, then = k; next = odil, beneath that two crossed laf-runes as a bound rune (flax and leek?), near that a = Ur-rune and then an M, along with various other signs which can by no means be regarded as letters of our alphabet. To the right is a sun disk, whose division is still not understood. A horizontal line divides the wheel into two unequal parts, a line meant to be vertical subdivides the upper and larger part in the same way. The three fields again show a peculiar division. The grotto with the small human figure sitting in it, the three crosses, the three-part wheel cross just mentioned; a face or circle drawn above and to the right of it, and next to the latter an animal with a long neck, horned head and goat's back (he-goat?), along with various smaller figures, are surrounded by a

circular line. In the corner below and to the right is shown part of the plan of a walled castle or town.

Figure 5 is likewise dominated by a cross, on which a female figure seems to be fixed. As with the crosses in Figure 4 the arms are stretched out horizontally, so that Christian symbolism, which in its representations takes into account the weight of the body hanging from the fastened hands, is excluded from the start. In the upper left corner of the cross there is again a four-part sun-circle with a cross lying on it, which according to Wirth would have been a symbol of the turn of the year. Below left are found two odil-runes linked together, with the circular loop below, thus representing a heart with its point turned upwards. Above and to the right of the cross are two "Ur-" or "U-"curves, according to Wirth the hieroglyph for the mother-cave.



Fig. 5. Detail from the left-hand part of the image



Under that, below the hip-level of the female figure hanging from the cross, a hatchet or hammer with the handle pointing downwards. Above left, a large heart-shaped figure, still to be examined more closely, with cross symbols. Several further signs are at present not interpretable, thus below, among other scratchings.

A tool of the same kind can be found at the entrance to the cave near Velenice. A male figure, probably Thor, sits there on the back of the hammer; beneath is a ship of death.

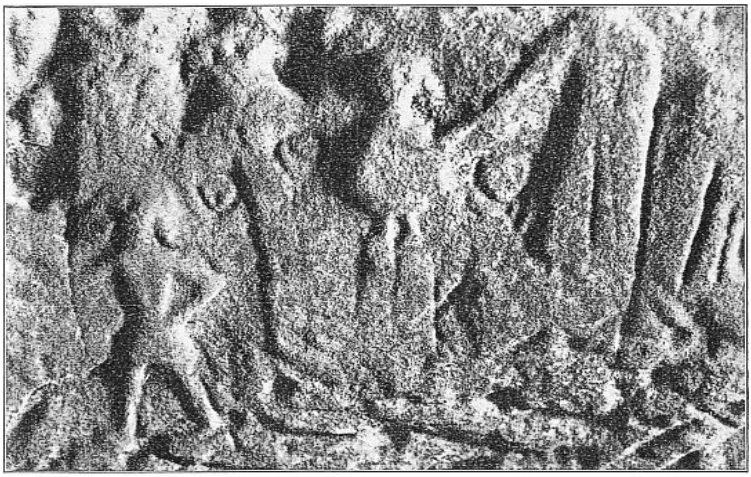


Fig. 6. Lower middle part of the image

Figure 6 shows below left the year god at the winter solstice, his head wrapped in the half sun-disk. He seems to be stepping out of the rock. Above and to the right of him a springs young lion – likewise out of the rock. Next to the latter stands, rather deeper, an eagle. It has its head turned thoughtfully towards a

gigantic figure, which, in a long cloak reaching to its feet, takes up almost the whole height of the picture on the right and seems to be grasping at the eagle with one hand. Beneath the eagle can be seen the runic symbol. Beneath the flanks of the young lion there is a sun disk, and another near the upper arm of the year god. At the feet of the latter a snake crawls out of the rock and raises its tongue towards the above-named figure.

In Figure 7 the sun disks or heads (perhaps they symbolize both), which incidentally are scattered over the whole relief, predominate. Conspicuous is an obvious cavity roofed over by a curved hieroglyph in the shape of an ur-rune. Near and to the right of the ur-sign, a bull's head. Above and to the right of the rune-row another snake lifts up its massive head with gaping jaws; to the left of the "ur-curve" sign is likewise a second. Right next to the latter an eagle's head stretches its open beak upwards, a little higher than the snake.

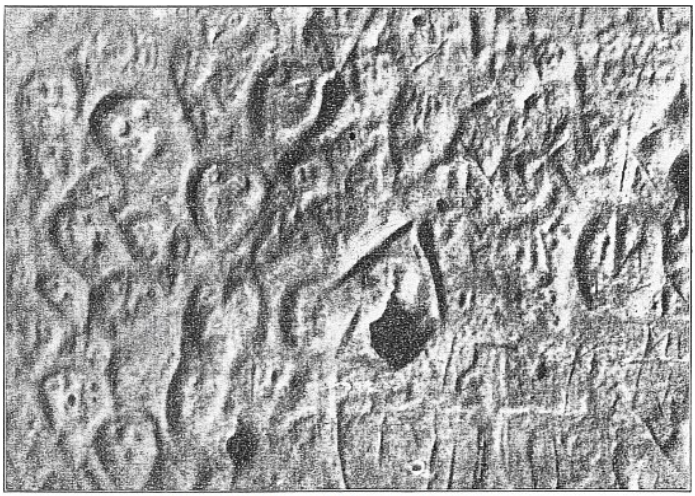


Fig. 7. Upper middle part of the image

In Figure 8 are introduced probably the most significant astronomical or mythological representations. The most remarkable are the rows of human figures represented in three strips one above the other on the right. The lowest row contains nine persons, namely from right to left: a male figure, next to that a female and then again a male, who carries a staff in his left hand. All have their arms lowered. Then a commanding male figure in a long robe and cloak, his left arm lowered, his right arm raised above the level of his head. Then another female figure and two males, each with one arm lowered and the other raised. One of the latter wears a sword by his side. They seem to be stepping into a cave, at whose entrance rises a kind of Irminsul or lily. Before the entrance, to the observer's right, stands a small figure with upraised arms. The right forearm seems to be lengthened downwards. On the left of the entrance a female figure, gracefully nestling against the rock, holds up with half-raised arms a burning torch.

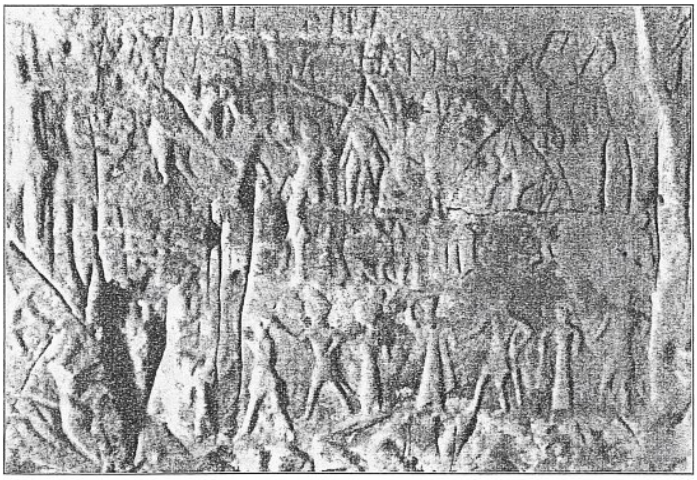


Fig. 8. Detail from lower right

At the feet of the middle three persons of this group curls a huge snake, which clasps the feet of the middle female figure.

Above this group there is a second, drawn at scarcely half the size of the first. From left to right this row of figures shows above all a mighty eagle, which though in a sitting posture, with claws stretched far in front, still rises above human height. Then follows a male figure, holding his right hand shoulder-high, his left stretched upwards and touching the eagle's head. Then two more eagles next to one another (stepping). Then follows a large male figure, next to this apparently a smaller one, and again a larger one. Finally, stretching across both crack-like depressions, a horse with a rider, its hind feet still behind the second crack to the left, its head and forefeet already over the first crack to the right.

In the topmost group can be seen from right to left: The hieroglyph of the ascending year god. Next to the loop of this, immediately to the right a gateway, barred with a doubly-crossed beam. Then follows further to the left a sun disk with an upright year cross. Next on the left a mighty animal figure (Fenris wolf?) standing on its hind legs, its body reared upwards, apparently restrained by a boy. In the space between the animal's head, its forelegs and the upper part of the young boy's body, can be seen a human face in the from of a sun disk. Above this triple group there is a wide, high gate, characterized by massive cross-beams and side pillars with panels. Near the gate on the left, a tall commanding figure, with head and face fairly well recognizable. Arms lowered, this figure seems to be expectantly following boy's struggle with the monster. Above the animal figure, an eagle flapping its wings or flying past. To

the left of the apparently commanding form, another human figure, with the left leg bent, and dragging the right leg from the crack. The left arm is akimbo, the right arm lifted high. Behind the first larger crack can be seen two arms held aloft at right-angles, probably belonging to a figure that is unfortunately no longer recognizable. More distinct is the seventh human figure in this row, which, seeming to hurry past, leaps right across the chasm (second crack to the left) and likewise holds both arms high. Further left, between this last human figure and the railing behind the cross, stands a mighty eagle with half-opened wings, its overlong head and beak turned backwards, seeming to watch the boy's struggle with the wolf with the closest attention. Between it and the last human representation (the leaping figure), immediately below the strip of inscriptions, there rest on an upward-tapering pillar three or two birds, apparently geese, which are known to be symbols of the "All". (See also Figure 3, since in Figure 8 the upper group is less clear.)

Above the upper group of human and animal figures there are two rows of rune-like symbols, some of which unfortunately are already weathered beyond recognition. Some seem to be still recognizable.

Above the rune rows four sun disks or heads and near these on the right again the ur-rune curve or (according to Wirth) the mother-cave. It is apparently surrounded by a fence (of the underworld?), from which the sun-bride (?) steps forth, as she stands in front of the fence.

To the left of the cave, into which the lower group seems to be stepping, is an eight-pointed star, whose interior again represents the sun disk.

This does not exhaust all the notable details of the relief, and in any case only partial images of the whole wall-carvings are presented in this preliminary survey. For reasons of space, the full description and interpretation can only follow in a special publication. But this much will probably be evident from the above, that we have to do with representations of primitive Aryan religious symbolism. This is further established by runes which are present, outside this "pitcher" or castle dungeon, on the castle rock. Above the upper entrance to the so-called knights' stairway there is the ᛉ rune, and next to it on the left is the symbol ☥.

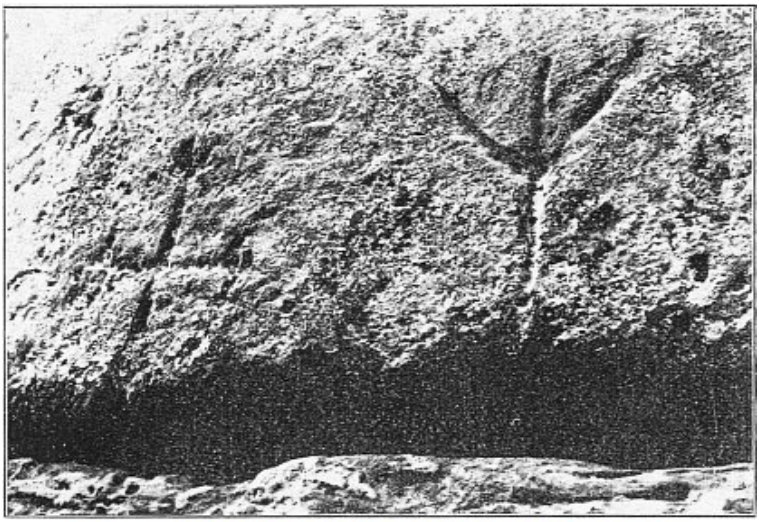


Fig. 9. Religious symbols above the manor stairway

Not far from that, and likewise on the rock face, is a sun wheel with an upright year cross, standing on a lengthened vertical spoke. Near that another year cross with the symbol for the beginning of the year at both ends of the crossbeam.



Fig. 10. Religious symbols on the rock face not far from the manor stairway

As an important condition for the probability that the carving is prehistoric, the author thought it necessary to establish whether the area round the castle rock was settled by people for whom the rock became a central point of their religion, and who could have created the rock carving thousands of years ago. To this end he carried out excavations in August, which yielded a surprising result. At the foot of the castle rock he came across a dwelling place that had been used for thousands of years. At the bottom, around a stone hearth, there lay masses of ashes and charcoal, fragments of neolithic pottery,

flint implements, a bone dagger, and a lot of daub from hut walls. Above that followed potsherds from the Eneolithic (copper age). Above these – separated by an 8-cm layer of sand – fragments of Bronze Age earthenware, and above this stratum lay remains of the Hallstadt culture, and still higher of the La Tène culture, consisting of fragments of earthenware and an iron brooch. The youngest fragments dated from the migration period and early Burgwall period 7th–8th cent. AD and lay in the topmost culture stratum. These finds provide support, which cannot be ignored, for the assumption of a prehistoric origin of the rock carving.

Nevertheless it is not altogether impossible that the wall carving in question dates from a later time than that whose religious symbols it represents. As the first hermit, the mason and reputedly learned architect Konstantin came to the deserted fortress in 1690. The second, who lived there together with the first from 1710, was Brother Wenzel (Wenceslas), a painter who had made a name for himself as an artist and to whom is attributed the picture of St. Catharine on the altar of the town church of Bürgstein. The possibility cannot be excluded from the outset that this wall relief in the "Pitcher", and also the runes and symbols on the outer rock face, are the work of these two.

"Principles of Prehistoric Cult Geography," Josef Heinsch.

Translated from "Grundsätze vorzeitlicher Kultgeographie," Comptes Rendus du Congrès International de Géographie, Amsterdam, 1938.

Principles of Prehistoric Cult Geography

To many people a systematic geometrical arrangement of communities and landscapes by our "primitive" native ancestors may seem out of the question in evolutionary history. But even under strictly rational consideration this surprising fact loses its incredibility when one realizes that the surpassing skill displayed by prehistoric people in Ice Age art is undisputed today, although only 50 years ago the Anthropological Congress in Lisbon declined even to look at the Altamira cave paintings – now universally admired – as being simply unbelievable, and thus delayed by several decades the recognition of their discovery, which according to Kuhn (Kunst und Kultur der Vorzeit Europas, Berlin 1929) "overturned all established beliefs". This mention of the singularly "accomplished, artistically and technically perfect" paintings of "primitive cavemen" is made here for two reasons. Not only does the memorable story of their discovery show the importance of being unbiassed – "first evidence, then verdict" – but above all the unusual ability to understand and manipulate form shown in the art of Ice Age people, whose "magical view of nature" was so different from ours, can lead even the sceptical clearly to

appreciate the no less surprising discovery of a prehistoric sacred geography.

As far as geographical science is concerned, the present results of research carried out in this field by the author, in several years fruitful collaboration with Father Joh. Leugering M.S.C. Missionarius Sacratissimi Cordis, can essentially be reduced to the following seven basic principles:

1. Far back in prehistoric times, probably when people first made agricultural settlements in the Stone Age, large tracts of land were already being accurately divided and surveyed.

2. This ancient geometrical arrangement of the country appears to have been started and carried on uniformly over a wide area – in the Orient as well as in the north of Europe – accordingly to (a) certain fixed angles (azimuths measured from the astronomical N–S axis) and (b) equally universal measures of length.

3. The metrological laws discovered in landscape patterns correspond according to angle, length and number to the proportions that were later retained in canonically-constructed sacred buildings – northern stone circles and oriental temples as well as Christian churches – and are still effective today in giving them a cosmic-sacred quality.

4. The sacred art of metrology based on "primitive" peoples' clear insight into nature (the "magical" view of microcosmic–macrocosmic correspondences), with its application to the geometrical arrangement of the landscape, is hardly inferior in accuracy to the technical achievements of modern surveyors. It

originally covered all sites of any importance, in particular sacrificial and assembly places in addition to boundary marks.

5. Allowing for the varying importance and purpose of these sites, their orientations to one another followed according to universally valid rules, starting throughout from the exact N–S axis, the "Law-Tree" of the Edda, and the ancient "holy hills" as the chief sacred centres. Because of the general conservative retention of pagan religious sites, and their occupation by churches, chapels and mosques to bring them into line with Christianity or Islam, the pattern is recognizable in its main features even today, and gives a characteristic local stamp to the structure of a country or landscape.

6. Apart from the fundamental triangulation of the country based on 30° and 60°, and the orientations on the diagonal of a square (45°) or double square (about 26.5°), the main sacred angles determining the ancient geometrical arrangement of the landscape are as shown in:

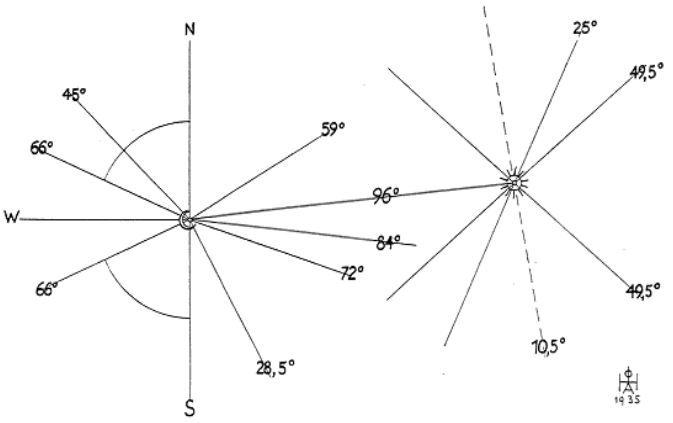


Fig. 1. "Basic plan of the holy hill / solar site orientation" 1)

The base line of this system of orientations links two important sacred sites which are found to occur regularly: (a) the holy hill in the west, originally associated chiefly with Moon-worship and in Christian times often dedicated to Our Lady; and (b) to the east of this on 84° or 96° – with a 6° deviation to the north or south – the former solar site, in Christian times often dedicated to St. John the Baptist. Since in the mathematics of the ancients this base line, with the angle of 6°, appears in a right-angled triangle with short sides in the ratio 19:2, the square on the hypotenuse thus being 365 (= 192 + 22), the line was given the name of "solar year line" (Fig. 2).

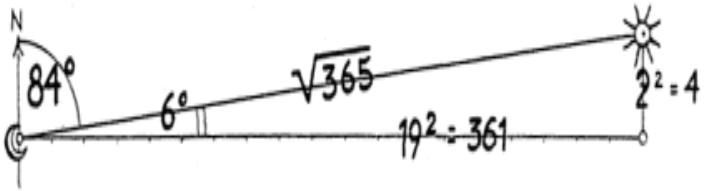


Fig. 2. From the holy hill to the solar site leads the solar year line. 19:2 = √365.

7. Not only in the ancient layout of the landscape, but also in the religious buildings erected later, the original unit of length turns out to be the metre, which was first profaned in the French Revolution, and as a ten-millionth of the Earth's quadrant is cosmically defined. The oldest basic units of length, in northern and eastern countries can generally be referred back to the metre by ratios involving whole numbers – especially

1) Fig. 2 of the offprint from Allgemeine Vermessungs-Nachrichten: Dr. Heinsch, Vorzeitliche Ortung in kultgeometrischer Sinndeutung.

multiples of 7 as measuring the diameter of a circle and multiples of 11 as measuring the circumference (with π expressed in terms of whole numbers as 22/7).

Let us now give some examples to show that these assertions are well-founded: first in respect of the last statement about the metre as a universal basic measure.

It is not simply chance that the diameter of the largest stone circle at Odry in West Prussia (now PolandN 53° 53′ 54″, E 17° 59′ 35″; not Odry in Czechoslovakia as in 1975 & 1977 editions, and also of the reconstructed Stonehenge, is 31.5 m (circumference 99 m), exactly three times as wide as the Holy of Holies in Solomon's Temple. This has a width of 20 royal cubits of 0.525 m, or 110.5 m in all, the perimeter of the inscribed circle being 33 m and of the square 42 m (see Figs. 3 and 4).

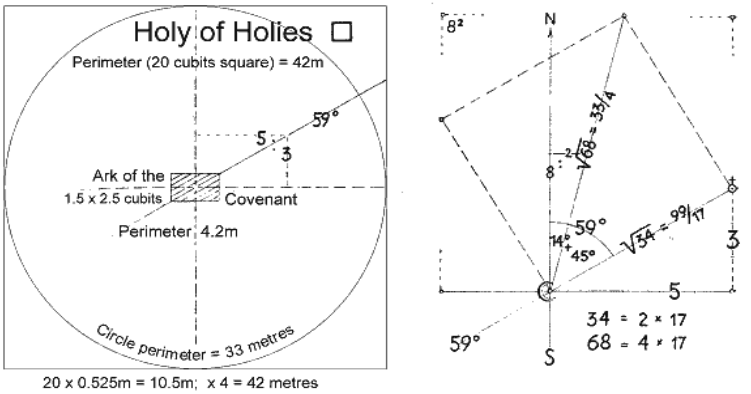


Fig. 3. Square of the Holy of Holies, Ark of the Covenant, and holy hill orientation. Same metrical relations in sacred buildings as in the old spatial ordering of the landscape.

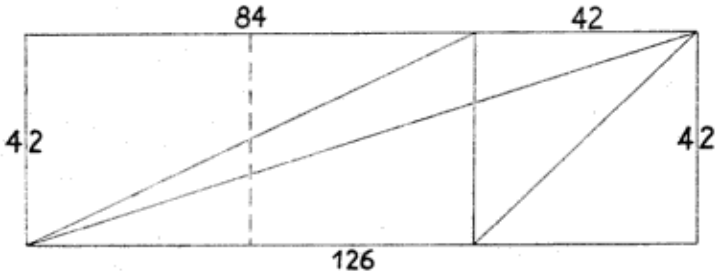


Fig. 4. Square, double square and triple square, the basic shapes of old sacred buildings, with the holy hill number 42 in metres the ground plan of Notre Dame de Paris.

The venerable church of Notre Dame in Paris measures, according to the Norwegian Macody Lund (Ad Quadratum, Paris 1922), 42 m in width, with a length 3 times as great, and vertical stages of 11, 22 and 33 m; and the dome of St. Peter's in Rome, with a diameter of 42 m, was certainly not built "measurelessly" by master-builders like Bramante and Michelangelo. The twelve largest pillars in the aisle of the Temple of Amun at Karnak are 21 m high; and even in the ground-plan of a recently excavated temple or palace at Uruk-Warka in Iraq, dating from the first flowering of Sumerian culture, there is a square of 21 m such that on its division into 42, giving a basic unit of ½ m, the dimensions of the walls and the interior measurements become whole numbers throughout.

Now 42 is the number measuring the holy hill, as 84 is that for the summit, not only according to Kirfel's Kosmographie der Inder (Bonn 1920), but what is more by the common agreement of various old religious traditions. In Egypt the kingdom was divided into 42 provinces, and 42 judges of the

dead decided whether the departed souls were innocent of 42 sins. Even in the Bible 42 occurs in several notable places, e.g. Judges 12:6; 1 Kings 9:28; Revelation 11:2; 13:5; and Christ himself conforms to the rule of 42, as is shown by the very first chapter of the New Testament with its enumeration of his 3 × 14 line of descent. And similarly in the northern tradition of ancient revealed wisdom there remained the knowledge of a 42-stage descent and re-ascent from the heavenly to the earthly, preserved in the astrological poem Grimnismal (in the Edda), which also gives a total of 42 mysterious by-names for Odin; while even in the down-to-earth traditions of the Sagas it is still said of Wotan's wild huntsmen: "There were 42 of them".

After the agreement of this evidence, it seems only natural that the stone circles at Odry should contain as the centrepiece of the pattern a clearly-defined double square of exactly 42 × 84 m, passing through the centres of circles III, IV and X and also the tops of hills 8 and 5, as shown in Fig. 5.

Thanks to the accurately-drawn N–S axis on the 1:400-scale plan, which was made by the government surveyor Stephan before the War and became available to me in summer 1936, the sacred angles of the "holy hill/solar site orientation" previously found from a survey of the landscape and published with the "basic plan", could also be shown to exist in this prehistoric layout in remarkable profusion and distinctness. The map reproduced here shows only part of the results; for example:

The circumference of the largest circle V (diameter 31.5 m) is laid out on the 59° azimuth as a straight line exactly 99 m long, leading from the centre of the circle to the summit of the

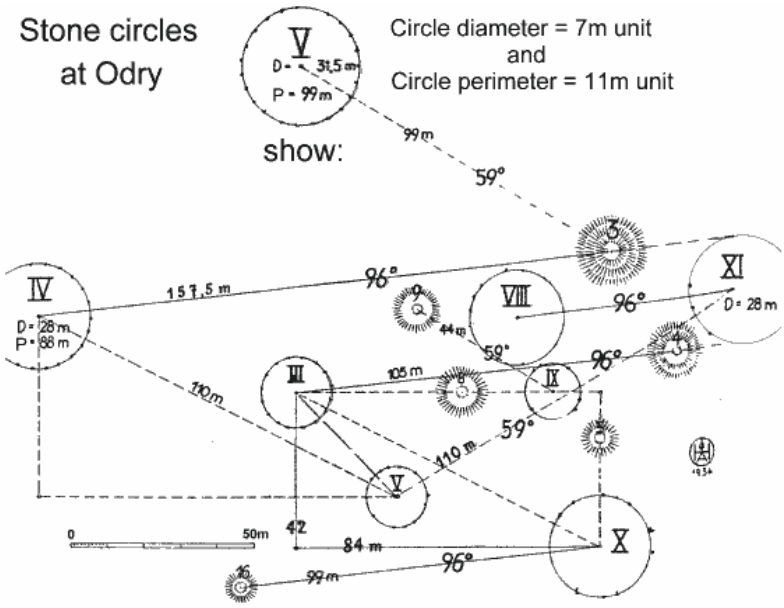


Fig. 5. Plan of the stone circles at Odry in Poland. To sacred angles belong cosmic measures of length: developed in metres from Nordic stone circles.

highest hill 3. The 59° angle appears again in the line of length 44 m joining the centre of circle IX to the summit of hill 9, and a third time (running mirrorwise) in the line of length 110 m joining circle II (inside the central double square) to the easternmost circle XI. Regularly going out from the chief "holy hill" centres, the 59° azimuth appears repeatedly in the landscape, associated with the right-angled triangle of short-side ratio 3:5 (that of the golden section, or sectio divina), thus, in agreement with the Ark of the Covenant, which is a rectangle of 1.5 × 2.5 royal cubits having a perimeter of 2 × 4 × 0.525m = 4.2 m or one-tenth of the perimeter of the square Holy of Holies.

Of the four parallel 96° azimuths (so-called "solar year lines") shown in Fig. 5, the one that runs from the top of hill 16 to circle X again shows the "circumference length" of 99 m; while the ones from circle III to the top of hill 4, and from the centre of the westernmost circle IV to the hill 3 mentioned above, "diameter lengths" of 105 m and 157.5 m. Here again the agreement between the linear measures used in northern stone circles and the proportions of eastern temples is unmistakable; 99 m is 3 times the circumference of the circle inscribed in the Holy of Holies, 105 m is 10 times its width, while 157.5 m is 15 times this width, and at the same time exactly coincides with the length of Noah's Ark (300 royal cubits of 0.525 m).

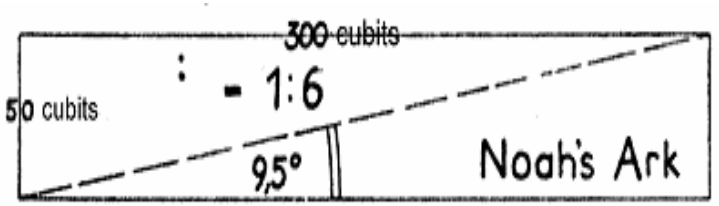


Fig. 6. Rectangle with sides 300 metres and 50 metres. Equal lengths in the East and North: 300 cubits = 157.5 m.

But above all 157.5 m is also equal to the Egyptian stadium (1/40 schoinos = 1/40 x 6300 m = 157.5 m) of Eratosthenes (d. about 200 BC) who is famous for the first recorded measurement of the Earth. In connexion with this length, Konrad Miller, the expert re-editor of the oldest maps of the world (Die Erdmessung im Altertum und ihr Schicksal, Stuttgart 1919), has no doubt that Eratosthenes worked with the equation 1° = 700 stadia, i.e. with one-sixtieth of the circle

= 4200 stadia and then with the division of this fraction into sixths.

It may be added that "the schoinos as a unit of length in Parthia is computed by Herodotus to be 60 stadia = 11 km". And that the same basic length of 11 km has been the standard for the triangulation of the countryside in ancient Germany. Luckily this also has documentary proof in the following piece of literary evidence: Adam of Bremen, historian of the christianization of Northern Europe, and also important as a geographer, reports in his Gesta Hammaburgensis ecclesiae Pontificorum I, 1 that Saxony, to those who measure it correctly ("recte metientibus"), turns out to be a triangle ("trigona") of which the western angle ("angulus primus") lies by the Rhine "a bowshot away from the river", the eastern 8 days" journey away on the Saale, and the northern in Haduloh.

As long ago as 1875 the archivist Böttcher (Diöcesan- und Gaugrenzen Norddeutschlands, Vol. 1 p. 64) accurately identified the "angulus primus" on the Rhine as the boundary-marking bend "on the Rubbert" near Dinslaken, 200 m away from the former river bed; and recently Fr. Leugering (Hummlings-Emsland; Johannesburg, 1936, p. 21) has gone on to show that a line of length 8 × 44 km = 352 km (8 "rasten") running eastwards from this western vertex leads to the River Saale, and that the north point of the "Saxon triangle", the modern Hadeln (Haduloh), lies perpendicularly above the mid-point of the W–E line, thus forming an isosceles triangle. It is especially remarkable too that he found the cathedral of Paderborn to lie 33 km, and that of Minden 22 km, west of the N–S axis of the Saxon triangle.

The historian Adam mentions simply, and as something taken for granted, the "recte metientibus" who knew of "cardo" (Haduloh) and "decumanus" (from the Rhine to the Saale) in the fundamental triangulation of Saxony with its base length of 8 × 44 = 352 km; and it follows readily that such experts in landscape surveying must themselves still have known the ancient principles by which the land was marked out and ordered on this vast scale – principles which must come down from a time when a religious view of the world led to the shaping of peoples and places into a truly organic whole, through a pattern linking the now settled members of the community in space as well as in time and in way of life.

How much these traditional principles of "sacred engineering" were still valued and cherished everywhere is shown not only by the churches, chapels and crosses which were set up on the most important sacred sites of the country, but most of all by the retention in Christian form of festival processions, annual circuits, and periodical beatings of boundaries, which, fixed in time by their places in the yearly calendar, were and are tied spatially through the ancient layout of the country to certain unvarying locations. Far into the Middle Ages the sacred principles remained intact, and the first cities to be founded against the rules were despised as coming "from wild roots", i.e. as illegitimate and therefore not of true stock. In many parts of Germany a knowledge of our ancestors' unwritten rules for determining sites and boundaries lived on – however degenerate – into modern times. Particularly in Westphalia, the heart of ancient Saxony, even the correct practical application of the traditional principles seem not to have died out until the decline of the "secret Veme". At all

events it must have had a decisive influence on the ecclesiastical and secular authorities there, even as late as the 17th century, since in the settling of protracted legal disputes about old boundaries there are still documentary reports on the preparation of the verdict by special experts who, "among various strange things", worked in mysterious seclusion on the ancient measuring points of the country.

As stated in a document of 1490 and confirmed by the Westphalian legal code of 1546, the "free jurors" of the official Veme had to be "up roder Erde gemaket", i.e. made on red earth. And today Westphalia, famous for its obstinate clinging to the rule of the Veme without any higher authority, is in all parts of Germany called "the country of the red earth". This name was not (as one might think today) originally connected with the colour red at all, but with the ancient layout of the landscape; it is land which is sacred, because measured with "roden" (modern German "Ruten", rods, in the two senses of sticks or units of length). The old "rode", which remained in official use in Denmark until very recently as a length of 0.314 m (circle diameter for 1 m circumference!) was a fundamental unit of the old "sacred engineering" stamped almost indelibly on the face of the country. And in Westphalia a man was not accepted as a lawful judge in the daily "free courts" which met "in the open air, mostly under lime trees", unless he had been duly invested on the places of jurisdiction fixed for the purpose by accurate surveying. In this temporal scheme, derived in former times from the divine, everything was subject to the "rule of measurement".

This reference may serve as both proof and example of how the traditional place-names – always guides for researchers – speak plainly of the old geometrical arrangements; and thus how research into place-names, with a proper understanding of the rules of orientation, could one day achieve a deeper significance and become the basis of a really worthwhile topographical science.

In Germany, even restricting ourselves to the "rode" examples given above, the thousands of place-names with the syllables rode, rade, rot and rat (found from a practical investigation in widely differing parts of the country) would serve as so many starting-points and guides for systematic research, not only to extend our knowledge of the original regional divisions and hence of the principles of landscape formation, but also to build up, by a far-reaching comparison of the local traditions with the proportions of the orientations, a clear picture of the original purposes of the sites, whether it was for sacrifices at certain fixed times of the year, army levies, law sessions, rights of way and water, or the use of woods, meadows and arable land.

In other countries exactly the same considerations will hold, since the principles of orientation – though naturally showing at times purposeful and ingenious adaptations to the conditions of the landscape or the needs of the community – have already been shown by pilot studies in England, France and Palestine to be applied with surprising uniformity and with agreement over a wide area.

In these circumstances the rediscovery of the old geometrical arrangements of the landscape, of which only the first stages

and a few essential principles are described here, may be given a not unimportant role in the formation of a new science of landscape arrangement suited to the needs of modern communities, provided that care is taken to build up organically from firmly established ground, and not to block the springs of power arising from popular and national traditions but as far as possible to take fresh hold of them and keep them clear.

As legal representative for the region, the author himself played a leading part for ten years in the drawing up of a general housing plan, with its functional divisions into areas, provision for green-belts, transportation corridors, extension of the road system etc., for the second largest of the German rural districts then undergoing heavy industrial development. So he well knows how difficult it is to do justice, with care and forethought, to legitimate demands for the protection of the local people and their traditional way of life, as well as to the greater degree of civilization required by our advancing technology and the development following from it; and that in practice it is necessary to have an intimate knowledge of countryside and people – the basis of their agriculture, their family ties, in fact a many-sided sympathy with the local character – in order to protect this warm-blooded life against its unwanted disruption by the spread of gigantic machinery, the narrow-mindedness of cold intellectual calculations, and the all-too-tempting paper schemes of distant planners. If ever the threatened local interests are to be strengthened and preserved by recommending the modern landscape-shapers to make use of the discoveries described here, it is necessary above all firmly to convince those so inclined that a test of these principles, as laid down especially in the basic plan of the holy hill/solar site

orientation, does not just provide a few interesting clues and fresh ideas in regional studies but regularly leads to quite new, though scientifically sound, results by which important features of the surviving landscape structure can be recognized even today.

That this is true follows from the fact that the universal validity of the principles described here has always been verified whenever the necessary materials could be made available for the region in question. These are:

1. A suitable official map, equipped with grid lines, on which the true N–S axis must be clearly indicated. Maps to a scale of 1:50 000 (2 cm : 1 km) give the best results, because they both are accurate and extensive enough to provide, on a single sheet, a fair number of datum points whose positions can be accurately measured.

2. Clear indications of known ancient religious sites (churches, chapels, crosses) as well as spots noted for their historical or legendary traditions. These places are best indicated by ringing them in red. By the addition of a number, further remarks about the significance of each place, e.g. characteristic names and especially Christian dedications and festivals, can be easily and clearly noted down on an attached list.

It should be obvious, not only to sceptics, that the results of these investigations on the map should be checked, filled out and supported by a local topographical and historical study, in order to interpret the metrological relations between the alignments in different places in terms of a single whole, and

thus produce fully ripe fruit on the tree of scientific knowledge. But from a common-sense point of view, the combined evidence of the regular sets of orientations that come to light is usually such that the obvious harmony of angle, length and number rules out from the start, on statistical grounds, the assumption of what would be a miraculous coincidence.

The investigations on the map have recently reached virtual certainty through the discovery, made after a thorough investigation of the proportions of the stone circles at Odry, that the original fundamental orientations frequently turn out to be arranged in parallel lines according to definite rhythms of measurement.

The observation that the fourth of the 96° parallel lines in the Odry complex (Fig. 5) from the centre of circle VIII to the centre of XI, is just half way between the lines from the centre of IV to the summit of hill 3 and from the centre of III to summit 4, and that when extended these last two lines are tangents to circle XI of diameter 28 m, led me to investigate the N–S distances between the 9 "solar year lines" (reproduced in the diagram below) which I had found a few weeks before on the lower Rhine. The values found, as shown in the diagram and read off correct to 1 mm from the 1:50 000 map, are clearly multiples of 700 m.

Similarly there turned out to be complete agreement between the distances in the landscape arrangement and those in the stone circles for the angle of 10.5°, on which incidentally scientific evidence shows the axis of the well-known stone rows at Callanish in Scotland to be aligned. At Odry this angle turned up twice: first from the centre of circle V to the top of

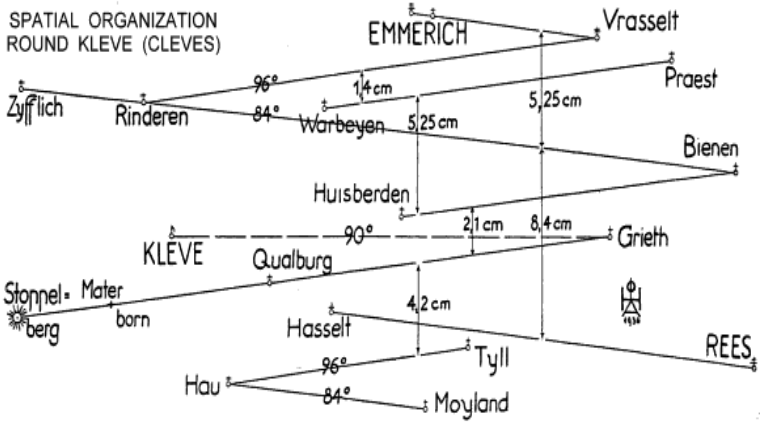


Fig. 7. Map of churches around Cleves and their geometrical relationships. 17 Christian religious sites, and the Stoppelberg in the Reichswald Forest, on 9 clear solar year lines at precise 700-m distances.

hill 10 and again from the centre of VIII to the centre of XII; each has a length of 72 m and moreover, these two parallel lines have an E–W separation of exactly 72 m! The lines previously determined on the west German map round Kleve, joining churches at Warbeyen and Bedburg, and Dornick and Kappeln, both on 10.5°, were likewise found to have an E–W separation of 14.4 cm or 7.2 km!

The head of the official Land Registry Department in Kleve, Surveyor Rensing, comments on this in the Allgemeine Vermessungs-Nachrichten (1937, p. 394):

"As for the test of the solar year lines, angles, and distances that Dr Heinsch has discovered near Kleve, I can only confirm their accuracy. I was astonished: even calculations from grid references showed that the accuracy, if not quite mathematically exact, was still remarkably good, considering that the lines (84°

and 96°) do not pass through the existing church towers but through the former prehistoric Germanic religious sites, on which the churches were later built (N.B. around the altar!) I should like to emphasize strongly here that apart from hills and important landmarks we are dealing, in the case of the churches mentioned, with primeval lower-Rhine sites that were already significant in the early days of Rome."

The 700-m interval between solar year lines, of which the account given here must be restricted to the essential points, I have meanwhile found to be confirmed particularly often: not only in Germany where a particularly impressive example is the "old landscape arrangement near Munich" – based on the first map drawn by modern surveying, on a scale of 1:50 000 and dating from 1812. As can be seen from the map laid before the Congress, there are to be found there, in an area of 25 × 35 km, a total of 63 old religious sites in regular relationships with one another. As well as six particularly noticeable triangulations on 30° or 60°, ten orientations on 66°, eleven on 49.5° and seven on 10.5°, there appear thirty solar year lines on 84° or 96°, of which several also have regular N–S intervals of 10, 9, 8 and 6 times 700 m. Moreover, from the original holy hill, now the site of the altar in St. Mary's, Pasing, there run out seven orientations on regular angles; on 96° lie the churches of Englschalking (14 km away) and Poing (27 km) and on 84° St. Peter's, Munich, with the altar point at an equally exact distance of 9 km; surely a remarkable proof once again of the fundamental significance of the metre.

That the theory is also valid for France is shown clearly and beyond doubt by the four sheets of the official 1:50 000 map

for the neighbourhood of the world-famous Chartres Cathedral, which is also dedicated to St. Mary and is built on a very ancient sacred site. Its former role as a holy hill is confirmed by various regular orientations to nearby churches. In particular the associated solar site lies on 84° and exactly 6.5 km away, marked in Christian times by the church of Nogent-le-Phaye. At the point of intersection of the 59° line from Chartres and the 10.5° line from Nogent-le-Phaye stands Gasville church. From here the 96° line leads to Levainville church; and 16.8 cm (8.4 km) to the north runs a parallel line joining the churches of Yermenonville and Sonchamp. South-west from Sonchamp (on 25° and exactly 7.5 km away) lies Ablis church with many regular orientations: e.g. at 84° to Gallardon church (and the chapel near Berchères), and 11.2 cm (5.6 km) to the south the line joining Umpeau and Paray-Douaville churches runs parallel.

Exactly 8 km west of Roinville is Houville church which, as the southern vertex, forms with Chartainvilliers and Ecrosnes churches, obviously E—W from one another, an equilateral triangle of side 13 km. These are just some of the easily seen examples on the map Chartres S.E. (see Fig. 8).

At 10.5° north-west of the cathedral, 6.8 km away, lies Poisvilliers church with a 96° orientation to the church of St. Arnould des Bois, and 11.2 cm (5.6 km) to the north runs a parallel line exactly 11 km long joining the churches of Gâtelles and Challet; while 4.2 cm (2.1 km) to the south a third parallel runs from Landelles church to a centre in the Bois Bailleau remarkable for its many regular relationships.

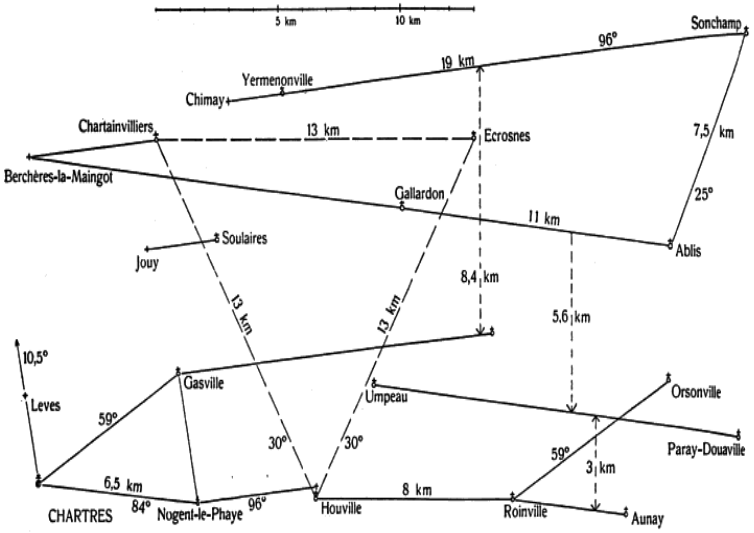


Fig. 8. Map of churches around Chartes and their geometrical relationships. Example of regular ordering in France going out from Chartres Cathedral: 9 solar year lines with significant north–south distances, and a 13-km triangle.

South-west of Chartres, Notre Dame des Chatelliers is shown to be a "holy hill" site by seven regular orientations. The associated solar site, on 84° to the east, is the church of Ermenonville-la-Grande. Among several lines parallel to this (2) that from Formeste chapel to the church of Pont-Tranche-Fétu shows a regular N–S interval of 7 km, which is divided into 3 + 4 km by (3) the line joining the churches of Bailleau-le-Pin and Mignières, while (4) that between the churches of Méréglise and Vitra-en-Beauce lies 6.5 km further to the south, and (5) Blandainville to Luplanté (with a N–S interval of 4.4 km) is seen to follow the rules by many orientations, e.g. 30° to Mignières and 66° to Ermenonville.

This investigation, based entirely on what is shown on the map, has yielded at least 36 convincing examples of orientations between churches and chapels: within a 25 km radius of Chartres Cathedral.

In order to investigate further the range over which the old geometrical arrangements appear, a corresponding pilot study was recently made in Palestine; for this sheets 59 (Nablus) and 60 (Lubban), the last still to be available commercially of the German 1:50 000 map of Palestine produced in the World War and based on that of the Palestine Exploration Fund, provided a lucky starting-point.

The investigation began with the peak, indicated by a triangulation mark, of the biblical Mt. Garizim near Sichem (Nablus). Apart from orientations on 59° and 66° to nearby mosques, the most remarkable lines are on 45° (the diagonal of a square) leading out from this sacred centre of the land of Canaan, significant even before Abraham's immigration, both NW and SW to important sacred sites about 8.5 km away and still occupied by mosques: (1) Sheikh Ibrahim el Adham in the NW, when joined to the mosque at Kubebet ed Dahr 8 × 700 m away and to Kasr el Fuhes another 7 km to the north, indicates the N–S axis of the main metrological pattern on Sheet 59; while (2) Alim el Hada in the SW, when joined to Sheikh Katrawani 17.8 km to the south, forms the corresponding N–S axis on sheet 60 (Lubban) – to which, in the interests of brevity, the presentation in note form of a few further results of investigations on the map must be restricted.

It appears that in this 24-km square region lying between Jerusalem and Sichem the same principles of angle, length and

number are followed as those that have been shown to exist over much of northern Europe from time immemorial:

A. First of all the religious sites mentioned are shown to be old centres by (1) regular orientations on the diagonals of double squares with dimensions clearly equal to 42 × 84 mm, 52.5 × 105 mm, and (twice) 33 × 66 mm, (2) triangulations on 30° and 60° seven times, and (3) eight-rayed alignments on 90° and 45° also seven times: and these also often at obviously regular distances apart.

B. Nine lines in this region can quite clearly be considered as solar year lines, among them (1) four on 84° with regular N–S intervals of 8.4 km, 1.6 km, and 5.6 km, and (2) four on 96° with N–S intervals of 8 km, 4 km and 2 km.

C. Three alignments were found on 10.5°, each connected with a solar year line, with lengths of 16 km, 11 km, and 15.75 km, and two of these had an E–W separation of exactly 4 × 700 m!

D. This 700 m periodically appears with quite surprising clearness in the nine lines found to date linking religious centres on 49.5° (the angle of a 6:7 right-angled triangle). (1) Five of them run from NE to SW with E–W intervals of 126 mm and 125 mm (both twice). (2) Four run (mirrorwise to the others) from NW to SE with E–W intervals of 105 mm (twice) and 140 mm (once). (3) Five of them also show definite multiples of 700 m along the line itself.

In northern Europe these 49.5° inclinations, like the solar year lines, are impressed on the landscape hundreds of times, and usually in connexion with them. Thus for example they

appear 10 times on the lower Rhine near Kleve: invariably in connexion with the seventeen Christian sites that lie on solar year lines, and again in the region of Chartres they are not infrequently found in similar regular relationships.

In the stone circles at Odry I have so far seen this sacred angle used only once: running from the centre of the easternmost circle XI through the exact mid-point of the southern side of the central 42 × 84 m double square (and therefore through the centre of an 84 m square) and going on further through the top of hill 17, which is the centrepoint of a twelve-rayed orientation (on 30° and 60°).

But for a proper understanding of this angle's fundamental sacred importance we must above all look to Stonehenge with the axis of its structure aligned NE–SW on 49.5°, especially since it is the origin of the prehistoric discoveries and new branch of geography developed here, and served as a firm basis for them from the outset.

When around the turn of the century the English astrophysicist Lockyer was investigating the orientation of this "Stone-age Sun Temple" on the midsummer sunrise, it was pointed out to him by the Director-General of the Ordnance Survey in Southampton, Col. Johnston, that in line with the axis of stone circle and its continuation as the Avenue there stood three other well-known ancient sites – Castle Ditches, Grovely Castle and Sidbury Hill, and their alignment over a distance of 33.4 km was found to be so amazingly exact that the survey of the region was accordingly improved. At the same time, moreover, following the discovery of an equilateral triangle with sides of 9500 m the further notable distances of

3200 m and 8400 m were indicated on a line at 10.5° to Old Sarum, Salisbury and Clearbury Ring (see Fig. 9).

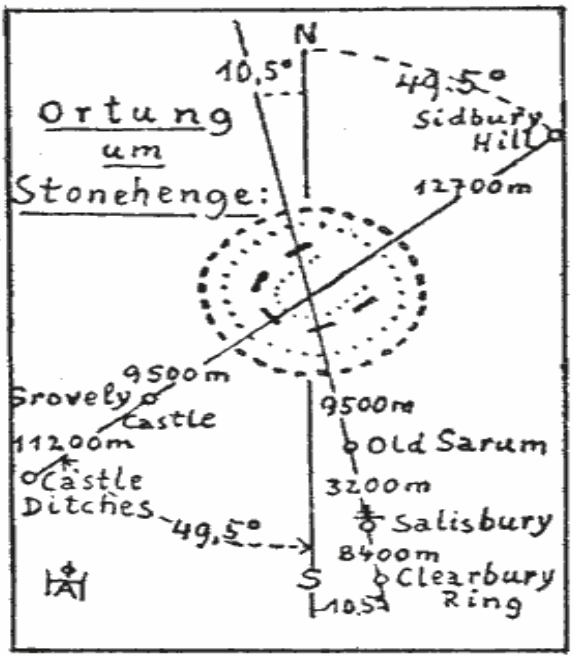


Fig. 9. Sketch of Lockyer's determinations of angle and length around Stonehenge; after Albrecht in "Das Weltall" Berlin 1914/15.Orientation around Stonehenge: Lines on 10.5 degrees and 49.5 degrees

It is to the credit of the survey-engineer Albrecht, later killed in the World War, that by a discussion on "Stonehenge" in the periodical Das Weltall in 1914/15 he brought these remarkable observations to the notice of Father Leugering (as he is now) on his return home in 1920 from imprisonment in Russia, thus prompting him to make a successful search for similar

orientations (in the sense of the so-called "Kulturkreis-theorie") in his Westphalian homeland.

A half-inch map with clear grid markings, fortunately still in my possession after a previous visit to the district, enabled me to demonstrate conclusively the equal validity for England of the principles of the holy hill/solar site orienation discovered by wide-ranging investigations in very different regions of Germany. In the region round Stonehenge and Salisbury there appeared e.g. sixteen convincing solar year lines organically related to one another. In particular, assuming that the old sacred places on the 49.5° line through Stonehenge are former solar sites, there appeared as the corresponding "holy hill" sites to the west, with a regular 6° deviation: (1) for Castle Ditches the churches at (a) Bourton and (b) Gillingham, (2) for Sidbury Hill the chapel at Fittleton, and (3) for the centre of Stonehenge itself (a) Scratchbury Hill and (b) Codford Castle. The last 96° joining line runs further east to (c) Quarley church, while the 84° line, according to the plan in Stevens, Stonehenge Today and Yesterday (London 1927, p. 31), leads (d) from the centre of the stone circle to the peak of the round hill to the east.

Salisbury Cathedral is admittedly not – according to Albrecht's diagram – aligned with sufficient accuracy on 10.5° to Stonehenge, but rather to Old Sarum. The site is a presumed old solar centre lying eastwards on 96° from Chiselbury Camp; and from the chapel at Misselfore, lying due south of this "holy hill" site, a 96° parallel line also runs to Clearbury Ring (see Fig. 10).

The important thing about the principles of prehistoric sacred geography, which have been illustrated here only by a

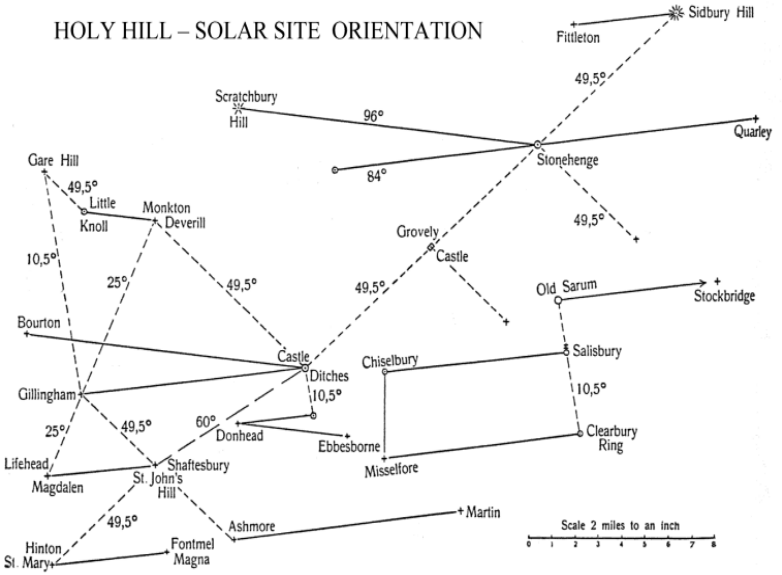


Fig. 10. Lines between churches archaeological sites around Stonehenge. Solar year lines worth investigating in connexion with Lockyer's 49.5° axis; after the official half-inch map of the Southampton area.

relatively small set of impressive examples, is their general validity and enduring recognition, so that it is possible for anyone to test them for themselves by a scientific investigation – not at all difficult – of the district familiar to them; and the author can freely offer his co-operation if necessary in a complete demonstration, as long as he is provided for the purpose with maps fulfilling the conditions above.

It would be particularly desirable, for a further investigation of the range over which these gigantic hieroglyphs occur, if competent geographers, not only in European countries but also in Asia (China, India, Polynesia), Africa and even America,

were to make a test, or at least make the materials available, to see whether the principles explained above apply to the ancient surveying and marking-out of the country which, considering the fundamental agreement in the oldest temples and other religious structures, is to be expected there also.

These novel scientific results towards a clearer view of local and general prehistory naturally involve various problems which cannot properly be discussed here, particularly about the actual meaning of the patterns of orientations and periodicities in measurement. To counter the natural and reasonable doubts about the possibility of such a widespread and uniform arrangement of the landscape by people at a primitive level of culture, let us just make the further remark that it is not at all a question of "technical" organization as we understand it to-day, but the expression of an "absolute sense of space" in so-called "magical" people, which was everywhere "orientated" on the north–south axis. The clear recognition, which has recently come from scientific anthropology and psychiatric research, of the fundamental difference between the magical outlook of "homo divinans" and the technological thought of "homo faber" has for the first time made it possible for our alien consciousness properly to appreciate the surprising evidence for a highly spiritual culture in former generations: for example, the art of the Ice Age, and especially the now undeniable fact that their sense of order – unmistakable even today – has bestowed on our native landscape an almost indelibly sacred individual stamp Wesenstempel (the "temple" in earlier editions is a mistranslation).

Therefore these principles of an ancient geometrical landscape arrangement, which are imprinted everywhere and which seemed like natural laws to the "natural insight" of their originators, must not be treated merely as the antique hieroglyphs of a vast "primitive handwriting", still legible, with the help of measure and angle, in the landscape today. They should above all be recognized and evaluated as the ground-plans for a certain configuration of land and people, which with its geometric proportions – "pleasing to God" as well as man – works today as effectively on our natural human feeling for our homeland as do the same proportions in Gothic cathedrals and other old buildings reflecting the cosmic order, which even now somehow put the silent beholder in harmony with the infinite, impressing him spiritually and thus influencing him "magically".

The author, who by profession and inclination is accustomed to a practical way of life, would at any rate like to offer, along with these fruits of seven years research, warm encouragement and practical help in the study and where possible the application of these fine "true-born" principles of a popular landscape arrangement, which has grown up and been preserved over thousands of years; so that even the reconstruction necessary in our own times can be made to harmonize naturally with the landscape through the "canon of measure" inherent in all true human art.

"Early German Land Surveys," Kurt Gerlach.

"Frühdeutsche Landmessungen," *Germanien*, 1940, pp. 259–269 & 302–311.

Early German Land Surveys

By Kurt Gerlach

Introductory note. The still very controversial question of the "orientation" of points in the landscape can be brought closer to a resolution only by continuous provision and critical evaluation of reliable research material. The stimulating ideas of Wilhelm Teudt, the investigations of Werner Müller (in his book Kreis und Kreuz) and H. J. Moser's work, which we published recently, on Germanic relays of sound signals, have supplied many uncontestable facts. The investigation below brings several surprising new points of view into the debate; we are convinced that it will lead to fruitful discussions. Despite initial reservations, we shall not presume to underestimate the ability of our ancestors to measure out even wider areas. Professionals will have to give their opinion on the questions that are broached here. Editor.

Introduction

If one joins together on the map certain places with identical names in the borderland of Saxony and Bohemia, two surprising facts can be established: 1. Their distances apart are multiples of a basic unit of 11 km; 2. When produced, the lines

joining them all pass through a certain central point near Babina, south of the Matzenstein in the Bohemian highlands, south of Velké Březno (Grosspriesen) near Ústí nad Labem. The question is whether this phenomenon is the result of chance or design.

Historically speaking, this system of orientations has a peculiar layout. It is centred on the part of Bohemia where, today as in former times, the ancient Markwald forest gives way to open country that has been inhabited down through the ages, where the Kelchberg and Geltschberg bear prehistoric earthworks, and nearby in Suletice stone-age implements have been found. Yet the rays of this great bundle of alinements run out over the vast Markwald forest (at one time as much as 90 km wide) and are not marked by inhabited sites until they reach its northern half, which was redefined in 1241 when the boundary was drawn between Bohemia and the diocese of Meissen. The middle of the system is particularly well-marked by a group of three lines. With its main alinements it separates the March of Meissen from the Margravate of the Upper Lausitz, whose boundary lies along the river Pulsnitz (Königsbrück). The longest ray (Schönborn–Schönborn), when produced, includes the road into the March of Brandenburg and, continued in a straight line, meets Berlin.

Königstein–Königsbrück

The Lausitz region belonged to Bohemia, except for a short interval, until 1635. Duke Vratislav II of Bohemia, a loyal supporter of Emperor Heinrich IV, was rewarded in 1086 by

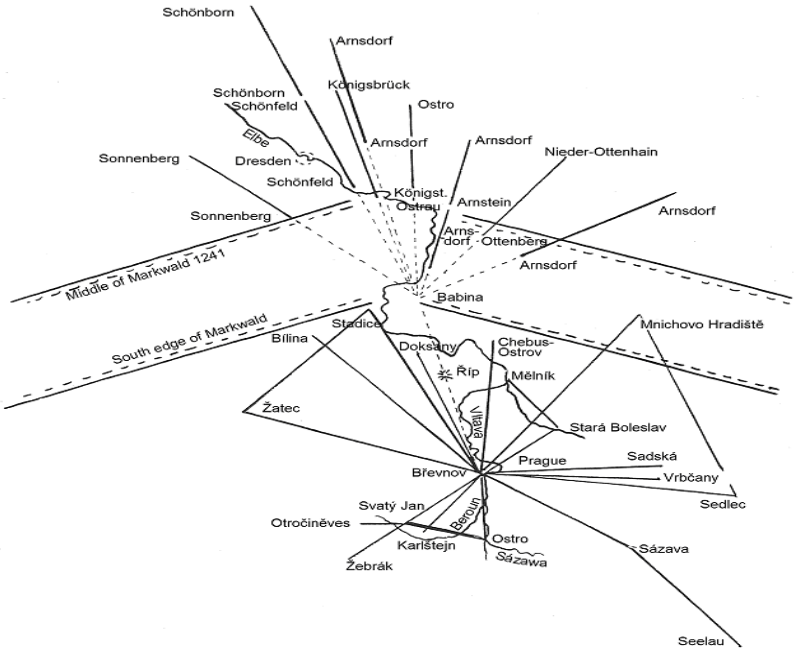


Fig. 1. Places with the same name; the first monasteries, castles and regional capitals of Bohemia

Map of Bohemia and neighbouring parts of Germany

being made King of Bohemia, and received the Lausitz as a feudal holding which he gave to his son-in-law Wiprecht von Groitzsch as a dowry. The town church at Děčín (Tetschen) is said to have been swept away on 28th September 1059 by a tremendous flood of the Elbe. It was a daughter church of the church at Königstein, which in 1059 cannot yet have borne this name. Documentary evidence for the name Königstein first appears in the boundary record of 7th May 1241, when King Vaclav I was here in the Elbe Valley with an army of 40,000 men to protect the Bohemian lowlands against the onslaught of the Mongols. However, the stone fortifications seem to have

been started in the first half of the twelfth century, so that it remains uncertain when and by whom the name Königstein was given. Certainly Vratislav II, directly after his promotion to king, built a castle and a bridge in front of the old Kryritsch on the Pulsnitz, and converted the village into a town, which was also provided with a church – the town of Königsbrück. Assuming that both places took their name from the king of Bohemia, Königsbrück as early as 1086, Königstein at some time unknown, it is not surprising to find them belonging to the same owner, albeit briefly, at a later period. In 1402, when Dohna was destroyed, Jeschke von Dohna sent his children, under the protection of his vassal Waldau, to Königsbrück, while taking refuge himself in Königstein, which was mortgaged to him (Ref. 23).

Schönfeld–Schönborn

As regards Schönfeld near Dresden, it is known that in the fourteenth century it belonged to "the Syverde von Schönfeld living at Radeberg" (Ref. 48). But Radeberg belonged to those Schönfelds who held the village of Schönfeld near Grossenhain. "Wachau and Radeberg are said to have been owned by Melchior of Schönfeld (near Grossenhain) in 1260" (Ref. 16). The von Schönfelds are "one of the oldest noble families, one of whom, Peppo v. S., is named as early as 1119 as a witness to a document of Michaelsfeld abbey. The family rapidly spread over a wide area and acquired an extraordinary number of properties."

Thus both places named Schönfeld had the same original owner. At a later period it is the von Sahla family who own both places. In 1540 Schönfeld near Dresden belonged to the steward's widow Anna von Saale. In the church at Schönfeld near Grossenhain there are memorials to several von Sahlas of the house of Schönfeld, including Georg von der Sahla who died in 1417. The von Sahlas are said to have lived in Schönfeld since the fourteenth century (Ref. 48). According to Schumann, Schönborn, half an hour east of Grossenhain, belonged as a feudal holding to the estate "Schönfeld hinterer teil" and was thus in the possession of the von Schönfelds. It may be noted that Schönfeld near Leipzig once belonged to the famous Dr Georg Krakau, who at the same time also owned Schönfeld near Dresden. Thus one could almost conclude that the village of Schönborn near Ruhland once belonged to the same owner, since it is a second example of the name Schönborn on the Schönfeld–Schönfeld line, and lies as far from the Schönborn near Schönfeld as the two Schönfelds lie from each other (33 km).

Arnsdorf: Western Ray

The line from Arnsdorf near Radeberg to Arnsdorf near Ruhland has the same length as that from Königstein to Königsbrück. Arnsdorf near Radeberg is still absent from the Meissen diocesan register of 1346, hence at that time had no church; later it had a chapel attached to Wallroda. In Arnsdorf near Ruhland a toll was levied at the bridge in 1824 "from travellers on the road from Dresden through Radeberg", in return for which the villagers had to maintain the bridge there.

"On the marriage of Mechtilde, daughter of Margrave Konrad II, to Albert II of Brandenburg, Ruhland was added to the March of Brandenburg, but after the death of the Elector Waldemar, to Bohemia" (Ref. 48).

Arnsdorf–Arnstein: Central Ray

There is more information available about Arnsdorf near Wilthen, which lies 22 km from the Arnstein in the Elbsandstein range, 33 km from Arnsdorf (Arnoltice) on the Rosenberg, and 55 km from the meeting-point of our alinements near Babina. It was probably an estate whose produce went to the bishop of Meissen. Otto Schmole, discussing the history of Arnsdorf, states that according to old traditions the manor house was formerly a monastery, or farmhouse belonging to a monastery, at the foot of the Picho. "In fact at the site in question there are the remains of masonry, and a hundred years ago the ruins of a chapel were still visible. In 1439 the bishop lent Matthias Sommerfeld of Budissin money on Arnsdorf and Schlungwitz. The village consisted originally of only four homesteads, which until recently enjoyed certain privileges over those built later. St Mary's well on the inside of the estate wall was, until after 1900, sought out by pilgrims going from Schirgiswalde to Rosenthal. Likewise the pilgrims from near the monastery (Marienstern) made a detour through Arnsdorf when they went to Lobendava on St Ann's day. On the hill (345 m) stood the chapel; the pilgrims halted for a while at the foot of the hill and prayed" (Ref. 7). A remarkable ancient contract required the occupier of Arnsdorf manor to call personally to collect the bishop's tithe for

Krobnitz. This does not refer to an uninhabited border region, but the village of Krobnitz near Görlitz.

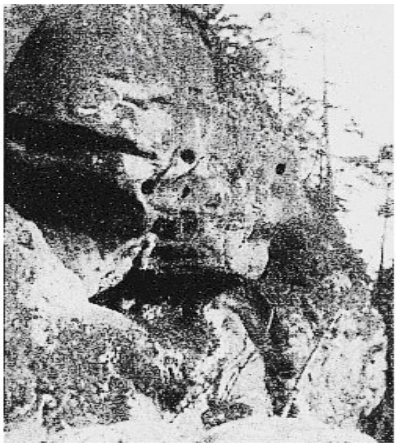


Fig. 2. Carved face on the Arnstein rock



Fig. 3. Face on the Arnstein rock



Fig. 4. Man next to cross, Arnstein rock, east wall of summit

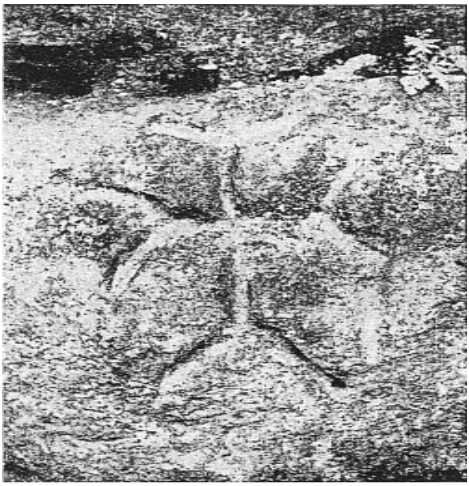


Fig. 5. Hospitaller cross, Arnstein, towards the West



Fig. 6. Cross with crosslets, Arnstein, towards NE, formerly roofed over

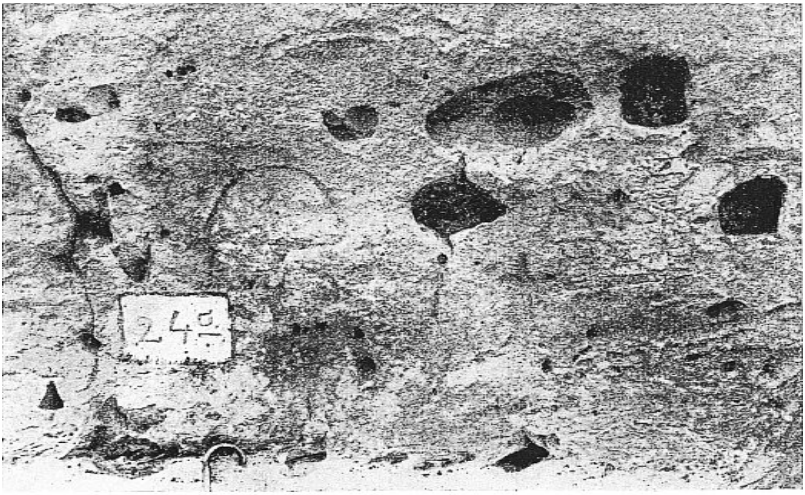


Fig. 7. Drawing of buildings; beam sockets; Arnstein, lower fortress, NE

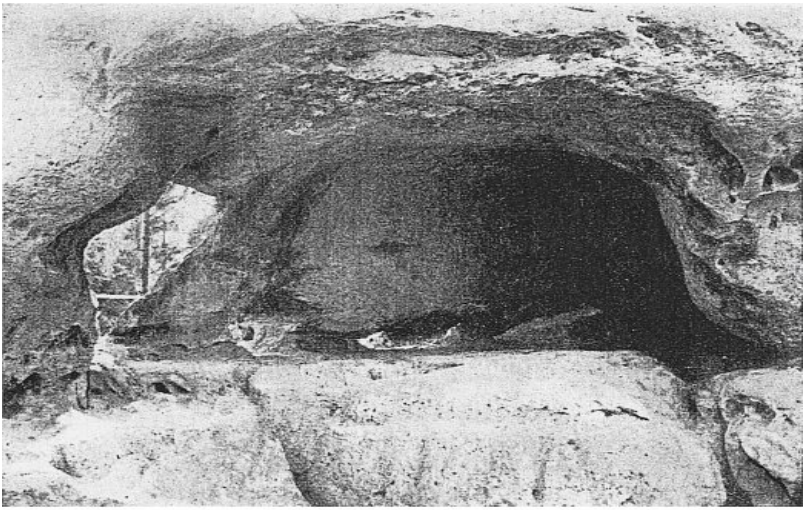


Fig. 9. Cave with hole in wall, Arnstein

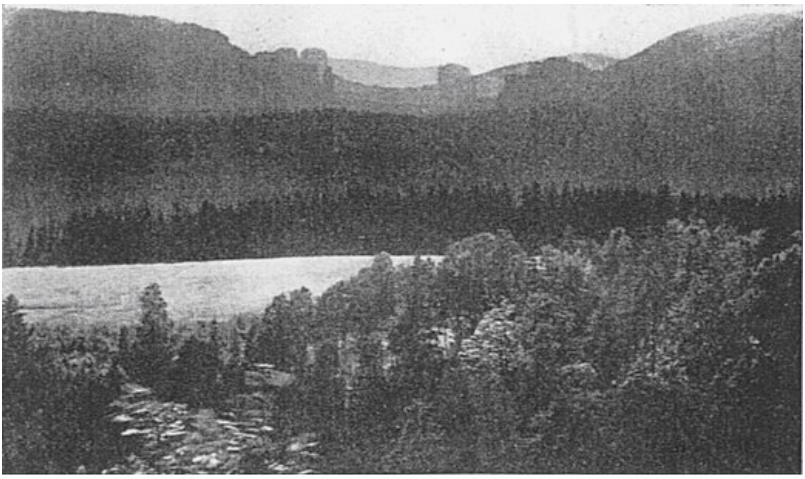


Fig. 10. View from the Arnstein to the West: far distance, the Pfaffenstein (with Bronze Age settlement)

Thus Arnsdorf near Wilthen seems to have had a certain Christian or perhaps pre-Christian importance as a place of pilgrimage. So also the Arnstein cliff above the Kirnitzschtal in the Elbsandstein range seems to have been singled out among the formerly inhabited crags, for a chapel once stood there. In 1804 Pastor Gitzinger of Neustadt noticed "many engraved figures and symbols" preserved in the rock, and even today one can find engraved in the rock various crosses (Knights Hospitaller), coats of arms, pictures of knights and sketches of buildings. On the ascent to the cliff there is a carved face, whose style suggests a very early date. In 1891, when the road through the valley was being widened, a carved wheel was blasted away at the foot of the Arnstein along with the surface of the cliff (Ref. 26). Two such wheels can be found well-preserved in Schauenstein castle, formerly owned by the family Birke von der Duba, near Vysoká Lípa. The line from Arnsdorf near Wilthen to the Arnstein continues over the Buschmühle mill beneath the Arnstein and the village of Arnsdorf near Rosendorf (the Arnsberg there lies 11 km from the Arnstein), then over the village of Buschmühle, 22 km from the Buschmühle near the Arnstein, to Babina. Traversing the lordship of Děčín the last section of this line crosses over the Quaderberg, where great quantities of prehistoric potsherds have been found, the Kolmer Scheibe, which has also yielded finds of potsherds, and the Sperlingstein, which the knights of Techlovice held from 1402 to 1412. Among the first lords of Děčín was Jacob Birke von Dauba, who rebuilt Děčín after the great flood of 1059. In 1004 Dukes Jaromir and Udalrich presented Berka Howora von Duba and Leipa, who had been raised into the Bohemian nobility by Emperor Heinrich in 1003, with "the entire

territory beyond the Elbe as far as the Wendish and Lausitz mountains" (Ref. 8). The family Birke von der Duba were later in possession of the whole Elbsandstein range, and thus in particular the Arnstein, though for a time this seems to have been mortgaged by them to the lords of Wartenberg (Ref. 26). The lords of Wartenberg later held the manor of Děčín. Shortly after 1400 Johann von Wartenberg bought the estate of Warte near Velké Březno (Grosspriesen) from Albrecht von Duba, afterwards regional commander of the Teutonic Knights in Bohemia. Before the Hussite wars, in which it was probably destroyed, the castle of Warta ruled over the villages of Grosspriesen, Kleinpriesen, Wittine, Welchen, Sulz (Suletice), Presey, Malschen Budowe, Waltirsche, Wittal and Pschira. These places occupy the region west and northwest of our central point as far as the Elbe. To the castle of Sperlingstein, whose upper part was called Heidenschloss, belonged Techlovice, Pschira, Ober- and Nieder-Welhotten, Hardte, Hostitz mit Schmordau, Scheras and Rittersdorf (Ref. 19, Ref. 8). In 1427 the Sperlingstein belonged to Anna von Wartenberg, the wife of Sigmund von Wartenberg auf Tetschen.

Every Easter a procession of knights rode from Děčín via Losdorf to Heidenstein (ecclesiastically part of Arnsdorf). "It is thought that this might even go back into pagan prehistory" (Ref. 37). Thus we see the southernmost part of our metrological alinement marked out by the villages of the lordship of Sperlingstein, although there is no trace of it in the Bohemian tableland (Ref. 8) – apart from Děčín where traces of prehistoric inhabitants, in the form of potsherds or earthworks, indicate the route.

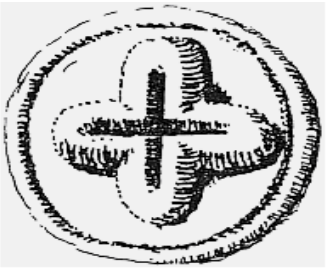


Fig. 11. "Gothic" wheel-cross on the Schaumstein
Hohenleipa robber-castle, entrance

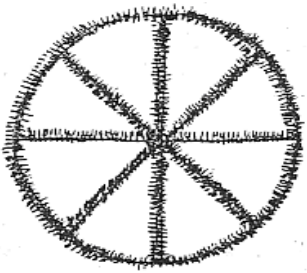


Fig. 12. Older "wheel" on the Schaumstein
Hohenleipa robber-castle, exit

Otterhain–Ottenberg

For Nieder-Ottenhain, which is 33 km from the Ottenberg near the Rosenberg, we have the following report in the old "Sächsische Kirchengalerie": "To Ober-Ottenhain belongs also the hamlet of Sonnenberg, on the Sonnenberg hill, about a league to the south. The group of rocks situated on this hill

affords a pleasant panoramic view over the district, and bears the name Jüddenhaus or Jürddenhaus, which perhaps derives from the cave-like recess on the eastern side. Old traditions say that on this site there was a temple or place of sacrifice to Wodan, Wodin, or Odyn, and this probably accounts for the name of the village. … According to old traditions the original inhabitants of the village lived on the Sonnenberg."

Arnsdorf: Eastern Ray

No information is available about the Ottenberg east of the Rosenberg south of Rennersdorf, nor about Arnsdorf near Cvikov and Arnsdorf near Frydlant, which lie 44 km apart on yet another line from Babina.

Sonnenberg–Sonnenberg

The ancient settlements on the above-mentioned Sonnenberg indicate a similar meaning for two other Sonnenbergs over on the western side of the Elbe, one southeast of Glashütte and the other south of Blankenstein west of Wilsdruff, at a distance of 33 km apart. It is remarkable that the line joining them passes, if not over the peak, at any rate over the shoulder of a third Sonnenberg, situated east of Dippoldiswalde in such a way that it is 22 km from its northwestern namesake and 11 km from the southeastern. The most southeasterly of these three Sonnenbergs (and they are the only ones shown west of the Elbe on the official 1:100,000 map) lies on the boundary finally established by

King Václav II between the diocese of Meissen and Bohemia; the distance from its summit to the basepoint, (near Babina in the Bohemian highlands) of the line joining the three Sonnenbergs measures 44 km, so that the length of the whole line amounts to 77 km. The line runs over the Luchberg and also the village of Schönwald (Krasný Les). On 12th January 1663 Count Nicholas von Schönfeld, lord of Schönwald, died in Prague and was buried near Maria Schnee (Ref. 30). This Count Schönfeld has no connexion with our family; he came from Lothringen and his family were originally called Serin Champ. According to written records the first lords of Schönwald were the von Thelers, who also owned Edle Krone, through which passes the line joining the two Sonnenbergs (Ref. 30). Schönwald castle lies 22 km from the old fortress above Pirna, said to have been named "Sonnenstein" by Margrave Wilhelm in 1402. The line Sonnenstein–Schönwald marks the western boundary of the township of Königstein. Schönwald is 33 km from Edle Krone.

Families

In 1437, during the siege of the Jungfrauburg (Panna) south of Babina, Hans von Schönfeld was summoned along with Tidze Gorenczk, lord of Königstein, by Sigmund von Wartenberg auf Tetschen. Also the town of Königsbrück is not without significance for the Schönfeld family. "In 1335 the towns of the Upper Lausitz sent a large force to Königsbrück and burned down the house of the Schönfelds" (Ref. 35).

Thus we find the Schönfelds occupying three sites on our great wheel. In Königsbrück and Radeberg they come into contact with the Counts von Dohna. On another spoke of the wheel the von Wartenbergs are neighbours of the Birke von der Duba family, though the Birkes were there first. On a third spoke we find the von Thelers in two places, admittedly rather late. Here again the distance between associated settlements amounts to about 33 kilometres.

Ostro: Northern Ray

The village of Ostro near Kamenz lies 33 km from Ostro near Schandau. The line joining these runs north–south and passes though the basepoint of the other alinements near Babina. Ostro near Kamenz ias two ancient earthworks, one of which contained potsherds of the Billendorf era, the other of the early Middle Ages (Ref. 39).

Ostro: Southern Ray

Concerning Ostro monastery near Schandau, Klemm says: "Here a transfer certainly seems to have taken place, no doubt from Ostrov on the river Sázava. This second Benedictine monastery in Bohemia lay on an island where the Sázava flows into the Vltava" (Ref. 20). The line from the first Benedictine monastery in Bohemia (St George for nuns, St Margaret for monks, near Prague) to the second, Ostrov, is again the north–south line and is 22 km long. If extended northwards, over St George's on the Prague citadel, it meets at 44 km from St

George's "the towering church of Chcebuz" and the hill called Ostrov. "In 993 Duke Boleslav II gave the church at Chcebuz, two farms with plenty of land, and the hill Ostrov to the Benedictine monastery of St Margaret in Prague, a favourite foundation of St Vojtěch" (Ref. 2).

The connexion between these metrologically related sites is thus clear, and since the name Ostrov is here used for a hill it must have another meaning than "island", for also Ostro near Schandau does not lie on an island but at the top of a hill. It is remarkable that these four occurrences of the name Ostro twice establish the north-south axis.

East German Church Foundations

Further north also, ecclesiastical relationships seem to be indicated by fixed units of length between significant points. In 732 the monasteries of Fritzlar and Amöneberg were founded by Boniface. They lie 44 km apart. According to Schuchhardt (Ref. 47) Amöneberg was already inhabited by the Celts in the La Tène period, while on the site of the Büraburg near Fritzlar, the cathedral town, there was a pagan holy place. Tradition tells that Boniface had already founded a monastery at Leipzig in 728, which apart from the one at Rochlitz was the first in this country (Ref. 27). The old city centres of Leipzig and Rochlitz are 44 km apart. In 1227 the bishop of Meissen borrowed 168 silver marks from the cathedral chapter in order to buy Stolpen castle (Ref. 26). Meissen and Stolpen are 44 km apart. In return the chapter received the villages of Loschwitz near Dresden and Reppnitz near Scharfenberg, which lie 22 km apart.

Bohemian Church Foundations

Historical records are quite clear about ecclesiastical foundations in Bohemia. The first monasteries in Bohemia were St George's on the citadel in Prague, founded by Boleslav II; Břevnov near Prague, also founded by Boleslav and occupied by Italians; and Ostrov, again founded by Boleslav at the somewhat later date of 999, on an island at the mouth of the Sázava, and to which an abbot was appointed from the Bavarian monastery Niederalteich (Ref. 33). The citadel of Prague and Ostro lie 22 km apart. The monastery at Ostro sent out hermits. Beneath the farm at Sedlec, on the river Lodenice, a chapel of St John was founded in a hollow in the cliff. Duke Bretislav presented the site to the monsstery. It lies not only 22 km from Ostrov, but also 22 km from Břevnov near Prague. Further, the same monks built the hermit a chapel of St John on Mount Veliš. The villagers of Otročiněves were made custodians of the chapel. Otročiněves lies 11 km from the first chapel of St John near Sedlec (Ref. 24). In 1140 Vladislav II built a Premonstratensian monastery on Mount Strahov close by Břevnov. Then in 1144 Queen Gertrud founded the nunnery at Doksany, which was connected with the Strahov monastery through its provost. In 1197 Teplá monastery was founded. Almost at the same time as Teplá, the nunnery at Chotěšov southwest of Plzeň came into being. Teplá and Chotěšov are sited 44 km apart. Thus double foundations, by the same person or at the same time, have a 44-km separation. Around 1040 Duke Břetislav I founded a seminary in Stará Boleslav, the residence of the ruling family, and a collegiate monastery on the site of the ancient regional capital Melnik. Melnik and Stará Boleslav lie 22 km apart. Under Duke Bretislav, ruler from

1034, the monastery of Sázava was also completed. Church Slavonic was introduced there by the first abbot, Procopius. "L. Winters assumes that Procopius, before retiring again into solitude, had resigned from the monastery at Břevnov" (Ref. 33). The distance from Břevnov to Sázava measures 44 km. St Peter's church, founded by Spytihnev in Budeč (now a hamlet of Kovary parish, Zakolany district, northwest of Prague), where the young Václav (Wenceslas) received instruction in Latin, is 11 km from the midpoint of the former citadel layout in Prague, the "ancient pre-Christian sacred place" (Ref. 35). The victory of Soběslav over the German King Lothar, in the Chlumec Pass in 1126, was won by the aid of St Vojtěch's banner, which was fastened to the lance of St Václav and carried in front by the chaplain Vitus. It was fetched by order of Soběslav from the village church at Vrbčany where it was preserved. The distance from Vrbčany church to the citadel and sacred site in Prague is 44 km (Ref. 33). Duke Bořivoj is alleged to have founded the churches of St Clement on the citadel at Hradec on the left bank of the Vltava, a league and a half from Prague, and on the Vyšehrad. However, these churches were in existence before his time. These churches of St Clement are 11 km apart. In Grieben (Ref. 12) the church at Hradec is called the oldest known church in Bohemia, and its date of construction is given as 871.

Bohemian Regional Capitals

As with religious centres, so with politically important places that are interrelated: it appears that before building a survey was carried out. Ancient Czech traditions provide examples. Among

the ancient districts which the Slavs most likely found already established on their arrival, Bretholz (Ref. 3) makes particular mention of the Bilina district (capital Stadice), which was merged with the adjoining districts to the south and with the Prague district to form a single province. This political union is traditionally ascribed to the Duchess Libuše, who found her husband Přemysl by a hazel bush in the fields. Stadice is 66 km from Prague. A second group of five districts, already united into a province, lay west of Prague around its capital Žatec. Žatec also lies 66 km from Prague. Moreover, Žatec lies 44 km from Stadice. Čech, founder of the nation, is said to be buried on St George's Hill (Říp) near Roudenice, where also the first armed regional diet in Bohemia was held (Ref. 41). St George's hill lies 33 km from Prague.

Metrology

If then the practice of landscape surveying did go back into pre-Slavonic times, we should not be surprised to discover a Germanic measure in the basic 11-km unit. The old Germanic "raste" measured 440 m, the Gallic league 2220 m, the Gallo-Germanic foot 333 mm, and the pilework ell 444 mm. The Sumerian double-hour or league, danna, (Akkadian buru) contained 1800 gar, or 21600 Nippur cubits of 51·80 cm, and was therefore 11·1888 km (Ref. 6). The one-hour unit or "ure" is still used in Holland and equals 5·565 km. A league of 10·692 km still exists in Sweden, and the Norwegians have a league of 11·299 km (Ref. 4). The "Grand Dictionnaire Universel du XIXme Siecle" records under "Lieue" the following league units, which can be related to the recurrent basic unit of 11 km:

"Lieue d'Angleterre 5·569339 km – Lieue de 25 au degre, c'est-à-dire de 4·444 km – Lieue de 20 au degre, c'est-à-dire de 5·555 km".

Marco Polo, writing on contemporary China (13th century), reports that starting from Beijing foot-messengers and couriers went regularly to all parts of the empire, wore girdles with little bells, and reached the next staging post after about 4 km. In Franconia also, royal envoys travelled as couriers, continually changing horses at predetermined points. In Germany the professions and government authorities, and even universities, etc, had their own messenger corps (Ref. 43, Ref. 46).

Thus it does not seem impossible that a double-hour or league was reckoned in early Germany at about 11 km and served as a basic measure. If so, traces of the old metrology should still survive in places, albeit obscurely, and such indeed seems to be the case. A. Paudler wrote an article (Ref. 30) based on information from his brother, who took part in a pilgrimage from Kamenice to Svatá Hora, the holy mountain near Příbram. The departure from Kamenice was on the Friday before Whitsun at about 3 pm. They went as far as Police where they stayed the night in peasants' houses or anywhere else suitable. The distance from Kamenice to Police measures (in a straight line) 11 km. "In the morning, ie on Whit Saturday, the procession moved off via Valteřice to Kravaře, where the pilgrims went to early mass. From here the procession went via Blizevedly to Sukorady, where they took their midday rest" (20 km). From Sukorady the way led through Brocno Heath. In Brocno vespers were heard. From there they went to Libecov "where however we could not stay the night. Even at the farm

it was impossible because they had no straw. Finally we took up our quarters in the barn." So after all it is possible to stay the night in Libecov. From Police to here is exactly 33 km as the crow flies. A. Paudler remarks that the route leads almost in a straight line from Šluknov via Kamenice to Prague, for which reason it was greatly favoured by lottery messengers and express runners. Let us give an example of the achievements of such runners. The messenger of the Grand Duchess of Tuscany ran in a single day from Zákupy to Prague and back, and still found time to enjoy himself at a wedding party on his return (Ref. 37). The distance from Zákupy to Prague as the crow flies is exactly 66 km, but on the ground 10·5 leagues: so about 150 km was covered in one day. King John rode so quickly that in 1331 he and ten knights reached Paris from Prague in ten days (Ref. 30). This is well over 100 km for each day's journey on horseback.

Long-Distance Communication in Bohemia

The probability that our network, defined by repetition of placenames and the use of a common unit of length, was used for sending information and as a long-distance "diplomatic service", becomes very high when we consider that vestiges of ancient communication systems have survived into our own day, particularly in the north Bohemian border district. In 1804 an optical telegraph was set up on the Rosenberg (Ref. 37). From the Rosenberg one can see the towers of the Frauenkirche and the Schlosskirche in Dresden. In 1712 an "alarm pole" was erected on the Rosenberg, with a look-out cabin in the tops of tall trees. The same was done on the Wolfsberg. "From this look-out cabin one could see far into the distance in all

directions. If anything unusual was noticed, an express message was to be sent to the nearest main office. At night the watchmen maintained a beacon fire near the alarm pole." There were similar alarm poles on other peaks, eg on the Jested, where it was still to be seen in 1820 "when it was quite black". "In 1757 pitch poles were placed on all the hills towards Saxony, to be kindled on the approach of the Prussians" (Ref. 37). We may add that our army still used the "Fanal" (lantern) in the World War. Again, on the Dylen near Cheb there was a fire telegraph. Blankenstein castle was linked to Schreckenstein castle near Ústí by beacon signal, likewise Děčín castle with Blankenstein (Ref. 8); the Tollenstein with Schönbuch and Rohnau and Oybin (Ref. 32); Oybin with Rohnau castle and the Landeskrone near Görlitz. An echo of the former techniques was the nuisance of the "number beaters" in Bohemia in the last century. Before the message with the winning lottery numbers reached the border districts, the numbers drawn were communicated from Prague via Bezdez, Raleko, Lemberk, Hochwald and Toepfer to Zittau. The Lausche was also an important station for the "number beaters". The numbers were indicated by long poles and observed through a telescope (Ref. 30).

Post-Medieval Instances

Recent examples of straight-line surveying are to be found in the neighbourhood of our system. Professor J. Humelius of Leipzig, who died in 1562, drew a map of Dresden Heath in which eight radial roads meet at a central point, the "Helle" of the Saugarten. The longest stretch of road, which runs dead

straight from Radeberg in the Loessnitz as far as Rennersdorf near Stollen, measures 25 km. On the main radii are set transverse ribs at 45 degrees (Ref. 21). Mathias Oeder also shows this radial system, parts of which survive to this day, on his 1572 map of Dresden Heath (Ref. 15). The oldest map of Tharandt Forest (southwest of Dresden), drawn by Humelius about 1558, likewise shows a 32-fold compass rose, centred on the "Helle" of the hunting castle Grillenburg, and laid cut as straight avenues over the forest (Ref. 29). Who is not reminded of the Catalan seamen's maps, or portolanos, developed in the fourteenth century? They used remarkably exact maps, with a network of 32-rayed bundles superimposed so that there was one at the centre and sixteen outer ones arranged in a circle (Ref. 10). Further, the 32-fold compass rose is still used today in navigation, and a direction finder in the form of a windrose can still be found, in a good state of preservation, attached horizontally to a little-visited rock face in the Elbe mountains of Bohemia. The fire-watchers who, in the Elbe mountains eg on the "Königsplatz" and the "Rudolfstein", observed the vast forest plains in dry summer weather, will have pinpointed danger spots in the forest in the same way as the fire-watchers in the Swedish forests (Ref. 36).

One might once again raise the question as to who the constructors of such a vast network may have been. In the end we always, one way or another, come back to the idea of an ancient construction project, traversing the primeval Markwald forest and joining one inhabited clearing to the next. It is remarkable that the territory of the Teutonic Knights, whose patrons were Otakar I and Vaclav I, stretches from the Elbe east of Litomerice over the villages of Biskovic, Nesel, Ujezdec,

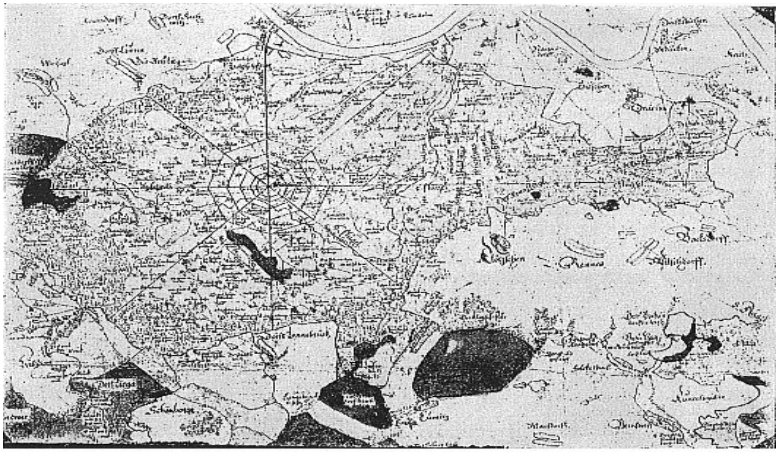


Fig. 8. The eight "windmill sails" of Dresden Heath. Drawing by Matthias Oeder (1572), Public Record Office, Dresden

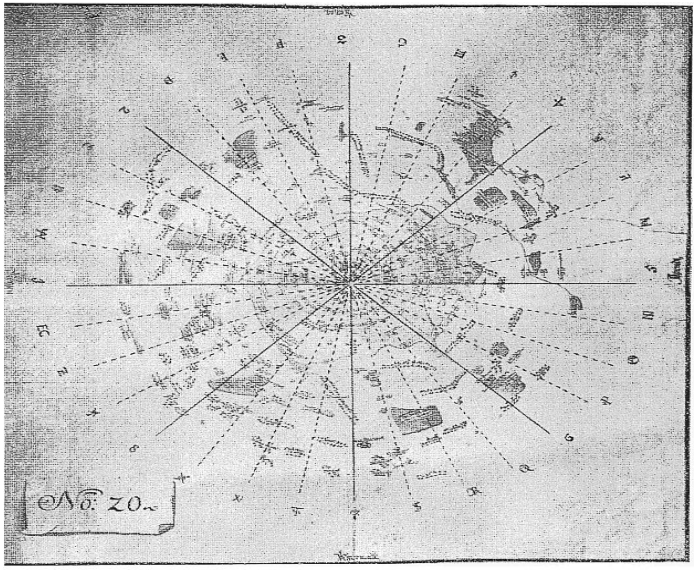


Fig. 13. Map of the Tharandt Forest, Humelius 1558. (Heimatschutz-Mitteilungen, vol. XXV, Nos. 5–8, p. 124)

Pirna near Litomerice, and later Lenzel, Triebsch, Dubravic, Temitzl, beneath our main alinement right up to Babina. West of their territory the Hospitallers settled from 1169, so that the line Königsbrück–Königstein–Babina–Prague serves as a boundary within the Bohemian tableland, just as it also separates Meissen from the Lausitz. When the Mongols came to a halt outside Legnica in 1241, it was not so much the Silesian knights as news from their homeland that forced them to retreat. And this news was sent to them via signalling apparatus that telegraphed across 6000 km from Karakorum to Legnica (Ref. 44). Hermann Grimm's "Oil prospector of Duala" was kept informed in the African bush by the drums of the natives.

Conclusion

There is not much to be said about the village of Babina. It has only a few houses and lies sheltered beneath the long ridge of the 568-metre high Matzenstein, which blocks the view northward from Prague, but from which one can see the peaks of the Saxon–Bohemian mountains – the Sněžnik, the Grosser Zschirnstein, and the Rosenberg – and from these the view stretches far into the plain. Again, looking southeast from the Matzenstein one can see in the distance the shining ribbon of the river Vltava and the hills and towers of Prague. In 1574 Heinrich von Salhausen bought Binowe and two larger estates in Hummel, also later Welhotta, Plahof, and the still uncultivated Babina, from Jaroslav von Wrschesovitz, the heir of Dubansky von Duba auf Libeschitz und Ploschkowitz (Ref. 30). Besides Welbine, Heinrich also peopled Babina with

farmers and founded the village of Lischken. The region in those days was still Czech.

If one wishes, it is possible to find more connections in addition to those mentioned above. Thus the east–west line from the centrepoint near Babina crosses over Schönau and Teplice, and at 33 km from Schönau strikes the church of Oberneuschönberg on the summit of the Erzgebirge range. There is also the historical connection that by the agreement of 6th February 1482 Timo von Colditz sold Teplice to Burghard von Vitzthun und Neuschönberg (Ref. 13). However, Oberneuschönberg was only founded in 1651 by Bohemian exiles, and the church was not built until 1659 (Ref. 48). It must be assumed therefore that Schönberg and Schönau were previously connected.

The Fatherland

Now whether this is a Neolithic system that remained in force throughout the Bronze Age and up to the time of the Marcomans (c. 100 BC), and was taken over by the German settlers of the early Middle Ages, or whether the opportunity for creating it arose with the resettlement of abandoned territory, one thing is certain, that we are dealing with a thoroughly German system, which grew up in the Lausitz and Meissen, and in Bohemia was based upon Prague, and which is proved to be German by the pro-German policies of the Bohemian princes and by its German place- and field-names, and thereby shows that its Bohemian homeland is German at heart. When the diocese of Prague was founded in 973 the

German bishop Dietmar von Magdeburg went into St Vitus' church in Prague (Ref. 37). The clergy sang the Ambrosian chant in Latin, but Duke Boleslav and the nobles sang an Old High German song "Christe, Keinado: Und die halicgen alle helfant unse!"

Do we perhaps hear from the strong voice of the Saxon–Bohemian borders a sacred Old High German song?

Miscellany

Examples of early German surveying in history and tradition:

In 1268 documents describe "Canon Meynher in Merseburg as rector in Groytzs and Wyzenfels". In 1284 Meinhart was chosen as prebendary and rector at Groyzig (Groitzsch). Groitzsch–Weissenfels = 22 km.

The church of St George in Regis belonged to Zeitz monastery, from which it was not separated until 1815. Regis–Zeitz = 22 km.

Document 22 of the "Codex diplomaticus Saxoniae regiae" deals with Emperor Otto's gift of the towns Zeitz and Altenburg, and several other places in various districts, to Bishop Hugo of Zeitz. Zeitz–Altenburg = 22 km.

Heinrich I built the castellum Madeburu (Magdeborn) which in 968 was handed over by King Otto to Bishop Boso of Merseburg for use as a mission station. Merseburg–Magdeborn = 33 km.

At the beginning of the fifteenth century the lords of Wildenfels held the stewardship of Kloesterlein. Kloesterlein–Wildenfels = 11 km.

Until the mid-fourteenth century Sachsenburg and Frankenberg came under the jurisdiction of Freiberg. According to the Meissen diocesan register of 1346, Sachsenburg belonged to the diocese of Freiberg. Frankenberg–Freiberg = 22 km. Sachsenburg–Freiberg = 22 km.

Slavko, of the Riesenburg family, Count of Bílina, founded Schlackenwerth and Schlackenwald (Ref. 24). Bílina–Schlackenwerth = 66 km. Schlackenwerth–Schlackenwald = 22 km.

Tharandt castle is probably a foundation of the Margraves of Meissen. Documents show that from 1242 Margrave Heinrich the Illustrious was lord of Tharandt (Ref. 34). Meissen–Tharandt = 22 km. From Meissen an almost straight highway leads via Wilsdruff to Tharandt. Five discoveries of bronze-age votive offerings on lonely peaks in the forest suggest the existence of an ancient sacred place (Ref. 40).

St Nicholas' church in Meissen belonged to the archdiocese of Rosswein (Ref. 35). Rosswein–Meissen = 22 km.

The župa (district) Ústí was founded at some time unknown and superseded by the župa Bílina (Ref. 8). Ústí–Bílina = 22 km.

The builders of Geiersburg castle as Steinburg in 1315 were the lords of Burgau or Bergau, a branch of the Lobdaburg family. To them belonged the lordships of Sayda, Borsenstein

and Lauenstein. Otto von Bergau came to Bohemia in 1310 (Ref. 14). Geiersburg–Sayda = 33 km. Geiersburg–Lauenstein = 11 km.

In 1054 one Hermann von Roll founded the Benedictine monastery near Mnichovo Hradiště with monks from Tornach (Ref. 25). Roll (Ralsko)–Mnichovo Hradiště = 22 km.

The bishop of Litomerice owned the castle in Drum and also Rohnburg castle (Ref. 37). Litomerice–Rohnburg = 22 km.

The lordship of Krupka (Graupen) included Libešice. The Jesuits had residences in Mariaschein (Krupka) and Libešice (Ref. 13). Libešice-Mariaschein = 33 km.

In northeast Bohemia the land was owned by the Hrone family who at the time were Burgraves of Bautzen, Zittau, and Prague. The town of Rumburk, Runenburg castle (Roynungen), Rohnau, and the Ronberg preserve their name. Branches of the Hrone family include Birke von der Duba, and also the Wartenberg, Markwart, Waldstein, and Michelberg families. The custom of laying out their fortified towns at traditional distances apart seems to have been carried on by the Birkes. Starting from Česká Lípa, they acquired Hohnstein, first mentioned in documents in 1333. The straight line Česká Lípa–Hohnstein crosses over the main peak of the region, the Rosenberg, and is 44 km long. The Rosenberg divides it into two sections of 22 km each. In 1332, in return for an advance of money, Hynek (Hinke) Birke, the chief burgrave of Prague, acquired from King John the Bezdez hill, which lies on an extension of the Rosenberg–Česká Lípa line at 22 km from Česká Lípa. At the foot of the Bezdez this Hynek Berke had the

town of Bezdez demolished, ostensibly because of the poor water supply, and built instead the town of Bela (Weisswasser) several km to the southeast (Ref. 17). In this way there was created a sightline 66 km long, entirely in the possession of Hynek Berke, since from the Bezdez one can see as far as the Stolpen district. From Bezdez the view stretches from the Milešovka to the Sněžka and from Prague to the Zimni Vrch.

Arnstein, which eventually passed by mortgage from the hands of the Birkes to the Wartenbergs, thus apparently belonged at the time of its destruction to Děčín, but we know that the first mayor of Děčín was a Birke. The family of Birke von der Duba owned the hilltop castle Burgstein, which bears their name. It is 22 km from Duba (Ref. 8).

The founders of Rohnau (near Zittau) were the lords of Česká Lípa. A document of Emperor Heinrich VII, dated 20th July 1310, confirmed von der Leippa's ownership of Rohnau and Zittau, which are known to have belonged to him long before. But in 1319 Heinrich von der Leippa exchanged these properties, plus Oybin castle, for estates in Bohemia. Česká Lípa, Oybin, Zittau and Rohnau are in alinement; Oybin and Rohnau are in contact by beacon signals (Ref. 31).

In 1319 King John of Bohemia made over the town of Zittau and the castles of Rohnau and Schönau (Czino) to Duke Heinrich von Jauer as a dowry for his bride Agnes, a sister-in-law of the king (Ref. 18). Rohnau–Schönau = 11 km.

Sayda was founded in 1193 along with Osek (Ref. 45). Sayda–Osek = 22 km.

The castle at Crostau has, on the side facing the garden, a small tower from which the view extends as far as Bautzen. In the church is the memorial of Rudolph von Rechenberg, lord of Crostau, Budissin, etc (Ref. 42). Crostau–Bautzen = 11 km.

In 1770, Andreas, Count of Riaucour, bought the lordship of Crostau. Karl, Count of Schall-Riaucour, moved his place of residence to Gaussig. Crostau–Gaussig = 11 km.

In 1559 the Jesuit Father Luca said prayers and masses in the monastic church on the Oybin, also in the nearby town of Cvikov (Ref. 31). Oybin–Cvikov = 11 km.

In 1306, on the first of May, Ebersbach was transferred to Löbau to become a village within the municipal district. Ebersbach–Löbau = 11 km (Ref. 1).

Jauernick belonged to Marienthal monastery. Jauernick–Marienthal = 11 km.

Legends, Further Political and Ecclesiastical Relationships

The Wittich cross near Glashütte. The robber-knight Wittich is said to have been killed here by Weigand von Birenstein. For his reward Birenstein stipulated that a stag, which he himself had caught and cared for, should be led across the stone bridge over the Elbe in Dresden (Ref. 29). Wittich cross–Neustadt end of the bridge = 22 km. On the Neustadt side stood the customs house of the Dohna family, who levied the toll from here to Königsbrtick. Their coat of arms could be seen there: two crossed stag's antlers. The story is told

differently by G. A. Poennicke (Ref. 38). But there too the Elbe bridge in Dresden is mentioned.

Kuhfahl (Ref. 23) states that the Wittich cross once fell over and was re-erected. He says that old accounts place the killing "somewhere above the manor of Rheinhart-Grimma", but considers this unlikely because from the cross to this spot it is nearly an hour's journey, and because there in the village itself, on a raised site above the manor, a stone cross still stands today.

The Wittich cross–Elbe bridge line traverses the manor of Rheinhardtgrinma and also a widely-visible landmark of the Dresden region, the Babisnau poplar.

Meiche 841: The great bell at Marbach near Nissen, and that of the Frauenkirche in Dresden, are said to have been dug up by a wounded boar near the old hermitage in the Zellwald. Altzella–Frauenkirche = 33 km.

Meiche 595: In the neighbourhood of Rochlitz, a suburb of Mittweida, is the Kalk- or Galgenberg (gallows hill). The Devil once sat there and watched the pilgrims travelling to Seelitz. 308-metre peak–Seelitz = 11 km.

Meiche 1133: For a bet, a miller of Baruth tried to carry two bushels of millet as far as the Knigsmühle (king's mill) in Bautzen. Where the cross stands at a fork in the road, he fell dead. Baruth–cross = 11 km. The cross, actually a stone pillar with crosses carved on it, also shows a "wheel". It bears the date 1549, but was already mentioned the year before (Ref. 23).

Meiche 920: The treasure of the Stromberg near Weissenberg was transferred to the Rothstein near Sohland. Legend 273 of Meiche's Saxony tells that a chapel of St George once stood on the western peak of the Rothstein. On the Rothstein stands a double rampart and on the Stromberg a rampart of slag (Ref. 40). Stromberg–Rothstein = 11 km.

Meiche 69: The Zschirnstein is haunted at noon. Also, the Devil is said to have appeared between 12 and 1 o'clock on the Lilienstein. Zschirnstein–Lilienstein = 11 km.

The Teufelstein (Devil's stone) near Pliesskowitz is said to have been thrown there from the Czorneboh (Ref. 29). Teufelstein–Czorneboh = 11 km.

"In Ludwigsdorf near Görlitz, it was intended to build a monastery affiliated to Oybin in 1465, but this project was not carried out" (Ref. 31). Oybin–Nieder-Ludwigsdorf church = 44 km.

"Cosmas says that Duke Boleslav I (920–967) built himself a castle", ie Stará Boleslav (Ref. 3). Prague–Stará Boleslav = 22 km.

Karl IV built Karlstein castle. Prague–Karlstein = 22 km.

The Schönberg family have resided in the Meissen district at Rotschönberg since 1290, and at Purschenstein and Pfaffroda since 1351 (Ref. 16). Rotschönberg–Purschenstein = 44 km.

"The Wettiners (Ekkehard I, 1046) owned Rochlitz and Strehla" (Ref. 22). Rochlitz–Strehla = 44/45 km.

Wiprecht von Groitzsch received from Emperor Heinrich IV the castles of Leisnig and Dornburg an der Saale (Ref. 22). Groitzsch–Leisnig = 45 km, Groitzsch–Dornburg = 45 km.

Otto's first act was to found the city of Leipzig, then the plantation town of Eisenberg, then the market town Grimma (Ref. 22). Groitzsch–Leipzig = 33 km, Groitzsch–Eisenberg = 33 km, Groitzsch–Grimma = 33 km.

"At first Dietrich received only the hereditary estates that could not be taken from him, especially around Weissenfels" (Ref. 22). Groitzsch–Weissenfels = 22 km.

The first seminary (in Saxony) for the training of priests was built in 1122 in Wurzen, and one a century later in Bautzen (Ref. 22). Wurzen–Meissen = 55/56 km. Meissen–Bautzen = 66 km.

The royal castle Žebrák or Bettlarn (Václav I) lies 44 km from Prague, and 22 km from Karlstein.

The first foundation in the Pschow district was Pschow castle, mentioned in 870 as the seat of the "Lechen" or Counts Slavibor, at the mouth of the river Schopka (north of Melnik), 33 km from Vyšehrad (Ref. 2).

"The church at Chcebuz with its panoramic view was built by Boleslav II in the tenth century (993)" – on a pagan place of sacrifice, "On neighbouring estates Břevnov abbey owned Chcebuz church along with two farms from 993" (Ref. 2). Chcebuz–Břevnov = 44 km.

In the Kouřim district across the river Šembera a collegiate monastery has stood in Sadská since the early twelfth century,

where from antiquity a royal residence had stood in the open fields (Ref. 9). Břevnov–Sadská = 44 km.

From 1143 a Cistercian monastery stood at Sedlec near the future site of Kutná Hora (Ref. 9). Sedlec–Břevnov = 66 km.

In 1126 there was built at Vrbčany (Kouřim district), on a steep summit, a church with an enclosing wall (Ref. 9). Vrbčany–Břevnov = 44 km. Cf Naegle (Ref. 33) according to whom a church existed in Vrbčany in 1126.

The older Benedictine monasteries, dating from the tenth and eleventh centuries: St George in Prague, Břevnov, Kladruby, Sázava, Želiv, Rajhrad, Hradiště (Ref. 3). Břevnov–Sázava = 44 km. Sázava–Želiv = 44 km.

The Pillnitz–Moritzburg road near Dresden links the castles of Moritzburg and Pillnitz. Straight line distance = 22 km.

"Pirna (castle and settlement) seems originally to have been situated between the Děčín and Nisani districts and to have belonged to the (older) town of Königstein" (Ref. 28). Pirna–Königstein = 11 km.

The expedition of Johann Georg III, to relieve the imperial capital when when besieged by the Turks (Ref. 49):

Three times the route of march shows a total of 33 km for two consecutive days, on three occasions 22 km was covered in a single day, once 55 km in two days, and once 33 km in a single day.

According to Klemm (Ref. 20), the names Königsbach and Königsmühle near Poemmerle, also Königsbach and Königsmühle near Naxdorf, indicate the route by which the

king travelled from Prague to the Königstein. The latter Königsmühle is 11 km from the Königstein.

The line from Arnsdorf near Wilthen to Arnstein coincides with the former boundary of the diocese of Meissen: from Doberschau near Bautzen, via Wilthen, Weifa, Hilpersdorf, and the "place of the hermit (einsiedler)", Einsiedel near Sebnitz. From Sebnitz onwards the way to the Arnstein lies through the mountains. Along the Elbe there was ro road!

The arms of the landowners who settled in the border regions – the Dohna, Birke and Schönfeld families – perhaps indicate their solidarity. The Birkes bear the crossed "rone" (branches) on their shield, the Dohnas the crossed stag's antlers, and the Schönfelds a single antler. The arms of St Margaret's monastery near Prague are said to be similar to those of the Birkes (Ref. 30).



Arms of the Dohna, Birke and Schönfeld families

The former hermits' quarters of the Saxony–Bohemia border are situated at Dippoldiswalde, Posta and Sebnitz. The hermit Dippold, who looked after St Barbara's chapel, probably founded Dippoldiswalde. But another tradition attributes the town to Diebold von Lohmen, who is supposed to have found gold here. Also near Lohmen, and belonging to it, was the former village of Posta, now surviving only in the field name "on the old Posta". Fragments of stone exist there today.

Klemm points out that a hermit must have lived on this spot, an "apostle" from whom the village took its name. This would have been in Wendish times. But if so, the hermits of Dippoldiswalde and Posta would have been settled at 22 km apart, and the distance to the next hermit at Sebnitz would have been the same. This would correspond to the distance that the hermits of Ostrov on the Sazava took as the separation of their hermitages.

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"Bohemian Villages – Oriented!", Kurt Gerlach.

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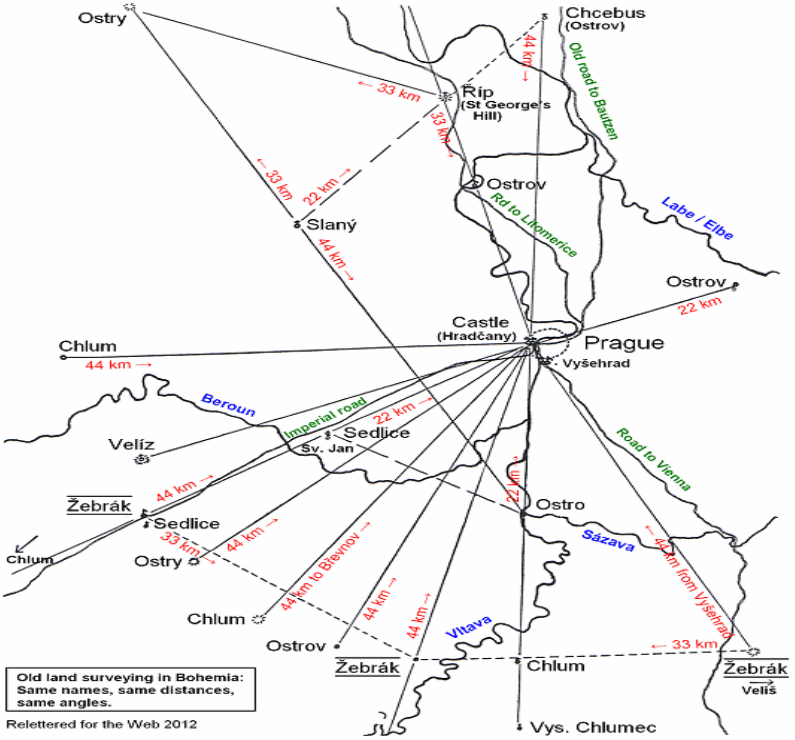
Bohemian Villages – Oriented!

To the essay on "Early German land surveys" (Ref. 1) the following observations may be added.

A village Ostra in or near Dresden does not admit orientation on Prague. Its relations are with Meissen. The village belonged to the bishops of Meissen; it was obliged to provide the jurors for the bishop's court in nearby Briesnitz and to call the guilty villagers to judgement. "But the officials had the option of transferring such a court to Ostra" (Ref. 3). Ostra lies 22 km away from the bishop's palace and cathedral in Meissen.

A village Ostrau north of Döbeln lies 22 km west of Meissen.

Ostro castle lies near Veltrusy in Bohemia, 22 km north of the citadel and cathedral precincts in Prague, on the line running over St George's Hill and the Matzenstein to the Königstein. The Königstein has an old free-standing church of St George at its centre. The church of St George on the citadel in Prague was built in 912 by Duke Vratislav I. In 971 Boleslav II's sister Milada founded a Benedictine convent nearby, the oldest in the country.



Map: Old land surveying in Bohemia

A village Ostrov lies 22 km northeast of the Prague citadel, near Brandys.

A village Ostro lies 44 km southwest of Prague. A hill Ostry is situated 44 km from Prague in a WSW direction. These places have the property that in each case a village Žebrák lies SE of the first, NW of the second, at equal distances; midway between these Ostro sites is a hill Chlum, also 44 km from Prague.

Again, a hill Žebrák lies south of Benešov and southeast of Prague, 44 km from the cathedral precincts. All three Žebrák

sites (there are no others on the three neighbouring sheets of the official 1:200 000 map) are equidistant from Prague, and the two outer ones lie 33 km from the central Žebrák. The angles formed by joining these sites to Prague are both 45 degrees.

The more westerly of these 45-degree angles is divided into four angles of 11¼ degrees, by lines running out from Prague to the above-mentioned points Ostrov, Chlum, and Ostry.

The arrangement of all these sites is not accidental: starting from Prague they are based upon the equilateral triangle created by the Benedictine monks about 1000, through the founding of Ostro monastery at the mouth of the Sázava, and the settlements made by the hermits of St John sent from Sedlec on the Lodenice. At that time a further hermit went to Mount Veliš; a line from Veliš to Prague (citadel) would make a further angle of 11¼ degrees with the line to the westernmost Žebrák, where there was a royal castle. The extension of the line Prague–Ostro monastery meets, at 44 km from Prague, another village Chlum; while the extension of the line Sedlec–Žebrák meets, about 20 km SW of Žebrák, a hill Chlum. Then a village Chlum lies 44 km west of Prague.

The Czech "žebrák" means "beggar". Thus we may safely assume that monks were sent into the forest wilderness by the Benedictines, like the hermits of St John's chapel and Mount Veliš, and that these outposts, in carrying out their duties of giving directions and collecting long-distance information, were dependent upon gifts of food from travellers, just as the church on Mount Veliš was cared for by the villagers of Otročiněves.

For the angles imprinted on the landscape round Prague by the Žebrák–Ostro–Chlum sites were not arbitrary ones. Our compass division of 360 degrees has a forerunner in the 32-fold compass rose, which is still in use today and guided the miners in the Middle Ages. A 32nd of the 360-degree circle is 11¼ degrees.

At a distance of 44 km from the centre, tangents of 33 km will be cut off by sighting along four divisions of the 32-fold windrose. It was only necessary make a single exact measurement with a cord: all further lengths could be found by setting out angles. The fact that since the Bronze Age our weather has had reduced visibility and increased rainfall (pollen analysis) supports the idea that it was formerly much easier to send messages into the far distance without optical aid.

At any rate the planning in Frankish settlements, to which W. Kaspers (Ref. 2) has recently drawn attention, has a parallel in the Bohemia–Lausitz–Meissen area. Out of the bewildering and seemingly chaotic profusion of the Bohemian villages, one can find in the above (and I have resisted the temptation to include every suggestion) clear proof of deliberate orientaticn in the mountains, whose inhabitants, in their religious duties or in the service of their prince, needed hermits as guardians and builders of roads, and as pioneers of culture, to bridge the wastes and forests of the Markwald and link together the inhabited districts.

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"'Holy' or Functional Lines Over Bohemia," Kurt Gerlach.

"'Heilige' oder zweckmäßige Linien über Böhmen,"
Germanien, 1942, pp. 143–154.

"Holy" or Functional Lines Over Bohemia

An astrological system of ordering means little to the German. A functional system of orderings he will recognize. Here we shall describe a network of lines over the countryside, which despite its vast size ought to be plausible, for it has a practical purpose and, moreover, is not a hypothesis of ours but deduced from historical facts, ie. it actually exists.

In issues 7 and 8 for 1940, readers of Germanien have already been presented with a first rough collection of material from a system of lines with the following properties: places with the same name, sited at equal distances apart, and related by having the same original owner, led towards a central line based on the summit of the citadel in Prague. Issue 12 for 1940 gave an extension of this scheme southwards from Prague by means of the places named Žebrák. At this point research had to come to a halt, as long as restraint was enforced by the narrow-mindedness of the authorities, to whom such a phenomenon seemed "fantastic". We could only proceed when we had cast off our inhibitions about the theory of land-organizers and land-distributors with a wide supranational (that is, imperial or ecclesiastical) authority; then, coming up into our system from

the southwest, from the capital of the Ottonian empire*, we reached the heart of the matter.

In his "Ecclesiastical History" (Ref. 3) Bishop Anton Frind mentions in passing that Domažlice too was a priory of the island monastery Ostro (situated where the river Sázava flows into the Vltava). This gave the key. The line from Domažlice to Prague runs over the royal fortress Žebrák and over Svatý Jan pod Skalou (St John below he cliff) on the Lodenice, also a priory of Ostro St John. The desert saint John the Baptist was patron of the hermits installed by the island monastery. It had further priories at Zátoň near Český Krumlov, on the Vltava in the far south of Bohemia, and in Slany. Zátoň marks the endpoint of the line running out from Prague through Ostro. The sites Prague, Ostro and Svatý Jan form an equilateral triangle with sides of 22 km. Slany can be reached by bisecting the line Svatý Jan–Prague or bisecting the angle at Ostro; the line Ostro–Slany is 44 km long. Given this line from Prague to Domažlice via Žebrák castle (a line that simply indicates the direction of the main road into the empire, and at 44 km from Domažlice crosses over Radyne, the old fortress of the Starý Plzenec district), if we now look for a corresponding line through the second Žebrák, more to the south of Prague, we arrive at Prachatice, the endpoint of the "Golden Trail" leading up from Passau over the mountains into the Bohemian basin. Let us now remember the reputed builder of this Golden Trail, the mountain saint of the Bohemian forest, the hermit Günther, and run through his life-story, which must be recounted as a basis for this article.

*Regensburg in Bavaria.

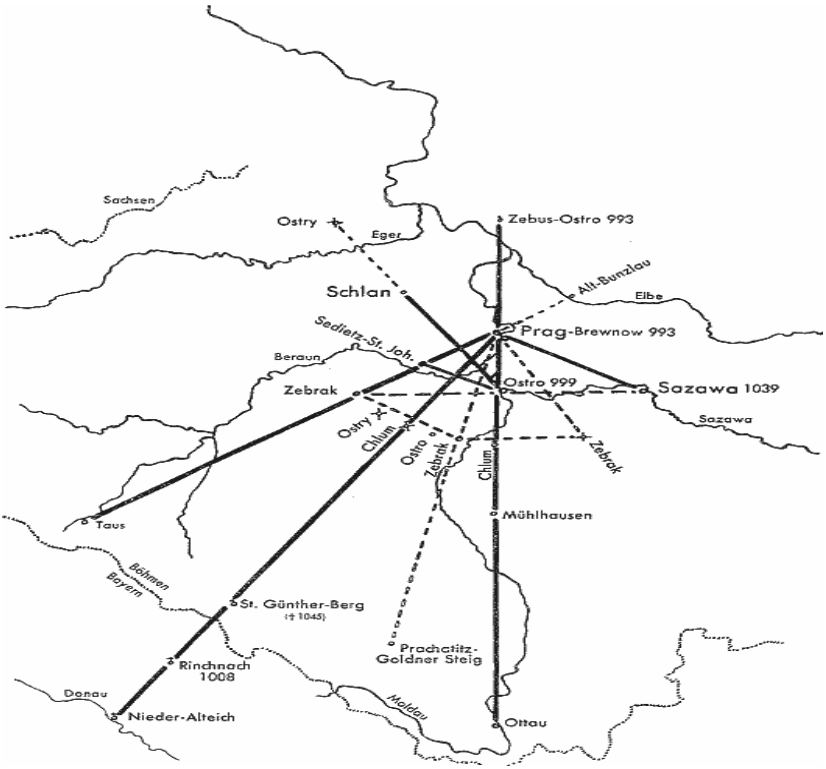
The hermit Günther was a Thuringian nobleman, an ancestor of the princely family von Schwarzburg. In 1008, after travelling to Rome, he laid down his coat of arms and took the cowl of a Benedictine lay brother at the monastery of Niederalteich near Deggendorf, on the Danube in Bavaria. In Rinchnach he founded three cells and a chapel of St John the Baptist, then pressed on further into the mountains, founding a number of religious cells, to which he occasionally made a retreat. It was in his cell at Hartmanice (Gutwasser) that he died in 1045. There on St Günther's Hill, 1009 metres high, a stone chapel was built in 1618 on the site of his wooden hermitage. Duke Břetislav, however, had his body brought to Prague and interred it in Břevnov abbey. So A. Frind tells us in his history (Ref. 2).

It must surely surprise us when A. Bachmann (Ref. 1) states that "despite the isolation of the place in the expanse of virgin forest" the hermit Günther had maintained "many contacts with the emperor and the neighbouring princes". But as soon as we chart the sites of Niederalteich, Rinchnach and St Günther's Hill: there! from Niederalteich to Rinchnach is exactly as many kilometres as Rinchnach to St Günther's hermitage, 55 km in all. And this alinement, measured out from the basepoint in Niederalteich, runs directly over the hill Chlum in the middle of our Žebrák system, via Břevnov abbey, up to the summit of the citadel and the old sacred site in Prague. So we must suppose that the hermit Günther was more than just a hermit: he was obviously, as shown by his state funeral in Břevnov, employed in a secular and highly practical operation; and in recognition of his services he was laid to rest in the place he had gazed on every day, and from which he span further

secret threads, as we shall see. That Prague is visible from St Gütnther's Hill is noticed by every traveller in the Bohemian forest. Domažlice and Prachatice also lie within sight. If ordinary people remembered road-building as the hermit's occupation, they were noticing what they understood. Yet no construction succeeds without a plan: the hermit's plan, if we may now reinterpret our Žebrák system as part of his work, was mighty, gigantic, immense, seen from the viewpoint of village or hamlet. It covered the whole expanse of the Bohemian basin, which from his high standpoint can be surveyed almost in its entirety, and it broke into it at a significant point. And this was one piece in the great plan of the empire!

Politically, the situation was that after Otto III, who had been preoccupied with Italian affairs, the Bavarian Heinrich II took over the empire in 1002. As administrative capital of the empire, Regensburg became even more important in foreign policy. But it was precisely in foreign policy that Bohemia played an important part. Poland had broken through there, and Boleslav Chrobri had brought his forces up before Meissen. In 1004, after his return from the south, where he had been crowned king of the Lombards, Heinrich liberated Bohemia and installed the rightful duke Jaromír as a vassal of the empire. After a second Italian campaign Heinrich was crowned emperor in Rome in 1014; then in 1015 he undertook a punitive expedition against Boleslav Chrobri who had tried to persuade the Bohemians to secede from the empire.

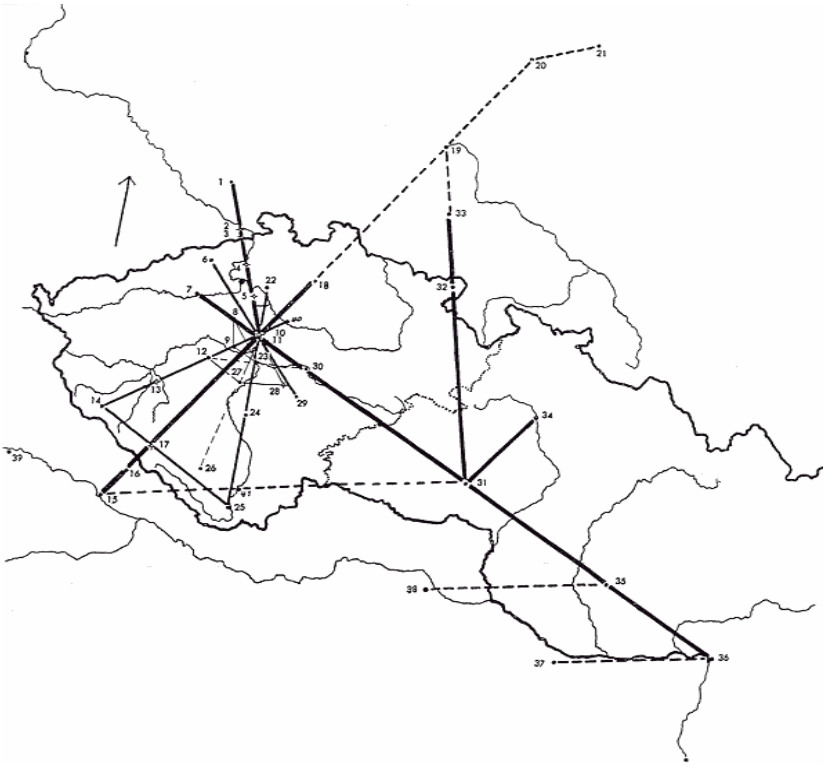
In the choice of allegiance between East and West, Bohemia had already decided under Duke Václav in favour of inclusion in the empire, and then, since it still kept the old religion, had



Map A

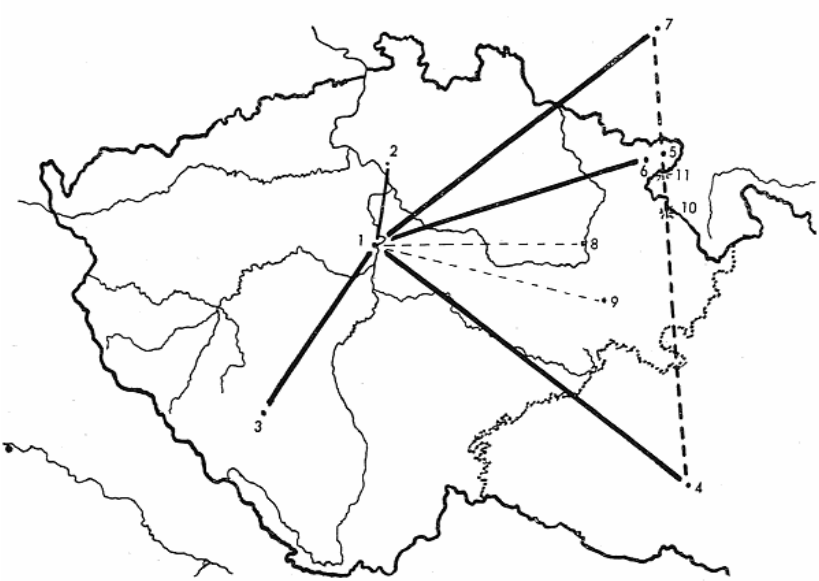
seen the first church-building and pastoral care organized from Regensburg. Now powerful twin forces reached out towards Bohemia: western culture with its monastic foundations, and the imperial power, which however lacked a rapid means of communication with its important province. Just as the archbishop of Mainz was both a prince of the church and chancellor of the empire, so communications in the empire, whether of church or state, would tend to go along a single line: as it would seem, the hermit Günther's line from Niederalteich

to Prague. This line had been marked out earlier, it is true, but not as strongly as in his time.



Map B

In 1004 Heinrich set up the diocese of Bamberg. A line from Bamberg to Rinchnach cuts the Niederalteich–Prague line at right angles, as does the line from Domažlice to Prachatice. These lines in a southeasterly direction were presumably new; as was the extension of a pre-existing line which we shall now describe in connection with the monastic foundations of the period.



Maps 1 to 7

Vojtěch (Adalbert), a nobleman of the Slavnikovec family, related on his mother's side to the Saxon royal house, had studied in Magdeburg and become bishop of Prague in succession to the German Dietmar. In 953, after a hurried journey to Rome and a stay in St Benedict's own monastery Monte Cassino, he founded the monastery of St Margaret in Břevnov, close by the citadel of Prague, installing twelve Italian monks there. At its foundation Břevnov received the loftily-sited church of Chcebuz, together with two estates and the hill Ostro, 44 km north of Prague. Priories were set up at Nezamysl, Kostelec in Bohemia, Rajhrad in Moravia, Broumov, Police near Broumov, and Legnickie Pole in Silesia. Later, when the Benedictine monasteries at Opatovice and Podlažice were founded, hermitages of Břevnov abbey were already in existence

there. Drawing the line between Rajhrad (south of Brno) and Legnickie Pole, we touch Broumov and meet the Heuscheuer Berg, 919 metres high, and the Velké Destne, 1114 metres high, Prom the latter the sighting-point at Rajhrad would most likely have been visible.

Now Slany priory, belonging to the island monastery Ostro, lies on the extension beyond Prague of the Rajhrad–Prague line. But Ostro, founded in 999 by Boleslav the Pious, appears right from the start as a daughter organization of the Bavarian monastery Niederalteich, since it took from there not only its first abbot, the German Lambert, but all its brothers of the cloth. So it is probably safe to link the Thuringian nobleman Günther, the hermit of the Bohemian forest who took the cowl in Niederalteich, with the activities of the island monastery Ostro. This is not to say that he created the great communications network over the mountains, but rather that he operated it and extended it, and was obviously responsible for collecting news. For why else were the hermitages and priories (ie small settlements of up to six brothers) laid out at these intervals of a day's or half a day's journey, unless something traditional and practical existed in this system? Herodotus, as early as the 5th century BC, reports that the Persian king Xerxes sent news of the ill-fated sea battle near Salamis out across the Hellespont and along the line of communications through 3000 km to Susa.

"Nothing mortal travels so fast as these Persian messengers. The entire plan is a Persian invention; and this is the method of it. Along the whole line of the road there are men (they say) stationed with horses, in number equal to the number of days

which the journey takes, allowing a man and a horse to each day; and these men will not be hindered from accomplishing at their best speed the distance which they have to go, either by snow, or rain, or heat, or the darkness of night. The first rider delivers his despatch to the second, and the second passes it to the third; and so it is borne from hand to hand along the whole line, like the light in the torch race, which the Greeks celebrate to Vulcan. The Persians give the riding post in this manner, the name of angarum." (Ref. 5).

This system, used in 480 BC, had a parallel in the calling-posts of the German army. The setting up of Christian monasteries in the territory of the pagan Slavs implies the creation of bridgeheads and outposts in enemy country. To keep them safe a staging-post was necessary. The staging-post at Nezamysl, the priory of Břevnov abbey mentioned above, lies 22 km from St Günther's Hill on the road from Prague; a half day's journey for a foot messenger. Admittedly it does not keep to the exact alinement upon St Günther's hermitage, nor for that matter was it built by the Niederalteich monks in Ostro. But where the country's ruler, Duke Jaromír, was ambushed by his rivals the Vrsovci on Mount Veliš in 1002, and tied to a tree; where this same Jaromír could be blinded even by his own brother; in a country with such coarseness of expression the cultural mission of the German monks could not remain without the supervision and protection of their homeland. The bishop of Prague, when he was a German like Dietmar, the first, Thiddag from Neu Corvey, the third, or Ekhard, a relative of Emperor Heinrich II, the fourth, was merely the protector of the German minority in enemy territory.

The founding of the fourth monastery in Bohemia, in 1032, indicates by the choice of its site the steady advance of Prague as a central point. In 1032 the hermit Procopius, having made his vows apparently in Břevnov, travelled into the forest wilderness on the river Sázava and there made his home in a cave, just like the hermits of Svatý Jan pod Skalou; until Duke Břetislav discovered him (traditionally through a hind, as at Svatý Jan) and built there the magnificent Sázava abbey. The site, however, is 44 km from Prague and lies on the alinement to Rajhrad, on which we now find two monasteries and two priories: too many for the pattern to be called a coincidence. Later Sázava had a priory in Zbyšov, founded 33 km to the east.

Here we must return to Vojtěch, who lost his entire family at the hands of the Counts Vrsovec in the bloodbath at Libice, and, giving up his bishopric in disgust at the Slavs' obduracy and barbarity, was sent by the Pope in a direction that is already familiar to us: the one laid down by St Günther's markpoints from Niederalteich to Prague. Continuing along this line in the same direction, we cut the Rajhrad–Legnickie Pole line close to or in Glogow and finally reach Poznań. Along this line Vojtěch must have travelled; in 997 he was martyred in Prussia and buried at Gniezno. Emperor Otto III then created an archdiocese in Gniezno and undertook a pilgrimage to Vojtěch's grave; during which, as noted in Grosser's "Curiosities of the Lausitz" (Ref. 4) under the year 1001, the 44-km long route from Poznań to Gniezno was covered with coloured cloth; This certainly proves, on the one hand, the high regard that the imperial power had for the cultural pioneer of the east, and on the other, the technical ability of that time. We

may judge the technical ability of the period by the words of Henne am Rhyn, in his "Cultural History" (Ref. 6), who sees in the Pope of that time, Sylvester II (formerly Gerbert), an "extraordinary phenomenon", particularly skilled in certain technical studies. "He was born in the Auvergne about 950, and through the influence of Count Borrell of Barcelona he entered the school of Bishop Hatto of Vich in Catalonia. Here were cultivated those sciences which the neighbouring Arabs had received from the late Greeks and had developed further than the Christian West, namely mathematics, astronomy and the theory of music." Gerbert also studied in Italy, then helped the German-minded archbishop Adalbero of Reims to raise the school there to the finest in the country. He accompanied Emperor Otto II to Italy and thus became acquainted with the learned Otrik of the Magdeburg school. "He prepared a celestial globe and arranged it so as to show the rising and setting of the stars; also an instrument to calculate the length of day and night, an armillary sphere with the paths of the planets and one depicting the constellations, an abacus, a sundial after observing the Pole Star through a sighting tube, etc. In uneducated circles he was consequently looked upon as a sorcerer." He became Pope in 999 and died in 1003. We may well credit his time, when even in Iceland simple peasants like "Star-Oddi" were observing the heavens, with the construction of staging-posts in our sense. And Vojtěch too was brought back after his death to Prague, where he had worked and whose advancement he had served. That happened in the same year that Sázava came into being: Duke Břetislav and the bishop of Prague personally carried Vojtěch's coffin from the Rokytná brook into the citadel. Then in 1045, the year when the hermit Günther died,

Duke Bretislav I built a collegiate monastery at Stará Boleslav. In this way he extended the Domažlice–Prague line 22 km beyond Prague.

The Rajhrad–Prague line was not carried as far as the river Ohře (Eger) until the twelfth century, with the founding of Postoloprty monastery. Its full significance as the main axis of the Bohemia–Moravia region is not apparent until the bishoprics of Nitra and Vac, which lie upon it, are plotted on our map. Then, lines emerge parallel to the Rajhrad–Niederalteich link; from Nitra to Wien and from Vac to Györ, where again bishoprics were created. A perpendicular to this axis, set out from Rajhrad, leads to the bishopric of Olomouc.

Even in the siting of the many later monasteries in Bohemia (but mainly in Benedictine foundations, and scarcely at all beyond the year 1200) we find alinements, orientation towards well-established landmarks, and the measurement of routes. And not only in Bohemia is it clear from sacred and secular buildings of the early German period, that there are more things in heaven and earth, Horatio, than are dreamt of in your philosophy! For if our sober deductions from the statements of historians are a fantasy – what then is science?

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"Guidelines Through Germany," Kurt Gerlach.

Translated from "'Richt'-Linien durch Deutschland," *Germanien*, 1943, pp. 27–33.

Guidelines Through Germany

In the following the term "guidelines" (richtlinien) will be used for what have hitherto appeared in the literature as "holy lines" (heilige linien), because here we shall concentrate on the practical use of these alinements – that being obviously the main reason for their existence, though it can in a sense be described as a sacred one. Among the many possible instances that have come to light, we shall cite a number which can be supported from documents and literary authorities with the year they are first mentioned and the name of their organizer or surveyor – which is not to say that this surveyor was the first, or that the year in question is the original year of construction. However, it seems that we are dealing with a universal custom, by which every high spot or conspicuous elevation on German soil required the following: a panoramic view over the landscape; the finding of one's way within it; the observation of the place from which one had come and the place where one wished to go, with the aid of certain well-defined points, for which purpose sunrise and sunset would be used if possible even today, if other means of finding direction, eg the compass and sextant, were unknown. That at an early stage the division of the distant horizon and the location of markpoints might have been achieved by means of a wheel (such as the spoked wheel of an overturned wagon) must remain a conjecture, as long as we

have no further evidence than the mention in Shakespeare (Ref. 8) and the fact that from time immemorial the wheel has symbolized the law and used to be found at every place of execution.

Lines in Bohemia have been measured mainly on 1:200 000 maps, occasionally on 1:75 000; and in Saxony on the official map at 1:100 000 and surveyors' maps at 1:25 000. But when on comparing maps (even official ones) it turns out that two neighbouring sheets, at say 1:100 000 scale, disagree by over 5 mm, one can easily judge the limitations of mapwork.

Nevertheless such a guiding system was perfectly adequate for purposes of long-distance communication and travelling; and bands of migrating people (such as the crusades into the Holy Land), or missionary journeys, or merchants' caravans, could have been directed along it, just as these long-distance alinements made it possible to govern such a large empire as the Carolingian. It is hard to imagine what it means when Charlemagne, for instance, called sixteen imperial parliaments during his reign: how first the messengers, then the bishops and counts with their retinues, had to travel to and fro far across the country. Or what administrative work, what a coming and going of messengers, how many journeys by foot, horseback and wagon were needed in a diocese such as Salzburg, which owned over sixteen hundred properties. Since fiscal and administrative affairs in the Middle Ages were largely in the hands of the Church, we shall here describe a number of straight alinements linking important church foundations in an "oriented" way.

Line A1: York/Utrecht/Amöneberg/Fulda

According to Hauck (Ref. 5) it was by chance that the Frisian people attracted the attention of the English clergy. In 678 the quarrelsome archbishop Wilfred of York was trying to escape to Rome, and is supposed to have been driven onto the Frisian coast. At any rate that is what the sources say. Then Wictberct worked in Frisia, and in 690 Willibrord landed with twelve men at the mouth of the Rhine and took himself to Utrecht. The Frisian duke Radbod was conquered by Pipin. Willibrord went to Pipin and requested permission and support for his work. The Anglo-Saxons chose their own Frisian bishop, but Pipin himself settled the matter and decided to have an archbishopric in Frisia. In 695 Willibrord was consecrated in Rome as archbishop of Frisia and went to Utrecht. There a church and a Benedictine monastery were founded. This line was lengthened, first apparently by the Anglo-Saxon Wynfrith (alias Boniface) when he founded Amöneberg monastery on a basalt cliff near Marburg, then by Wynfrith's Bavarian pupil, Sturm, who built Fulda in 744. The circumstances are remarkable, so we shall quote them from Hauck (Ref. 6): "Then he (Boniface) agreed that Sturm, after his consecration as priest, should spend three years in the Buchonian forest seeking a suitable place for a retreat. He found it where the Haune and Geis flow into the Fulda, the site where Hersefeld monastery was later built. Sturm lived there with two companions. But the cell did not immediately become a monastery; Boniface had it in mind to found a monastery there, but the nearness of the heathen Saxons seemed a threat to its survival. He instructed Sturm to look for a protected spot further to the south. Sturm made

many a fruitless journey in the wooded valleys in the foothills of the Rhön and Vogelsberg ranges. Finally it seemed to him that a place called Eichloh suited all requirements." The village was in the possession of Karlmann. Karlmann granted the monastery a site eight thousand paces in diameter. Sturm arrived at Eichloh on 12th March 744 with seven brothers from Fritzlar; in May Boniface came to consecrate it. The monastery was placed under Roman rule, an unprecedented step in the Frankish church.



Map I

Line A2: Worms/Salzburg/Ptuj

In 696 Hrodbert (Rupert), bishop of Worms, having been summoned by the Bavarian duke Theodo, founded the church of St Peter and St Paul on what later became the site of Salzburg. "He worked in Bavaria, not as a foreign bishop coming to organize, but as a wandering bishop seeking a home and a mission. He met the duke in Regensburg, but did not remain in the Bavarian capital. … Hrodbert looked further down the Danube; he reached as far as the ruins of the old Roman town Laureacum (Lorch). Then he turned along the Traun up into the mountains. Thus he reached the lakes of the Salzkammergut. … Here he was needed and here he resolved to stay. His first foundation was St Peter's church on the south bank of the little Wallersee, around which the village of Seekirchen soon grew up. Then he turned his attention towards Juvarum (Salzburg). Of the former Roman city there remained nothing but ruins, overgrown by the forest, but the site was not completely deserted; there was even a duke's castle on the hill later known as the Nonnenberg." The duke granted him the village and castle and the pasture belonging to it. Hrodbert was a distinguished man and related to the Merovingian house. In 874 the archbishop of Salzburg consecrated a church in Ptuj.

Line A3: Dokkum/Minden/Zeitz/Prague/Sázava/Rajhrad/Nitra/Vac

In 968 Otto I founded the archdiocese of Magdeburg and placed under it the newly- founded dioceses of Brandenburg,

Havelberg, Merseburg, Zeitz and Meissen. Then in 973 the diocese of Prague was founded; in 993 Vojtěch, the second bishop of Prague, a descendant of the Slavnikovec family and related on his mother's side to the Saxon royal house, built Břevnov monastery a short distance southwest of Prague; it had a priory in Rajhrad. The stage Rajhrad–Prague is the same length as the stage Prague–Zeitz. It may be remarked that according to the Bohemian chronicle by Cosmas, archdeacon of Prague, the sacred hill on the Prague citadel bore the name "Zizi" (Ref. 1). But as early as 836 the first church in Moravia had been founded on this line at Nitra southeast of Rajhrad. A second one came into being on the hill Skalka not far from Trenčín in the same year. In 880 Methodius, whose bishop's see was at Uherske Hradiště, saw his worst enemy, the German Wichin, installed as his suffragan in Nitra.

In 1032 Duke Břetislav I founded Sázava monastery on this line, in a bend of the river Sázava at 44 km from Prague. Beyond Zeitz on this line we have still the diocese of Minden, consecrated by Louis the Pious, where however Charlemagne had founded a church in 803. The endpoint of the line A3 is formed by Dokkum. There must have been an important Frisian ritual and administrative centre at Dokkum, for Wynfrith (Boniface) summoned the baptized Frisians to be confirmed there in 754, and there he was killed near the river Borne.

*A mistake. The reference is to a council in the town of Attigny in 765, but Gerlach draws his line through a small village of the same name in the Vosges.

Line B1: Würzburg/Erfurt/Brandenburg

In 741 Wynfrith founded the dioceses of Würzburg and Erfurt. In 968 Otto I extended the line to Brandenburg.

Line B2

is given by Wynfrith's first monastery at Amöneberg and his see at Mainz.

Line B3: Bremen/Osnabrück/Köln/Verdun-sur-Meuse

In 787 the diocese of Bremen, founded by Charlemagne, was placed under Bishop Willehad, who was consecrated in Worms. The Saxon dioceses of Minden, Münster, Bremen and Onabrück belonged to the archdiocese of Köln. The line Bremen–Köln cuts through Osnabrück, and extended beyond Köln meets the see of Verdun.

Line B4: Toul/Trier/Minden/Hamburg/Oldenburg in Holstein

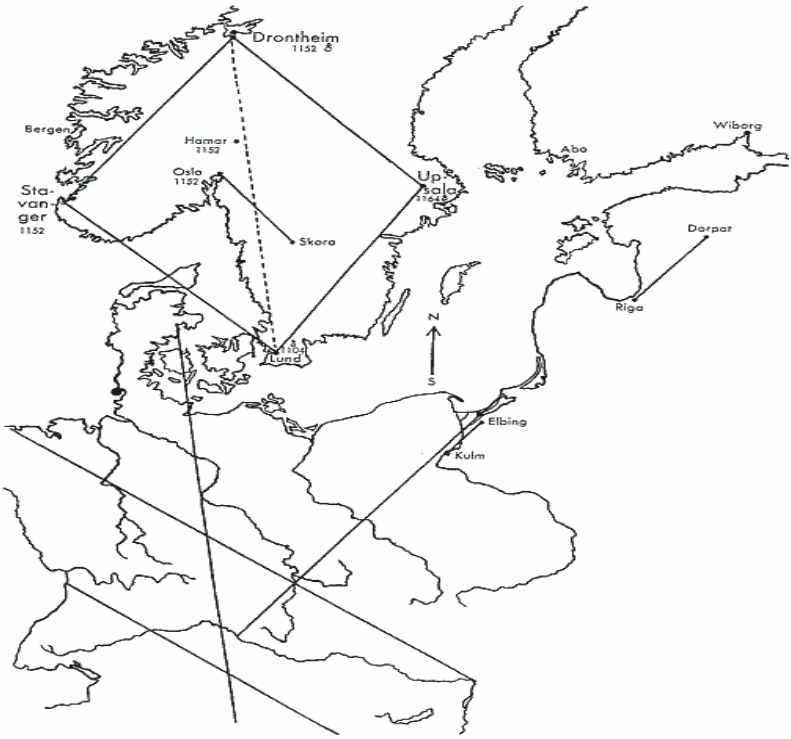
After Charlemagne's victory over the Saxons "the land north of the Elbe was also added to the Saxon missionary area. The work there was given to the diocese of Trier. Bishop Amalar built the first church in this region; it stood in Hamburg" (Ref. 7). The line also cuts the see of Toul.

Line B5: Bamberg/Zeitz/Kołobrzeg

This line was drawn in 1007 when the diocese of Bamberg was founded. Bamberg was given by Otto III to the father of Heinrich II, Heinrich of Bavaria. Kołobrzeg was a diocese by 1000 and was placed under the archdiocese of Gniezno.

Line B6: Niederalteich/Rinchnach/Prague/Głogow/Poznań/ Tenkitten

The southwest portion of this line is the work of the hermit Günther, a descendant of the Thuringian counts von Schwartzburg. After a journey to Rome he became in 1008 a Benedictine lay brother at Niederalteich on the Danube. He founded Rinchnach and afterwards a cell at Hartmanice on St Günther's Hill. Rinchnach lies 27·5 km from Niederalteich, and the cell on St Günther's Hill the same distance from Rinchnach, on the line from Niederalteich to Prague. Frind (Ref. 4) says of Günther: "With untold labour he built the so-called Golden Trail through the trackless mountains around Prachatice." After Günther's death Duke Břetislav buried the hermit's body in Břevnov abbey, founded by Vojtěch.This Vojtěch, educated in Magdeburg, resigned as bishop of Prague in order to travel to St Benedict's foundation Monte Cassino and to Rome; then a second time to travel via Poznań as a missionary in Prussia. At Tenkitten in Samland he was killed in 997. The line B6 ends at Tenkitten.



Map II

Yet this region had been travelled before. In 965 the sister of Boleslav II of Bohemia, Dobrava, married the Polish prince Miesko, who was baptized in 967. Consequently in 968 the diocese of Poznań was set up by Emperor Otto I with German clergy. In 973 the diocese of Prague was founded.

Line B7: Rajhrad/Olomouc

The diocese of Olomouc was founded in 1063.

Line B8: Pecs/Vac

In 1002 Stephen the Holy was crowned king of Hungary in Pecs. Pecs became a royal seat and a diocese, as Vac was already a diocese.

Line B9: Chełmno/Elblag

The later Baltic dioceses are the archdiocese of Riga, Tartu, Chełmno, and Elblag. Both Chełmno–Elblag and Riga–Tartu have the direction B. Riga became a diocese in 1202. The first church was built in 1184 at Ikskile on the river Duna.

Line C1: Worms/Würzburg/Bamberg/Teplá/Prague/Libice/ Opatovice/Pěčín/Kraków

Line C1, set out from Prague, is marked by Opatovice as a cell of Břevnov, and later by Pěčín as a priory of Opatovice monastery. On this alinement lies Libice nad Cidlinou, the home town of Vojtěch, then Kraków which became a bishop's see in 1000, subordinated to Gniezno along with Kołobrzeg, Poznań and Wrocław; then west of Prague the village of Krakov, reputedly at one time the home of Krok, the father of Libuše in Czech tradition. In 1193 the convent of Teplá was founded on the line C1. In addition it touches Bamberg, Würzburg and Worms, also perhaps Reims.

Line C2: Amöneberg/Erfurt/Zeitz/Meissen

Line C2 joins the bishoprics of Meissen and Zeitz, both founded in 968; then again Boniface's foundations Erfurt and Amöneberg.

Direction C can also be established in other ways.

Line D1: Aarhus/Odense/Oldenburg/Magdeburg/Merseburg/Zeitz/Salzburg/Aquilèia

The longest line appears to be D1, which in the south is based on the Roman (later Carolingian) bishoprics at Aquileia and Salzburg. Both places were designated by Charlemagne as bases for the Saxon mission. In the middle of the empire, D1 was again marked out by Otto I at Zeitz, Merseburg, Magdeburg and Oldenburg in Holstein, all in the year 968.

Ansgar (died 865), a monk at Corbie and later at Corvey, who finally became archbishop of Hamburg, built two churches, in Schleswig and Ribe. The churches in Schleswig and Hamburg lie on the direction D. Under Svend Estridssen (died 1076) the Danish church was organized into eight dioceses: Lund, Roskilde, Odense, Schleswig, Ribe, Aarhus, Viborg and Bornholm. In 1104 Lund became the archdiocese for the northern territories. In 1152 Norway received an archbishop in Trondheim, and in 1164 Sweden one in Uppsala, though the archbishop of Lund remained Primate of Sweden (Ref. 2). Here corrections to lines A and B are noticeable, obviously imposed

by the more northerly latitude. Nevertheless the lines Lund–Stavanger (diocese) and Uppsala–Trondheim are almost equal and run parallel to each other, proving that orientation and measurement were also practised in the north.

Line D2: Kołobrzeg/Legnickie Pole/Broumov/Pěčín/Rajhrad

Line D2 is clearly marked by priories that arose with the founding of Břevnov, and can thus at once be ascribed to Vojtěch. Priories of Břevnov included Rajhrad, Broumov, and Legnickie Pole in Silesia. In Broumov and Legnickie Pole there were later priories of Opatovice monastery. An extension of the straight line Rajhrad–Pěčín–Broumov–Legnickie Pole takes us to Ko#322;obrzeg, which was already a bishop's see by the year 1000.

Line D3: Dokkum/Köln

The Frisian mission was attached to Köln. Wynfrith (Boniface) was originally to have been archbishop of Köln.

Line E1: Utrecht/Köln/Mainz/Aquilèia

Line E1 results from the dependence of Utrecht on Köln. Then Mainz was also linked by Boniface with Utrecht. When extended, this line ends at Aquilèia.

is given by the stage Kraków–Kołobrzeg, drawn in the year 1000.

The examples given here are not a complete proof of orientation and measurement in Germany, but they are striking enough when taken with the author's previous articles in Germanien. It should now be clear, for instance, how the peculiar unit of 11 km came into the Bohemian landscape, where it measures out long distances: it must embody the Lower Saxon or Frankish hour-measure, used all over the empire from the Carolingian period to the Staufers (1154–1254); the Dutch ure or the raste, which still gives its name to hills in the mid-German landscape called Urenberg or Rastenberg. The existence of this vast geometrical survey in early times shows us that there was more territory in central Europe occupied by the ancient Germans than has been conceded to us – the nation without room – in later times.

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