CAERDROIA

THE JOURNAL OF MAZES & LABYRINTHS



: LIII : CAERDROIA 53

CAERDROIA

The Journal of Mazes & Labyrinths 53rd Edition



The Schwedenhieb turf labyrinth in Graitschen, Germany, following its recent restoration. Photo: © M. Milbradt, Thuringian State Office for Heritage Management and Archaeology, Weimar, with thanks to Dr. Anja Endrigkeit.

CAERDROIA 53

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Caerdroia 53 was produced during December 2024 by Jeff and Kimberly Saward at Labyrinthos HQ. Opinions stated by contributors are not always those of the editors, but Caerdroia welcomes open discussion to provide a forum for all who are lured by the labyrinth.

Editor & Publisher: Jeff Saward – Associate Editor: Kimberly Lowelle Saward, Ph.D. Caerdroia 53 is © Labyrinthos/individual authors 2024, as appropriate.

Editorial – Caerdroia 53



Jeff Saward, Thundersley, December 2024

Welcome to the 53rd edition of Caerdroia, and likely the last printed edition, as going forward Caerdroia will primarily be an online digital journal. Unfortunately the ever rising cost of mailing the journal, especially outside of the UK, has become prohibitively expensive, and the implementation of new customs procedures as a consequence of the withdrawal of the UK from the European Union has made it almost impossible for us to mail the journal to European readers without many copies being returned undelivered, or readers facing ridiculous taxes and collection fees to receive copies via the mail.

After 45 years of sending copies of Caerdroia to readers around the world, politics and bureaucracy have finally forced my hand to quit using the postal service to distribute Caerdroia to fellow enthusiasts and researchers. But fear not, Caerdroia will continue to be issued in digital form on an annual basis, much as before, and distributed via the Labyrinthos website - https://labyrinthos.net/caerdroia.html

The Labyrinthos and Caerdroia website – www.labyrinthos.net – continues to contain a wealth of material, including downloadable digital PDF files of Caerdroia 33 through 52, and selected articles from earlier editions, along with some of the many photos and graphics from our extensive photo library and archive. This edition of Caerdroia is also available on the website for subscribers at: www.labyrinthos.net/c53pdf31122024.html

With the switch to digital delivery, we have reduced our subscription to £6 per edition, to cover the cost of producing the journal in digital form and the maintenance of the website for its delivery and promotion. I trust you will consider the modest cost of our annual publication still worthy of your support going forward.

Our next edition, Caerdroia 54, is scheduled for publication in late summer 2025. As always, if you have a paper or shorter article you wish to submit for inclusion in the next edition, send it to me as soon as possible, along with the usual labyrinthine snippets and curios that help fill the pages.

 $Jeff\,Saward\,-\,Email:\,jeffsaward@gmail.com\,-\,Website:\,www.labyrinthos.net$



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Labyrinths in Iron Age Portable Rock Art from Castelinho, Northern Portugal



Andreia Silva, Sofia Figueiredo-Persson, Elin Figueiredo, Joana Valdez-Tullett and Andrew May

Introduction

In the early 2000s, several hydroelectric dam projects were undertaken in Portugal, including the Baixo Sabor Dam in the northeastern region of Trás-os-Montes. A systematic documentation of all archaeological features was carried out as part of this development, leading to the discovery of several rock art sites [Figueiredo-Persson et al., 2022].

One of these sites was Castelinho, a fortified Iron Age settlement partially excavated between 2011 and 2013 dating from the 3rd century BC to the 2nd century AD [Santos, 2015]. Extensive excavations uncovered more than five hundred engraved slate plaques in various contexts of the settlement, including walls, ditches, pavements, granaries and ramparts [Silva, 2020]. Three of these plaques feature labyrinths, all found in occupation and subsequent abandonment contexts dating to the Roman period [Silva, 2023]. In northeastern Portugal, Roman occupation only began effectively in the second half of the 1st century AD [Fabião, 2013].

This paper will focus on the three slate plaques featuring labyrinths – plaque 16+17, plaque 120 and plaque 283 – and briefly discuss potential interpretations and chronologies of these forms in the northwest of the Iberian Peninsula. A previous version of this paper in Portuguese language was published in 2023 [Silva et al., 2023].

Location and archaeological excavation of Castelinho

The fortified site of Castelinho, now submerged by the Baixo Sabor Dam reservoir, is located in the parish of Felgar, municipality of Torre de Moncorvo, in the Bragança district (Fig. 1). It was situated on the highest part of a gentle hill, about 200 m above sea level, on the right bank of the Sabor river, a tributary of the Douro (Fig. 2).

Archaeological excavations were carried out between 2011 and 2013. The site was interpreted as a small, monumental or fortified settlement dating to what is locally known as the Second Iron Age, roughly corresponding to the Middle and Late Iron Age periods, between the 3rd century BC and the first quarter of the 1st century BC. Defining the exact functionality of the site remains challenging [Santos, 2014, 934]. By the end of the 1st century BC, the site underwent significant Romanization, and several agricultural granaries were built.

In this fortified settlement, 521 engraved slate plaques were recovered from various structures, such as ditches, walls, bastions/turrets, pavements/paving slabs, doors and granaries, mostly dating from the 2nd century BC to the early 2nd century AD, with others found in more recent levels of occupation (Contemporary Age). In addition to the engraved plaques, rock art featuring geometric and abstract motifs were also discovered.

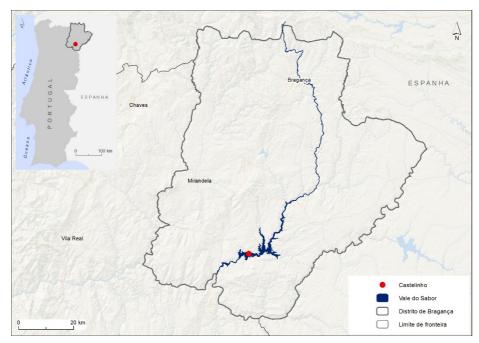


Figure 1: Location of Castelinho in Portugal and in the Sabor river valley (map by Ana Rita Ferreira).



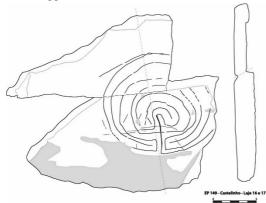
Figure 2: Archaeological excavation of Castelinho.

The Castelinho Labyrinths

Plaque 16+17

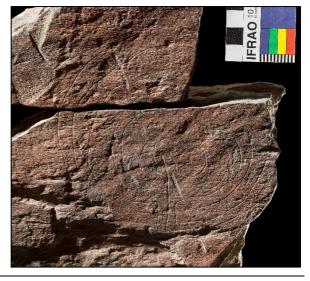
Plaque 16+17 (Figs. 3 and 4), are two fragments of the same piece, with different morphologies (one triangular and the other irregular), found out of archaeological context in the excavation's spoil heap. When put together, the plaque measures $19.8 \text{ cm} \times 22.9 \text{ cm} \times 2 \text{ cm}$ and has a rough, reddish-coloured surface.

Although fragmented, most of a 7-turn unidirectional circular labyrinth is clearly visible, occupying nearly the entire surface with a diameter of 13 cm. Due to the rough texture of the stone, the lines that make the labyrinth are angular and intermittent, with uneven spacing. In the centre of the motif, one can see the central cross and three of the four 'L's' needed to make a labyrinth. The entrance to the labyrinth is on the left, while its centre is on the opposite side.



In terms of engraving technique, plaque 16+17 features thin, slight incisions, except for the vertical line of the central cross, which has a slightly wider engraving. This could be due to the position of the tool or the result of multiple passes to reinforce the line, which is often the starting point for creating labyrinths. The hooked connections of some lines (5th and 6th) suggests that the creator was familiar with classical labyrinth construction techniques [Pintos Fernández, 2020].

Above: Figure 3: Direct tracing of plaque 16+17 on polyvinyl plastic (coordinated by Sofia Figueiredo-Persson).



Right: Figure 4: Photograph of plaque 16+17 (photograph by Adriano Ferreira Borges).

Plaque 120

Plaque 120 (Figs. 5 and 6) was exhumed from the deep fill of ditch associated with Castelinho's wall, dating to the Roman period.

It has a more quadrangular shape and slightly larger dimensions ($34 \text{ cm} \times 32 \text{ cm} \times 4 \text{ cm}$) than the previous plaque. The surface is rough, showing scratches, likely from use or handling. Its colour is mostly greyish, with some reddish spots.

In the central area, a spiral motif measuring approximately 23.5 cm in diameter is engraved on a grid (31 cm \times 31 cm). The motif appears to outline a 7-turn labyrinth, also known as a pseudo-labyrinth [Pintos Fernández, 2020].

Figure 5: Direct tracing of plaque 120 on polyvinyl plastic (coordinated by Sofia Figueiredo-Persson).



The pseudo-labyrinth on plaque 120 shares similarities with the previous labyrinth in plaque 16+17, showing discontinuous lines with uneven spacing. However, the central cross typical of classical labyrinths is absent, and the entrance, though unclear, seems to be on the right. The centre is also indistinct, possibly due to the presence of smaller, incomplete lines. This irregularity suggests the creator may have been less familiar with classical labyrinth construction, possibly an apprentice experimenting with the form.

Regarding the engraving method, the pseudo-labyrinth was made with very fine incisions. The very thin lines, as well as the presence of other engravings, make the figure very difficult to be seen and recognised.

Figure 6: Photograph of plaque 120 (photograph by Adriano Ferreira Borges).



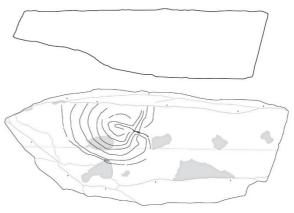
Plaque 283

Plaque 283 (Figs. 7 and 8) was found near the southern entrance of the Castelinho wall, at ground level, where several Roman silos were built. Like plaque 16+17, it has a reddish, heavily patinated surface with a rough texture and natural cracks. The plaque is sub-rectangular, with dimensions of $40 \text{ cm} \times 16 \text{ cm} \times 9 \text{ cm}$.

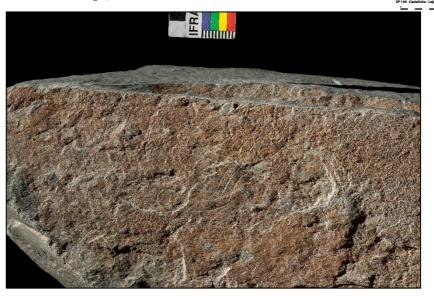
Despite its fragmentation, the plaque features an 8-turn, unicursal labyrinth at one end, measuring approximately 13.5 cm in diameter. Although not as well-defined as plaque 16+17, the central cross and some lateral L-shaped figures are visible, suggesting an early attempt at the classical labyrinth model. Unlike the labyrinth in plaque 16+17, this labyrinth has its entrance on the right and the centre on the opposite side.

The engraving technique consists of fine incisions, and the carved lines are almost imperceptible to the naked eye.

Right: Figure 7: Direct tracing of plaque 283 on polyvinyl plastic (coordinated by Sofia Figueiredo-Persson.



Below: Figure 8: Photograph of block 283 (photograph by Adriano Ferreira Borges).



Some chronological considerations

The Castelinho labyrinths, while showing some irregularities in their shapes, resemble the classic circular labyrinth, also known as Cretan or canonical [Pintos Fernández, 2020, p. 15]. This type of labyrinth is concentrated in the northwest of the Iberian Peninsula, both in open-air rock art panels and in portable rock art. Among some examples, those that most closely resemble those from Castelinho are the labyrinths from Formigueiros (Lugo, Spain), identified in a primary context and dated to the 1st half of the 1st century AD [Meijide Camaselle, 2012, p. 7].

However, a closer analysis reveals that the Castelinho labyrinths also share formal similarities with parietal art from the northwest Iberian Peninsula, often associated with contexts dating to Late Prehistory. Examples include labyrinths from Castro de Yecla de Yeltes (Salamanca, Spain) [Martín Valls, 1983, p. 220], Peñafadiel (Maragatería, Spain) [Campos, 2011], Pedra dos Câmpinos (Mogor, Spain), Pedra do Outeiro do Cribo (Armenteira, Spain), Chan da Lagoa (Campo Lameiro, Spain) [Pintos Fernández, 2020], and the pseudo-labyrinths of Monte das Bouças (Monção, Portugal) [Pintos Fernández, 2020, p. 54] and Pedra da Cobra da Moira (Viseu, Portugal) [Soreto, 2008, p. 27]. Some of these examples, though attributed to Late Prehistory, are found in proximity to Late Iron Age or early Roman archaeological remains.

The Castelinho labyrinths also bear typological similarities to representations in other materials beyond rock art, such as the labyrinth motif on pottery from Ejea de los Caballeros (Zaragoza, Spain), dated to the 3rd–1st century BC [Bienes Calvo and Marín Jarauta, 2013, p. 35], and the Roman mosaic labyrinth from Casa de Cantaber (Coimbra, Portugal) [Soreto, 2003, p. 37].

In conclusion, given the morphological similarities between the Castelinho labyrinths and the others known in the north-west of the Iberian Peninsula, and the fact that labyrinths found in archaeological contexts like Formigueiros and Castelinho indicate chronologies attributed to the late Iron Age and early Roman periods, we propose that labyrinths, often associated with Late Prehistory, may instead belong to transitional periods into the Roman world.

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Renaissance and Baroque Garden Mazes in Sweden



Rolf Johansson

In terms of time, the Renaissance ideals began to occur in the 1530s in Sweden, much later than in Florence. The French *Le Nôtre* style in the art of gardening, on the other hand, was introduced without delay through the study tours of the Swedish architects. During the great power period from early 17th to early 18th century, enormous wealth was accumulated by the nobility and kings, who invested in building castles and laid out gardens. In many gardens from this time there were mazes for pleasure, sometimes unicursal, but usually with bewildering branches in their passageways. Of all these mazes, few remain today; most can only be experienced by re-enactment of past pleasures, through mind wandering, in drawings, or guided by narratives. This article aims to invite some such imagined walks.

Types of Garden Mazes

Garden mazes, formed from plant material for the purpose of pleasure or thought-provoking, may be unicursal, such as Serlio's (figure 3), or multicursal. Multicursal mazes can have forking paths with the challenge of finding a path to the goal in its centre, such as Lauremberg's (figure 4). They are puzzle mazes. These two kinds of mazes are typically landscaped as hedge or turf mazes. In Sweden, hedge mazes are the norm.

A different kind of multicursal garden maze is landscaped with paths running like corridors and cut-out "rooms" in blocks of dense vegetation. They are here called *bosquet* mazes. The dense and high vegetation may be framed by trellises. Bosquet mazes can have paths in an asymmetrical or symmetrical overall network pattern. An example of an asymmetrical bosquet maze is the one landscaped in 1664–77 in Versailles (figure 12). There is no goal in this maze. During the walk through, sculptures representing scenes from Aesop's fables are presented. The walk is guided by the fable's storyline. In Rosersberg Palace was landscaped a symmetrical version of the bosquet maze with Aesop's tales as a theme (figure 13). Another example of a symmetrical bosquet maze is "the Star," originally landscaped in the Château de Clagny and then copied in Swedish gardens, as in the garden at Drottningholm Palace (figure 10). The earliest bosquets were established in French gardens during the 1630s and symmetrical designs were favoured because they can be integrated in the overall formal layout of the gardens.

A question I leave open is what exactly are the qualities which qualifies a bosquet to be categorized as a bosquet maze? Kern has a few examples in his book, and they are almost exclusively bosquets with paths in an asymmetrical fashion.³ What can we say about the symmetrical bosquet maze named "the Star?" It was called "labyrinth" or "irrgarten" by its designers; they regarded it as a kind of maze. This may be a reason for us to agree. Question is where to draw the line between symmetrical bosquets, which cannot be characterized as a kind of maze and those which can. Symmetrical bosquet garden mazes appear with paths, rooms and gazebos in different designs and degrees of complication. Some of them were

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called "labyrinths" in written sources or oral tradition. And yet, they are integrated in the overall garden design and therefore difficult to discuss in isolation from that context. They cannot easily be placed in the context of the labyrinth's 3000-year, or more, history. They occur locally from a worldwide perspective, and only for a short period of time. They are an odd phenomenon in the context of labyrinths and mazes. Labyrinth researchers haven't taken much interest in them, but several of them are included here.

Early Garden Mazes

In 1545 the Dutch Hans Friese was engaged by King Gustav Vasa as a gardener with responsibility for the royal gardens in Stockholm, Linköping, Uppsala, Mariefred, Strängnäs and Svartsjö. [Karling 1931:78-79].

In the garden of Linköping Castle⁴ and close to the cathedral, there is a labyrinth depicted as an 8-wall angle-type labyrinth on an 18th century map. The question is if it was a pre-Christian ceremonial stone labyrinth, or a 16th century planted garden maze. The issue is complicated by the fact that it is drawn with a diameter of about 30 meters on a map from 1734⁵ and about 13 meters on a map from 1750⁶ [Kraft 2024:126-127].⁷ Sten Karling presumes it was a 16th century garden maze within the castle's garden. The garden was redesigned by Hans Friese and the maze may be from his time [1931:114]; if so, we can presume it was a unicursal hedge maze, still there in 1734, as visualised on the map. If Friese is the designer, it may have been landscaped in connection with the castle being redesigned and equipped in the 1540s. The size in which it is depicted on the map from 1734 supports this interpretation.⁸ If the maze was landscaped after beginning of 1550s, it can be expected to have been adapted to Renaissance ideals, and it isn't.

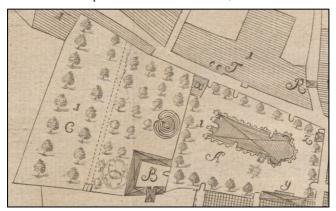


Figure 1 left: Linköping Castle, Cathedral and Labyrinth on Jonas Silfvering's map from 1734. The labyrinth has a diameter of close to 30 meters. In front of the castle is a flower garden with a royal name cipher. Copperplate by Jonas Silfvering after Matthias Asp in Johannes Ryding's Dissertatio de Lincopia, Uppsala University 1735.



Figure 2 right: Linköping Castle and Labyrinth on the map from 1750. The labyrinth is illustrated as three circles, the biggest with a diameter of 13 meters. In the legend on the map, it is written: "The so called 'Trojaborg." Lantmäteristyrelsens arkiv (The Land Surveying Agency's archives).

John Kraft, with reference to the map from 1750, discusses another assumption: since its size on this map complies with a stone labyrinth rather than a hedge labyrinth, it could be a pre-Christian "Trojeborg." [2024:126]. This argument is underpinned by the fact that the cathedral was preceded by an 11th century wooden church on the site, suggesting that this may also have been a pre-Christian place of worship. Nevertheless, Kraft also concludes that it was probably a 16th century garden maze. [Kraft 2024:232]. If so, this may have been one of the earliest known garden mazes in Sweden.

Since both 18th century maps show a circular design for the maze, we can presume it was circular. By all accounts it was of the well-known angle-type labyrinth design but formed by hedges instead of stones, and therefore enlarged. On the younger map the maze is simply illustrated as three circles; it can be interpreted as the original design has been dissolved when the castle was renovated as a residence for the county governor around 1750. Garden mazes were often destroyed by this time to make way for new picturesque garden ideals. It may also be the case that the land surveyor simplified the appearance of the garden maze on the later map, which is in a less detailed scale; this assumption is supported by the circles being labelled "Trojeborg" in the legend on the map. By now nothing is left from the original design, and it has recently been recreated as a medieval church labyrinth in situ. ¹¹

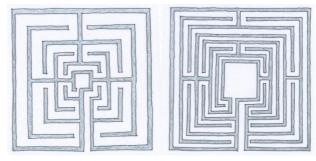
Renaissance Ideals Take Shape

If Friese landscaped a garden hedge maze in Linköping, it was not yet in a Renaissance fashion, but in his works in the 1560s new ideals begin to gain traction not only in the overall design of the gardens, but also in how garden mazes are designed. According to Karling, Friese can be credited with being the first to give the gardens an aesthetic design that develops them from medieval to renaissance gardens [1931:78-79].

At the royal castles in Uppsala and Svartsjö, Friese designed garden mazes on behalf of King Erik XIV in 1567. Karling claims that the two mazes were likely to be like each other and designed as detached elements in the garden. The design in plan is not known, but the materials used were posts and battens. They were probably built as trellises – *treillage* – with interlaced bushes, and quite big, because 615 posts were erected for each one of them. The maze in Uppsala was destroyed in a fire in 1574 but rebuilt in 1578 as a copy of the original. The one in Svartsjö is known to have existed at least until 1593. It is told that King Erik himself much enjoyed running in the mazes; according to his cupbearer he most often ordered beer afterwards. [1931:80, 85, 103]. The story of King Erik running in the mazes suggests that they were unicursal rather than multicursal puzzle mazes. Since they were built by straight wooden parts it is more likely that they were square than circular.

Using John Kraft's distinction between a popular and a scholarly tradition of design for labyrinths and mazes [2024:35-36], ¹² Friese's late 16th century mazes belong to the last category. We can assume that before planting he designed them on paper, taking aesthetic aspects into consideration, referencing works of others and endowing them with style. Karling suggests that an inspiring model could be Serlio's published garden mazes [1931:85]. Serlio's mazes are square of both unicursal and multicursal design.

Figure 3: Serlio's mazes from his Il Quarto Libro design book, published in Venice 1537. Redrawn by the author.



Serlio's designs were first published in 1537 in Italian and appeared some five years later translated in North European languages. If Friese designed the maze in Linköping in the 1540s it is not likely that he had already become familiar with Serlio's writings and in case he had, his client had probably not. King Gustav's main interest in gardens was for utilitarian purposes. An influence from Serlio's pattern sheets on royal establishments is first noticeable from the 1550s [Lundberg 1957:326]. On the other hand, it is likely that the pre-Christian angle-type inland labyrinths, such as those north of Lake Mälaren, were known to King Gustav who was keen to confirm his national anchoring. 13 It is reasonable to assume that the maze in Linköping was a garden hedge maze modelled after pre-Christian stone labyrinths and Friese's garden mazes from more than twenty years later in Uppsala and Svartsjö were designed in line with the renaissance fashion disseminated, among other things, through Serlio's writings. By then Gustav Vasa's son Erik XIV had inherited the royal crown. He was a relatively highly developed art dilettante, with Vitruvius and works by Dürer in his library [Upmark 1901:3]. In 1568 Erik's brother Johan took over the king's throne and a year later was crowned Johan III. He was even more well-read than Erik and from his letters we know he was familiar with Serlio's books and knew well the Renaissance ideals [Upmark 1901:9]. He was a passionate builder of castles and gardens [Lundberg 1957:326].

With the rebirth of classical antiquity came books on gardening, illustrating mazes inscribed in geometric forms which could be integrated in gardens in a Renaissance fashion. One such book on gardening is Thomas Hill's *The Gardener's Labyrinth*, published in 1577 and illustrated with two images of garden mazes.¹⁴ Another is Peter Lauremberg's *Horticultura* written in Rostock 1631.¹⁵

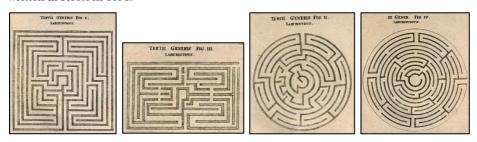


Figure 4: Four garden mazes published by Peter Lauremberg in his Horticultura, 1631. He was a Doctor of Medicine, born in Rostock, who wrote books on a variety of topics, including gardening.

The Royal Garden - Kungsträdgården - in Stockholm

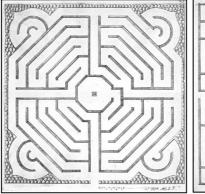
For the Royal Garden in Stockholm, Hans Friese carried out a new design with formal parterres for play and pastime. One of them, called the "Tröijenburgz Qwarteret," was a maze. Contrary to the mazes in Uppsala and Svartsjö, this one was integrated in the overall garden design. Friese takes yet another step towards the new Renaissance ideals. The detailed planform of the maze is not known. It is known from an inventory made in 1648 that the maze contained fruit trees, berry bushes and five small gazebos. [Wollin 1923:75-76; Karling 1931:159]. We can assume it was a bosquet maze.

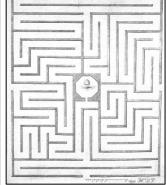
Erik XIV was imprisoned in 1568, Hans Friese retired in 1578 and Johan III reigned until 1592. After him three more kings served, and even more gardeners, before Queen Christina became regent in 1632 and recruited André Mollet to take charge of the royal gardens. André Mollet, a gardener who belonged to a family of prominent gardeners and experienced from working in France, Holland, and England, arrived in Stockholm 1648. He redesigned the Royal Garden – *Kungsträdgården* – with embroidery parterres, fruit trees, kitchen plants and quarters of dense vegetation (bosquets). Mollet was schooled in Le Nôtre's garden design ideals. His design for the embroidery parterres is known in detail from images in his book on gardening. How the bosquets were laid out in detail is not known [Lindahl & Nisbeth 2007:1pp]. Presumably they were designed as bosquet mazes. Friese's maze may have been reused by Mollet or replaced.¹⁶

Mollet stayed in Stockholm for about six years. During his stay he published a book on gardening and design of princely gardens: *Le Jardin de Plaisir*. His book was printed 1651 in three languages: French, Swedish, and German.¹⁷ It is illustrated with engravings of embroidery parterres, and in addition two garden hedge mazes.¹⁸ Their designs have a common feature: they share the property that there are no dead-end paths.

One of the mazes is designed as octagonal within a square. In four sides of the octagon are double entrances. Seven of the eight entrances lead you out of the maze and back to where you started, and only one path will allow you to reach the goal. There are no forking paths. The other maze is rectangular with an entrance on each side. It has forking paths. The paths lead out of the maze or to the goal which can be reached with varying degrees of difficulty from all four entrances. There are no known examples of Mollet's mazes being built in Sweden.

Figure 5: Hedge mazes from André Mollet's 1651 garden treatise Le Jardin de Plaisir.





The Royal Garden was once again redesigned in 1689-91 by Nicodemus Tessin the younger and his co-worker Johan Hårleman. In the middle they designed eight embroidery parterres and, in the south and the north ends of the garden there are bosquets mazes. The bosquets can be described as a development of embroidery parterres with vegetation that rise above eye level, often supported by trellises forming paths in a network pattern and sometimes with gazebos inside. The embroidery parterres can be experienced by seeing them, the bosquets by walking in them. The bosquets are normally in the far end of the gardens where they constitute a tamed version of the wild nature that extends beyond them. The baroque garden ideals have taken off.

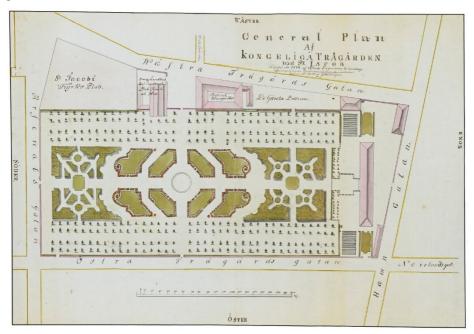


Figure 6: A plan of the Royal Garden in 1774 with the eight low growing embroidery parterres in the middle and bosquets in the north and south ends of the garden. All that remains today are the garden avenues and Queen Christina's gazebo which stands out in the avenue. The plan was drawn up by the city engineer H. von der Burg. Uppsala University Library.

In Erik Dahlberg's *Suecia antiqua et hodierna* the Royal Garden is shown in two perspectives, one from the south and one from the north. ¹⁹ Both prints have the bosquets shaped by dense vegetation framed by trellises in the forefront. Walking in them, preferably in conversation with others, can give a vague sense of disorientation, even though the risk of getting lost is minimal. Since this garden is not situated in direct connection to the Royal Palace, one can assume that the idea is that a walk in the garden starts by the embroidery parterres in its centre, which are reached directly from Queen Christina's gazebo. Tessin–Hårleman's garden design remained until 1796 when The Royal Garden was redesigned in the English picturesque spirit without any bosquet mazes. They were no longer part of the garden ideals of the time.



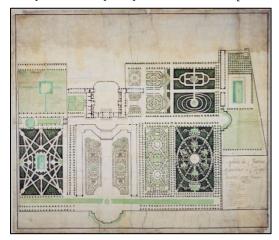
Figure 7: Kungsträdgården from the north in 1700 with bosquets in the foreground. On the right by the middle of the park, is Queen Christina's gazebo. Engraving by Johannes van den Aveelen from Erik Dahlberg's Suecia antiqua et hodierna. National Library of Sweden, Stockholm.

Figure 8:
Kungsträdgården
from the south in
1700. Queen
Kristina's gazebo to
the middle left.
Engraving by
Johannes van den
Aveelen from Erik
Dahlberg's Suecia
antiqua et
hodierna. National
Library of Sweden,
Stockholm.



The Baroque Garden at Drottningholm Palace

The park was originally planned by Nicodemus Tessin the elder from 1662 onwards. His son Nicodemus Tessin the younger took over management of the construction of the baroque garden from 1680. Probably only the embroidery parterres closest to the palace landscaped when the younger Tessin took charge. In contrast to those low-growing and decorative parterres, Tessin the younger concluded the baroque garden with five quarters as roomcreating bosquets. The first two, as seen from the palace, were modelled after the *Trois* Fontaines and Théâtre d'Eau at the Versailles Palace. The next three were influenced by the garden at the Château de Clagny and designed as bosquet mazes. [Olausson 1990:51-52].²⁰ Only the biggest, "the Star," by the far end of the formal garden, was realised according to Tessin the younger's plan from around 1700, two neighbouring bosquets were landscaped in the 1780s, but not in line with Tessin's proposal. One of them is designed as a theatre and the other as a bosquet maze. They are both still preserved, "the Star" is not. [Johansson 2022:41]. "The Star" was repeated in other baroque gardens such as by Jean De la Vallée in his plan for the garden at Ekolsund Palace. [Karling 1931:435]. Tessin describes "the Star" as a maze designed with many crossing paths, like a labyrinth or an irrgarten, and which finally leads to a square place in the middle. [Wollin 1927:333, Johansson 2022:41-42].²¹



Above: Figure 9: Plan of the garden at the Château de Clagny. The bosquet maze called "the Star" to the left was many times repeated in Swedish 17th century gardens. The bosquet to the right of the embroidery parterre in front of the castle, was copied by Tessin for the garden at Drottningholm. Wikimedia Commons, Public Domain.

Right: Figure 10: Drottningholm Palace Garden. Left: Detail from Nicodemus Tessin the youngers general plan 1681. From below: the palace, the embroidery parterres, parterres and fountains, and Tessin's five bosquets with "the Star" at the top. Nationalmuseum, Stockholm. Right: The baroque garden as it appeared in the 1920s. [Lundberg 1930-31: fig.59].

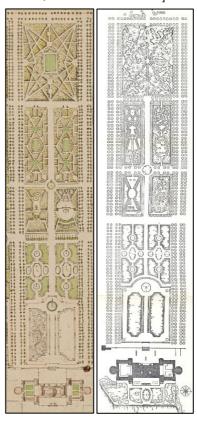




Figure 11: Drottningholm. The baroque garden seen from the palace. In the foreground, mainly outside of the image are the embroidery parterres, then parterres and fountains, and behind are the five bosquets designed by Nicodemus Tessin the younger with "the Star" at the far end. Tessin's plan is visualized, but it did not come completely to fruition; only "the Star" was landscaped in accordance with Tessin's plan. Erik Dahlberg and Willem Swidde from Suecia antiqua, 1694. National Library of Sweden.

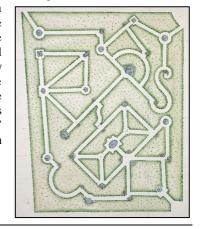
The Baroque Garden at the Rosersberg Palace

In the garden at Rosersberg Count Bengt Oxenstierna landscaped a bosquet maze with trellises copied from Versailles as he explains in a letter from 1696 [Wollin 1930: 36; Lindahl 1975: 29, 32]. He refers to the so-called Versailles Labyrinth from 1670s, which here would rather be called a bosquet maze. A challenge of this maze is to follow the storyline of Aesop's fables, see the sculptures and fountains in the right sequence, and never walk the same path twice. It was well known by Swedish art connoisseurs and several images of this asymmetric bosquet maze are in the collections at *Nationalmuseum* in Stockholm. What Oxenstierna copied was the sculpture program based on Aesop's fables and the execution

with trellises, rather than the layout of paths. In Rosersberg the bosquet maze is arranged within the overall symmetry typical for the baroque garden, while in Versailles it is characterized by an unusual asymmetry. Forming the paths in bosquet mazes by high trellises became a fashion by this time, with the bosquet maze in Versailles as a model. One more bosquet maze was planted in the 1690s in Rosersberg's baroque garden. It was again a version of "the Star" emulating a design at the Château de Clagny [Wollin 1930:40].

Figure 12: The asymmetrical bosquet maze in the garden of Versailles with Aesop's fables as the theme of the sculptures.

Nationalmuseum. Stockholm.



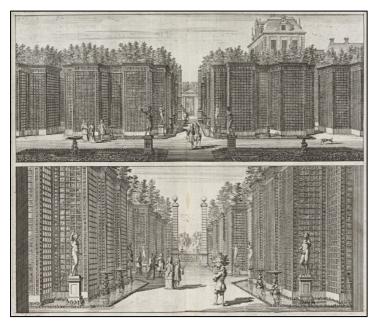


Figure 13: The eastern part of the baroque garden at Rosersberg Palace with trellises and antiquing statues in lead with motifs from Aesop's fables. **Copperplates** for Suecia antiqua by Wilhelm Swidde around 1695. National Library of Sweden, Stockholm,

Figure 14: Same views as in figure 13. Washed drawings by Johan Litheim showing the height of trellises in a more realistic scale. The final illustrations for Suecia antiqua (fig 13) are somewhat exaggerated in scale monumental and appearance because the intention of the work was to impress, not least to other countries. National Library of Sweden, Stockholm.

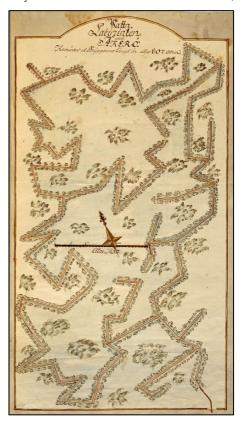


Late 18th Century Mazes

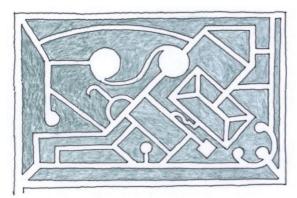
Tessin the younger's son Carl Gustaf Tessin was an art connoisseur and politician. In 1754 he withdraws from these assignments and devoted his time to his Åkerö Castle. He writes in his diary in 1762, that he built a maze in an alder marsh with wooden plank walkways in a total length of 807 cubits (479.2 meters). The walkways had handrails, and on both sides there were alder and willow hedges and here and there were benches. Tin boards with painted verses were set up along the walkways. "My maze resembles the course of the world,

where many immerse themselves so much in body and soul, that they think of the exit too late," C. G. Tessin writes.22 [Olausson 2023:250, 1993:149-150; Selling 1937:137]. Duke Karl of Södermanland, who saw C. G. Tessin's water maze, was inspired to build a maze in the old pleasure garden at Rosersberg in 1772. [Olausson 2005:291p, 2023: 251]. On a map from 1773 it is stated that a maze had been built after the Count's own drawing [Wollin 1930: 52; Lindahl 1975:44]. Duke Karl was inspired by C. G. Tessin's water maze, but the maze he built is more in accordance with the bosquet maze in figure 12 he had seen in Versailles before it was removed in 1775 [Olausson 1993: 99, 2023: 250-251]. It seems strange Karl decided to copy a maze considered to be outdated in Versailles, but maybe he wanted to create a new context for Oxenstierna's sculptures from the old bosquets, which were made of lead and depicting scenes from Aesop's fables.

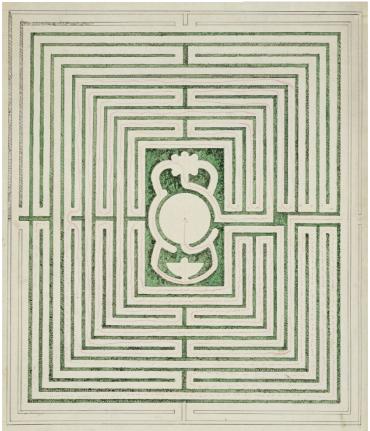
Figure 15: Plan of Carl Gustaf Tessin's water maze at Åkerö Castle 1762. Drawing by Olof Fridsberg. Nationalmuseum H0050-2003.



Among nobility and royalty were many with a dilettante engagement in garden design and many were caught by an interest in garden mazes. Some of them were skilful, for instance the King Gustav III, who was educated by the most eminent architects. King Gustav made drawings of ideal gardens, often with mazes. Some of his drawings of mazes were made with an intention to materialize them, such as those for the copy of the maze at villa Altieri in alternative locations in the landscape park at Drottningholm Palace.²³ Most of the amateurs' mazes were unrealistic fantasies. Presumably the king's enthusiasm for mazes, which was also shared with leading architects, spread among the nobility and other lords, but their design efforts are not just as carefully preserved as King Gustav's and those of his architects.



Left: Figure 16: Duke Karl's version at Rosersberg Palace of the bosquet maze in Versailles. Redrawn by author from reproductions in Olausson 2005:291, 293 & 300.



Below: Figure 17: Garden maze designed by King Gustav III. A dotted line illustrates the correct way.

The two outer paths seem to be added and change the maze from unicursal to multicursal.

Vasasamlingen V337, Marie-Claire Cronstedts Foundation.

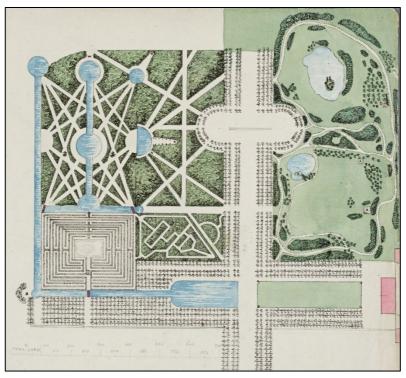


Figure 18: This plan for an ideal garden by King Gustav III has everything: a unicursal maze similar to that in figure 17, a version of the asymmetrical bosquet maze in Versailles, a starshaped bosquet maze, and in addition: a small Landscape Park.

Vasasamligen V461, Marie-Claire Cronstedts Foundation.

Early 16th to late 18th Century Garden Mazes

Much is preserved of the castles and palaces built by nobility and kings during the Renaissance and Baroque periods in Sweden, but of the garden mazes, which were so popular and an integral part of the gardens, very few are still left to see. Most of them can only be found in archives, which contain numerous drawings of isolated garden mazes as well as gardens with mazes included. Many were planned or only imagined, but never built.

In the mid-18th century as new garden ideals took hold, most of the ambitiously laid out older gardens fell into disrepair or were replaced by informal and picturesque gardens. The once prized bosquets with trellises which included tall, trimmed vegetation and often sculptures and gazebos, became too demanding to maintain when they were no longer fashionable. We are left to wander in our minds through their winding and crossing paths.

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Notes:

- 1 I use "Renaissance" and "Baroque" here for the period from Gustav Vasa's reign to beginning of Gustav III's, namely early 16th to late 18th century.
- 2 Château de Clagny was built by Ludvig XIV a few kilometres east of Versailles in 1674– 1675. It was demolished in 1769.
- 3 Kern 2000, figures 519-530, 535, 537 and 554 are *bosquet* mazes.
- 4 Linköping Castle was built for the bishop in 1153. In 1527 it was converted into a royal palace.
- 5 This map by Jonas Silfvering 1734 is published in Johannes Ryding's thesis: Dissertatio Lincopia, 1735. Uppsala University. Available on-line: https://www.alvin-portal.org/alvin/attachment/document/alvin-record:12772/ATTACHMENT-0001.pdf
- 6 The original map is in Lantmäteristyrelsens arkiv (The Land Surveying Agency's archives).
- 7 John Kraft's book was published as a printed version in Swedish 2022. In 2024 it was published as an e-book in English https://labyrinthos.net/trojasmurar.html The references in text are to the 2024 edition and in footnotes references are given also to the 2022 edition; in this case it is the same as Kraft 2022:123-124.
- 8 On the map from 1734 is visible a flower garden with a royal name cipher in front of the palace. This fits well at the time of transfer of the bishop's estate to a royal castle and Friese's supposed redesign of the garden.
- 9 Same as Kraft 2022:124.
- 10 Same as Kraft 2022:234.
- 11 The new labyrinth is included in the World-Wide Labyrinth Locator: https://labyrinthlocator.org/labyrinth/linkoping-cathedral/
- 12 Same as Kraft 2002:34-35.
- 13 For pre-Christian angle-type stone labyrinths in Sweden, see Kraft 2024:107 pp. or 2022:105 pp.
- 14 Thomas Hill published his book under the synonym Dydymus Montaine. Available online (April 2024): https://www.biodiversitylibrary.org/item/206919#page/13/mode/1up For images see Kern 2000, fig 471,472.
- 15 Available online (April 2024): https://books.google.se/books?id= ODRAAAAAAAJ&printsec=frontcover&redir_esc=y#v=onepage&q&f=false
- 16 A reconstruction of Mollet's design for Kungsträdgården is published by Lindahl & Nisbeth 2007:4. The authors make it clear that the reconstruction of *bosquets* is very uncertain.
- 17 Mollet's garden treatise was translated in English, *The Garden of Pleasure*, and printed in London 1670. A facsimile reprint of the original publication was published in 2006 and of the English version in 2007.
- 18 André Mollet's father Claude also shows designs of mazes in his book *Théâtre des Plans et Jardinages*, written ca. 1610 and published in 1652. See Kern 2000, fig 504.
- 19 Erik Dahlberg commenced his work on *Suecia antiqua* in 1660. When he died in 1703, the work was still unfinished and what had been accomplished, prints from 353 engraved plates, was published in 1716.
- 20 Tessin visited Château de Clagny on his European Journey during 1687/88.

- 21 In Tessins own words: "ifrån alla hörnen och Sijdornna, med åthskillige korsgångar och Små Cabinetter såssom Labyrinthe eller Irregård igenom bruten, hwilka och änteligen Enda till en mitt uthi lemnad stoor fyrkantig platz..." [Wollin 1927:333]
- 22 Translated by author. The original text reads: "Min irrgång liknar Weldens lopp, där mången sig djupt insänker, att han snärd till siäl och kropp, när han för sent på utgången tänker." In Swedish the text rhymes.
- 23 Many examples of garden designs by King Gustav III are reproduced in Olausson 1993.

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In Jericho's Walls: Labyrinths within Labyrinths



Thorn Steafel

Within Hermann Kern's *Through the Labyrinth* is a sub-set of manuscript labyrinths he terms 'Jericho labyrinths,' classical and near-classical labyrinths illustrating the story from Joshua 6:3-5 of the encircling of Jericho by the Israelites and its subsequent fall. Within this group of patterns, three (arising from Jewish sources, best illustrated in K227 below)¹ share a pattern whose asymmetrical seed pattern I explore in this article, to investigate an inference from its geometrical logic – that embryonic labyrinths can be extracted from certain 'parent labyrinth' seed patterns.

Figure 1: Jericho as a labyrinth from the Farhi Bible (1366-1382) by Elisha ben Abraham Cresques, public domain, via Wikimedia Commons.



A focus of many Jericho labyrinths is to condense the classical labyrinth's seven circuits into a six-circuit variant, and this may confuse us initially, given that the circumnavigation of a city seven times (as the story requires) should surely, if each traversal is shown as a

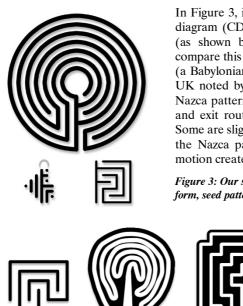
labyrinth's circuit, require a seven circuit, eight walled labyrinth – such as the four-fold classical of Figure 2. However, Kern explains that this visual convention (of six circuits, and seven walls) resulted from a shift in focus over time, so that a wall (rather than a path) came to represent circumambulation: 'the walls delineated in these illustrations are the material expression of the legendary "compressing" of the city' [Kern 2000: 128].²

Figure 2: Standard seven circuit classical labyrinth, seed pattern (bottom left), and compression diagram (bottom right).



From this artistic licence he concluded that to their creators, the design of the labyrinth was arbitrary and only the sum of walls mattered. I would add to this that the hidden labyrinth property of K227 which we'll discuss in this article was also very probably an unwitting, chance addition they would not have been aware of.

A proto-labyrinth is embedded in the seed pattern of this Jericho labyrinth in Figure 3. By 'proto-labyrinth' I mean such patterns as in Figure 4, which – but for their unpronounced pattern-centres and for having a different entrance and exit point – would otherwise meet Kern's criteria for being a true labyrinth [Kern 2000: 23].³



In Figure 3, if we extract this labyrinth's compression diagram (CD), rotate that diagram 90° anticlockwise (as shown bottom right of the figure), and then compare this with the labyrinthine patterns of Figure 4 (a Babylonian entrail pattern, a font-carving from the UK noted by Janet Bord, and most well-known, the Nazca pattern), we see these are the same, with start and exit routes merely needing tidying to the sides. Some are slightly larger versions of Figure 3's CD (e.g. the Nazca pattern, Figure 5) but the same logic of motion creates them.

Figure 3: Our specific Jericho Labyrinth (K227) – enclosed form, seed pattern and compression diagram.



Figure 4, left to right: (1) Proto-labyrinth from K227 seed contrasted with labyrinthine patterns from:

- $(2) \ Babylonian \ harp is copic \ tablet \ (1800 \ BCE) \ (after \ [Saward \ 2004: 24] flipped \ horizontally);$
- (3) Church font (19th century), Lewannick, Cornwall, UK (after [Bord 1976: 101]) rotated 180°);
- (4) Geoglyph, Nazca, Peru (first few centuries CE).

Of course, this proto-labyrinth pattern and its back-and-forth motion is easy to discover, so it's no surprise to find its independent appearance in different times and locations. It is an advanced stage along the journey that began with the spiral, and later flowered as a path that fills all space like the spiral between its periphery and centre, culminating in the labyrinth whose path weaves, confuses and alternates direction. At Figure 4 we have almost reached the true labyrinth – except for those separate entrance and exit paths, and their lack of 'real' centres, i.e. a middle place usually indicated by either a swelling of path-width, or presenting the sole dead end in the pattern.



Figure 5: Proto-labyrinth from Nazca – basic form, placed in Jericho seed orientation with vertical adjustment of entrance and exit, plus compression diagram.

Nonetheless, these are familiar patterns to those of us interested in labyrinths, and recognising this protolabyrinth inside the south axis of a wider 'parent' labyrinth poses the question of whether a true labyrinth could be embedded in that parent's seed pattern - a labyrinth within a labyrinth. Is this possible?

Let's see, using the familiar and sufficiently complex patterns of the four-fold classical and a no-frills, Chartrain pattern.

Jericho with Rotated Classical Embedded

Here is a version embedding a four-fold classical (4FC) in the south axis (Figure 6). To create this, we first take a straight-line version of the 4FC, then tilt it 90° clockwise to align with the Jericho's spine. We must also add to our tilted straight-line 4FC an additional exit

route directly from its centre, because our 4FC from its placement in the Jericho south axis must connect the entrance and centre of that parent labyrinth (Figure 7). It is, in fact, now the CD of our parent labyrinth, and by unfurling its contents across the concentric circuits, and letting our CD's left— and rightmost edges meet in self-enclosing form, we create our Jericho labyrinth. (Note that we've created a big labyrinth, too; we've left our motif of travelling seven times around a centre behind, and henceforth use 'Jericho' merely to distinguish this style of labyrinth design.)



Figure 6: Jericho labyrinth with four-fold classical embedded within its seed.

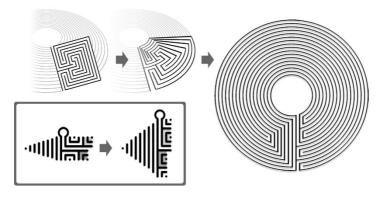
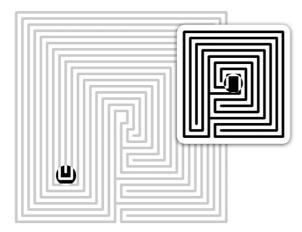


Figure 7: Jericho labyrinth with four-fold classical embedded within its seed, requiring 16 circuits.

Inset: tidying of the inner folds, coloured light and dark grey.

Figure 6 was a clunky pattern but in Figure 7 we further simplify its seed so it becomes less 'side-heavy' (see inset box) by moving the two innermost 4FC folds closer to the south axis; we stack the folds vertically rather than letting them spread horizontally. This isn't a mandatory step but is noted as a design option; our Jericho will never be a beauty but is now slightly less asymmetrical to view.

(Which coincidentally brings us momentarily close to the thought-processes of the Roman mosaicist creating that curious 4FC from Nîmes [K151, Figure 8], who was clearly toying with how far the elasticity of the circuits would stretch, and where the centre could be located. It may initially appear a Jericho-esque design after what we've looked at so far, but note how differently each pattern places the centre of its 'holding' 4FC. Nîmes [inset]



although odd-looking with its rejigged plumbing, does have an obvious centre – at, surprise, its centre. However, the 4FC embedded in our Jericho [background] has been tilted along the parent labyrinth's south axis, resulting in its 4FC's *original* centre now being found as a flattened lone fold, left of main axis and lost in circuit-swirls.)

Figure 8: Contrasting the Nîmes labyrinth (a modified 4FC, inset) with our Jericho labyrinth. 4FC centres highlighted.

So, we have created a Jericho labyrinth that has a 4FC stowed away within its innards. Our next experiment is even more Frankensteinean; we repeat with a medieval labyrinth in our seed.

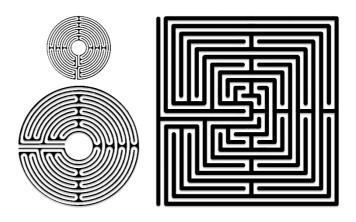
Jericho with Rotated Medieval Embedded

Embedding a medieval labyrinth (a straight-line version of the pattern popularised at Chartres Cathedral, minus its rosette and lunettes) within a Jericho's seed is not too different to the previous steps:

- 1. Create a rectangular version of the labyrinth;*
- 2. Add an extra exit path, from centre to outside;
- 3. Rotate it 90° clockwise, so that our exit path from point 2 links to the Jericho's centre, and our entrance path will double as the Jericho's entrance. (Thus, we create the CD of this Jericho labyrinth.)
- * Note also we must compensate for the convention of drawing a medieval labyrinth with its entrance in the *left* half of the pattern; for point 3 to work, we must flip it so the entrance is in its *right* half (Figure 9).

Figure 9: Medieval labyrinth (no-frills Chartres, top left), and versions with extra exit path inserted, rotated 90° clockwise.

Now, we could tidy the pattern further to create vertically stacked elements around the south axis, rather than letting Figure 9's elements fully flow



from left to right (as was adjusted in the 4FC in Figure 7's inset box), but such tidying is not compulsory and is omitted this time, so that we can instead keep watch of our medieval labyrinth's recognisable elements. We'll need them!

As noted, our rotated, squared-off medieval with two paths to its centre is now a functioning CD in our Jericho labyrinth, and once we have laid it over the waiting circuits and brought it around into self-enclosing form, we have our Jericho-medieval (Figure 10). Note how this resultant labyrinth has two axes; one at 12 o'clock (comprised of what would be, in a normal right-way-up Chartres, its west and east axes, now both merged at the point where they would have reached over to the centre into one single stream) – and then the busy, some would say hellish, arrangement of the Jericho's 6 o'clock axis. Hellish it may be... but looking closely, you'll recognise our medieval labyrinth's spread there, as if reflected through carnival mirrors.

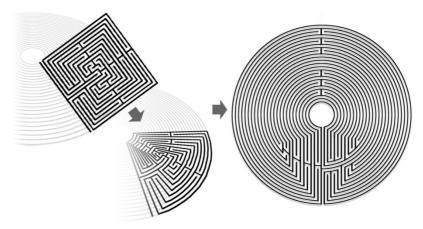


Figure 10: Jericho labyrinth with medieval labyrinth embedded within its seed pattern requiring 24 circuits.

Two-Centred Jerichos

It must be said that these aren't especially attractive labyrinths, seasoned as we are by conventional patterns' appearances: in these, the south axes are strongly asymmetrical (not even pseudo-symmetrical), plus their large circuit-spans (16 and 24 respectively) make impractical many 'standard' applications we apply to seven- and eleven-circuit labyrinths.

But I was conscious of thinking little of the basic K227 Jericho, until I laid one on the lawn to walk for a few evenings. Then, experientially, I discovered that this pattern offered a succinct education in the fundamentals of labyrinth design; you meet stacked rebound, circle, radial, single rebound, and meander rapidly in those compact six circuits between entrance and centre. Expecting a yawn-fest, I received the opposite, so with our two new creations here I wasn't deterred by appearance and carried on.

For we haven't yet achieved our goal of embedding a *true* labyrinth within a labyrinth. The centres of our hidden labyrinths (that tilted 4FC, and medieval) are now swept to the left of our Jericho's south axes, slimmed to U-turns (recall Figure 8's background labyrinth) and almost hidden beneath a geometrical rug. Can we restore those hidden centres to their original prominence?

The simplest approach to drawing attention to these secondary centres is to inflate them in situ. This forms dual-centred labyrinths which look quirky and odd, like vinyl LPs from another dimension (Figure 11):

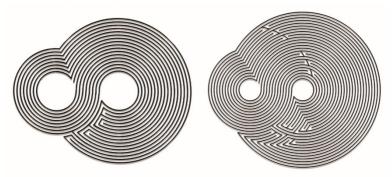


Figure 11: Stylised Jericho labyrinths with classical and medieval labyrinths embedded in their seeds, and with dual centres pronounced.

But those secondary centres still have two paths leading in and out of them (like vascular hearts); to hold court within a *true* labyrinth, each should have one path alone to its centre, that glorified 'dead end' at the complex's heart.

Achieving this creates a surprising outcome, which I'll demonstrate with the Jericho-medieval; the same actions affect the Jericho-classical.

1. Let's first remove one of the two pathways leading into Centre 2, so we're left with just one access to the centre. Since a pathway links Centre 1 and Centre 2 (shown in black, Figure 12 left) we can remove that pathway; this (Figure 12, right, in grey) allows the path around that erased lane to 'close in,' filling the void our excision has caused.

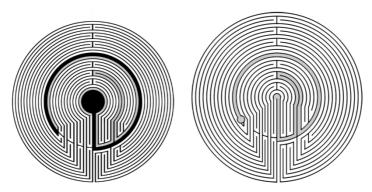


Figure 12: Left: removing Centre 1 and attendant pathway (black).
Right: remaining pattern closing over gap (grey).

- 2. Next let's relocate Centre 2 from its drunken slump to one side, to sit within the overall pattern's vertical axis. Figure 13 relocates Centre 2 and its neighbouring circuits so that their axes (from that hidden medieval pattern) also move and rotate 90° clockwise with Centre 2. We move from teardrop shape to keyhole.
- 3. Finally, we correct the entrance point of the main labyrinth and its attendant flanking stacked rebounds and enveloping meander turns, so that instead of pointing left, they sit near the parent labyrinth's base where we'd expect to find them. Once we rotate this section 90° anticlockwise, we face the south axis of the familiar medieval labyrinth. Admittedly its entrance is on the right, from the adjustment made earlier to create a CD serving our Jericho labyrinth's directional flow. But aside from this like the reveal-shot at a whodunnit's climax we face a familiar medieval labyrinth.

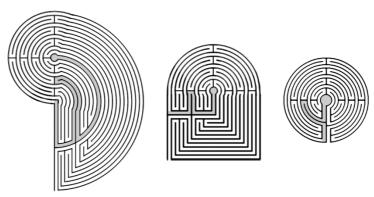


Figure 13: Evolution of former Jericho-style labyrinth, into final form, which is a true medieval labyrinth, flipped horizontally.

Conclusion

Extracting the inner labyrinth, it absorbs its parent. The same happens with our Jericho 4FC under the same process: it unfolds to finally unmask as our familiar classical labyrinth.

Thus, we can say that this process will extricate a proto-labyrinth (that is, a labyrinth having two entrances to its centre, and whose straight-line form has been rotated 90° clockwise to function as south axis within a parent labyrinth) from within the main axis of a Jericho labyrinth... *if* one was there to begin with. That is, of course, a mammoth 'if' ...but I nonetheless found this to be an interesting property of this slim sub-set of labyrinths. So long as double-pathways are injected into that proto-labyrinth's centre, it will do this party trick; self-reflectivity is not required (e.g. mirroring of halves, around the CD's centre point) – as in Figure 14, extraction of labyrinth from Jericho seed occurs even if that resultant pattern is without internal symmetry.

Wide application? No. A must for the retreat centre? Er, no. But fun nonetheless; K227 offers a curious geometrical journey within the winding walls of their changing forms, and I encourage readers (if this is new to them) to play with this themselves.

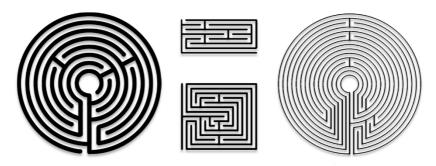


Figure 14: Random 3 axis labyrinth: default pattern (left); as Jericho labyrinth (right); normal CD (centre top); CD for Jericho south axis (centre bottom).

Thorn Steafel, Ardler, Scotland; September 2023 Website: www.labyrinthmagic.com - Email: thornsteafel@yahoo.co.uk

Notes:

- 1 These three are K225, K227, K229; Kern numbers refer to figures from the 2000 English language edition. If you have the earlier German editions, see K221, K223, K225.
- 2 This incongruence lessens if we reflect that if we witness this labyrinth-city intact and complete, then we must be partaking of one of those first six encirclements; for on the seventh Jericho fell, and we would only see fragments of our labyrinth.
- 3 Kern defines this as described: a path without intersections, continually changing direction, filling the space within its periphery, leading you past the centre repeatedly, ending at the centre and the sole exit route.

References:

Figure 1 - Jericho as a labyrinth from the Farhi Bible; Public domain, via Wikimedia Commons; https://commons.wikimedia.org/wiki/File:Jericho_Walls,_Farhi_Bible,_Codex_Sassoon_368.jpg accessed 30/07/23.

Bord, Janet. Mazes and Labyrinths of the World. Latimer. 1976.

Kern, Hermann. Saward, J; Ferré, R (eds). Through the Labyrinth: Designs and Meanings over 5000 Years. Prestel. 2000.

Saward, Jeff. Labyrinths and Mazes: A Complete Guide to Magical Paths of the World. Gaia. 2003.

The Labyrinth of Provvidenti in Molise, Italy



Giancarlo Pavat

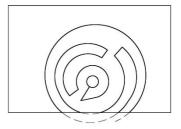
A new unicursal labyrinth was discovered in 2023 in the region of Molise, Italy. Until a few years ago, only one labyrinth in Molise was known, the one present in a fresco rich in esoteric meanings created in 1550 by the Italian painter Donato da Copertino in the Castle of Gambatesa (Campobasso). Then came the discoveries and studies of the architect Franco Valente and Dr. Mario Ziccardi, discoverers of the "classic" labyrinth on front wall of the church of San Leonardo in Colli a Volturno (Isernia) and of the very rare "Caerdroia" graffiti example in the church of San Giorgio in Petrella Tifernina (Campobasso).

The new labyrinth was discovered inside the sacristy of the church of Santa Maria Assunta in Provvidenti, a small town in the province of Campobasso (Molise). In the Middle Ages, Provvidenti was part of the Kingdom of Sicily of Frederick II of Swabia and the current church of Santa Maria Assunta di Provvidenti was rebuilt in the 18th century on the remains of an older foundation, dating back to the Middle Ages. The church has a single nave with four altars, the gabled façade preserves a medieval Latin inscription, and the 14th century bell tower remains of the ancient church. Recent restoration work of the interior walls made it possible to find, under the plaster, 1.62 meters above the floor level, the graffiti (16 x 14 centimetres) of the path of a labyrinth, a so-called "Ariadne's Thread."



Left: Photo of the Provvidenti labyrinth (by Mario Ziccardi).

Right: The labyrinth of Provvidenti (by G. Pavat).



The labyrinth is quite unusual and cannot easily be classified among those known in the region and is very difficult to date. Temporal margins can be given to a *terminus post quem* – the moment of construction of the current building dating back to the first half of the 18th century – and a *terminus ante quem* – the application of the plaster covering part of the building during the 1970s. While the author and the motivation that led to the creation of the labyrinth on the wall remain unknown at the moment, perhaps it was covered up by some priest who was afraid of it and did not know its meaning.

The discovery of the Provvidenti labyrinth occurred thanks to the Italian artist Flavia D'Alessandro in the context of the "Vis-à-Vis Fuoriluogo 26 – artists in residence project" organized by the Limiti Inchiusi contemporary art association.

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Labyrinthine Surface Structures





Labyrinthine Surface Structures

In the following article, a set of tools will be presented with which the structures of labyrinth figures can be depicted and analysed, and new labyrinth structures can be designed.

The well-known labyrinth on the floor of Chartres Cathedral in France initially serves as the object of investigation for the structure of a surface labyrinth (LabFigure):



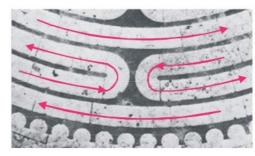
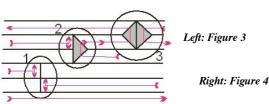


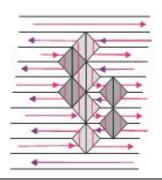
Figure 1 Figure 2

If the path of the labyrinth (LabPath) of this figure is followed carefully, it is noticeable that its path direction is maintained within the planes of each circulation circle (even across its confusing deflections) but regularly changes from circle plane to circle plane in the opposite direction (Fig. 2; see also Fig. 6). This uniformity of the path alignment within each circulation plane (LabBand), the change in the direction of the path from LabBand to LabBand and the vertical transitions of the path from one LabBand to its neighbouring band are structural features of this figure that guide the path towards the centre of the figure, even if it is aligned in the opposite direction towards the outer edge of the figure in places.

The Step Structure

The structure of labyrinthine surface figures should be illustrated by graphic symbols that represent the LabBand as the obligatory course of the path, and by symbols that indicate the guided vertical transition of the LabPath from one LabBand to the neighbouring band:

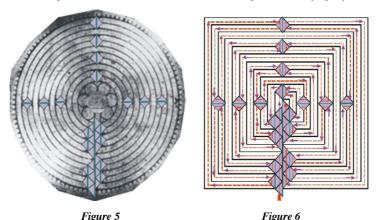




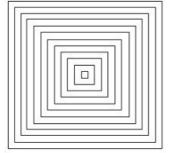
The horizontal parallel strips in Figures 3 and 4 represent a section of the circular bands of a LabFigure with their opposite orientations. The simple vertical path block (Fig. 3-1) is supplemented by a triangular symbol that indicates the vertical transition to the neighbouring band, the **step** (Fig. 3-2). As the Lab structure does not allow any structural gaps, the derived path must be traced back to the abandoned band. To do this, a step rotated by 180° is placed in front of the vertical side of the previous step without a gap. This creates a double step (**D-step** - Fig. 3-3).

Figure 4 shows how the path guided by D-steps can be guided vertically over many horizontal belts without interrupting the horizontal path. The passage of the path (Fig. 4, left side) is the result of the positioning of the D-steps (left side, darker D-steps). If the D-steps are horizontally separated from each other (right side, darker D-steps) long horizontal path sections are created between them depending on the distance between them.

In the Chartres figure in Figure 5, the band transitions are covered with step symbols. In addition, the Lab figure has been converted into its orthogonal form (Fig. 6):



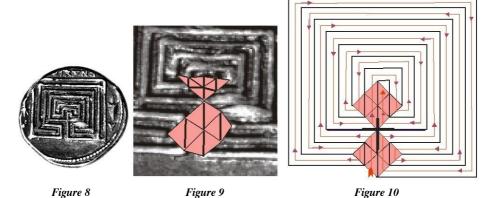
The labelled LabPath in Figure 6 shows both the continuous path directions in each LabBand and their regular counter-rotation across the entire figure. If the step symbols are omitted, the **basic grid** of this figure is recognisable:



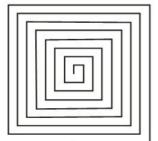
The Chartres labyrinth is based on a **circular grid** shown here (Fig. 7) - based on Fig. 6 - orthogonal and scaled down.

Figure 7

A Cretan coin from Knossos (Fig. 8; ca. 350 BCE) will now be used to illustrate the structure of its LabFigure:



The **step image** of the coin (Fig. 9) shows a remarkable distortion of the steps. If this distortion is compensated for in the orthogonal tracing of the coin figure (Fig. 10), a protrusion appears in its outer boundary line, which the coin figure does not have. The reason for the protrusion of the edge is the different number of **bands** on the left and right sides of the lower half of the figure. It is also noticeable that there is a "break" in the orientation of the LabBands in this area: they are in opposite directions to each other there. (This will be discussed in more detail later.) The step image of the coin shows the ancient artist's endeavour to give the figure a "round" shape.



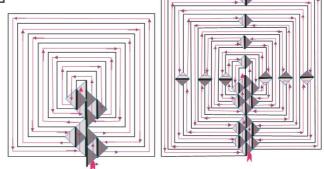
If the step image in Figure 10 is now deleted, the basic grid can also be recognised in Figure 11

Left: Figure 11

It is a spiral with constant distances between its arms. (The structural protrusion in the outer area is also recognisable here).

The different border areas of the two figures result from their different basic grids. If the basic grids are exchanged between the figures, the following images result:

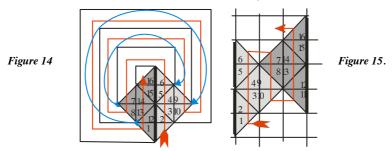
Left: Figure 12 Right: Figure 13



With unchanged structures, the step images of both figures have changed. The Chartres structure (Fig. 13) with its new spiral grid now has an edge protrusion, while the coin figure, which is now based on a circular grid (Fig. 12), has lost this. In addition, the paths have been given a different orientation: the varied Chartres figure now shows a "break" in the paths of its lower half.

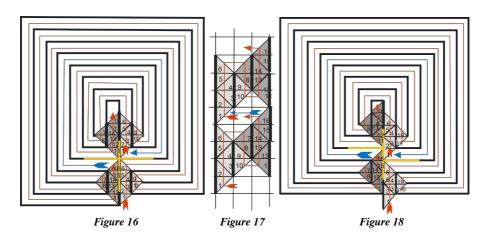
Numbered Step Sequences

To analyse the labyrinthine structures, each step is now given two numbers in the sequence of the path running through it: one number for the half of the step that lies in the band to be exited (path entry = \mathbf{E} -step), the next for the half that projects into the neighbouring band (path exit = \mathbf{A} -step; Fig. 14, 15; see also Fig. 16 to 22):



If the figure is now unfolded along its "break line" (Fig. 14; highlighted in black), its structural image is created (Fig. 15): The two vertical boundary lines of the curved lab structure meet in the "fracture line" of the lab figure. (The labyrinth artists of the Roman era very probably constructed their complex lab figures on the basis of the realisation of this property of the lab figure and the discovery of the "folding process").

If the structure in Fig. 14 is lined up vertically once, the "Cretan" labyrinth is created (Fig. 16; Fig.10):



The numbering in Figure 16 reveals that two independent lab structures have been created (see also Fig. 17). The transition path (**transfer path**) between the two independent structures is marked with a blue arrow. The right-hand figure (18) was constructed with the same step structure on a circular grid.

The confusing path of the Chartres figure (Fig. 19) also becomes clearer with this method of analysis (Fig. 20):

The structural image (Fig. 20) makes it clear that the Chartres labyrinth - unlike the Cretan labyrinth - was constructed as an undivided structural unit without substructures.

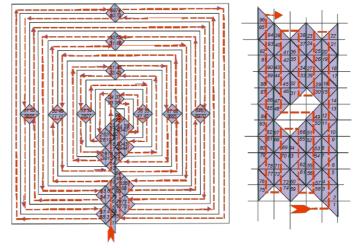
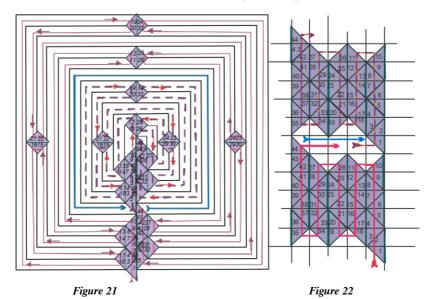


Figure 19 Figure 20

If the M pair 11/12 - 49/50 and 47/48 - 85/86 is taken from the Chartres structure, a transition is exposed between the R-step pair 9/10 and 83/84 (cf. Fig. 20):



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The Chartres figure is now divided into two independent, vertically aligned labyrinth figures (see Ur-path = blue arrows; see Figs. 26 to 31).

If, on the other hand, the structure of the Cretan (Fig. 16) is extended by the M-pair 7/8 - 21/22 and 19/20 - 33/34, as in the following illustration, the original structure is expanded. The result is a figure that possibly stood at the beginning of all labyrinth figures (cf. *Caerdroia* 51, p.49):

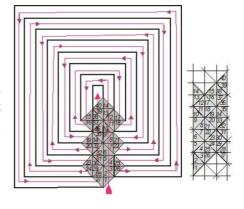
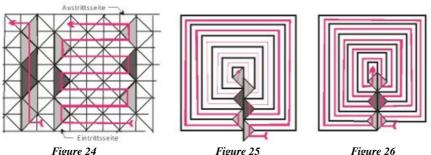


Figure 23

Simple Structural Extensions

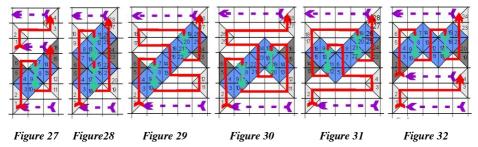
A LabFigure can initially be expanded by adapting a structurally unchanged initial structure (**sequence**):



Each of Figs. 24 to 26 shows the structure of a simple labyrinth arranged twice **vertically** (an **UrLab** - see the different colourings; see Figs. 41-1, 41-2). The individual steps limit the path of this vertical row of sequential structures at their vertical boundaries as two edge steps each (R-steps – in Figures 25 and 26, the structure of Fig. 24 is placed on the two known basic grids of lab figures). **R-step pairs** thus form the vertical boundaries of each LabFigure. In the sequencing process, the exit band of the preceding structure and the entry band of the subsequent structure overlap to form a **transition**. The first rennet alone, the entry rennet, extends over three circulation bands: the entry band, the flow bath and the exit band. Based on an entry urlab, R-step pairs extend the figure by two circulation bands each: the flow-through band and the exit band. (With its three-volume entry UrLab, each labyrinth figure has the characteristic odd number of its circulation bands).

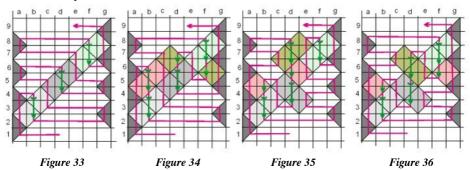
The next structural extensions can be constructed using additional D-steps. (It is advisable to start the construction process at the vertical side boundaries). To use additional D-steps, two pairs of R-steps are required to extend the figure (Fig. 27, coloured lighter and darker). Several D-step pairs can also be inserted horizontally between the two R-step pairs or adjacent to them (Fig. 32, top). Further vertically arranged UrLabs/R-step pairs can be created by means of two additional D-steps (Fig. 28 to 31) are included. If the intervention

in the path is cancelled by D-step pairs between an R-step pair, a new independent labyrinth structure is created (Fig. 27, top and Fig. 32, bottom):



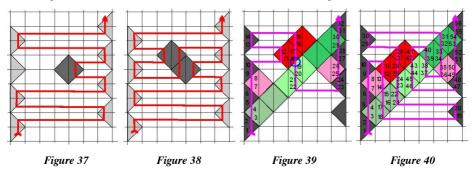
Depending on their use, D-steps have a modulating effect on the labyrinth structure and thus on the LabPath (**M-steps**). In Figures 27 and 32, they connect two independent UrLabs (marked in blue) to form a structure; an additional number of M-step pairs and/or their changed positioning also incorporates the third UrLab into the structure (Figs. 28 to 31).

Further examples:



The differently marked **M-pairs** result in a special structure layout and path depending on the position.

If an M-pair is **incomplete**, structure-free, non-maze-like free spaces are created:



Only *one* M-Step has been inserted into the figure 37 with its four independent UrLabs across nine horizontal bands. The path does not cover the entire figure – one area is excluded. The figure therefore does not fulfil the requirement of a labyrinthine structure. The path, which was led around the excluded area, would have to be led back to its point of diversion by a second M-Step in order to include the unused area. This return path is routed via the centre guide of an M-step pair – via its steps facing each other (see e.g. Fig. 38). This is confirmed: M-steps, like R-steps, are **always** inserted into or removed from the labyrinthine structure **in pairs.**

The **positioning** of the M-pairs also has structural relevance: in Figure 39, the path enters the light green M-pair (19/20) for the first time via its centre guide (see blue circle), which is due to the incorrect position of the (red) M-step 15/16. This results in an incorrect path, which also leads to an imperfect lab structure with empty spaces. Placed at one of the structurally correct positions – e.g. in Fig. 40: M-Step 11/12-25/26 – this step fits correctly into the structure.

Frame

Very often, the confusing impression arises that the Lab path is heading towards the centre of the figure, but then turns towards the periphery before finally returning in the direction of the centre. (Plato already pointed out this irritating phenomenon in his dialogue *Euthydemos* around 393 - 388 BCE). This can happen repeatedly in more complex figures. This "confusion" is caused by the special functional feature of the "extension frame" (**frame**). By using it, the lab structure is reorganised each time and the course of the path is constantly realigned:

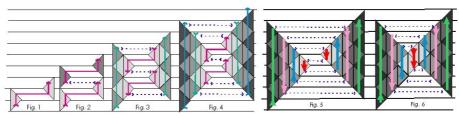


Figure 41 Figure 42

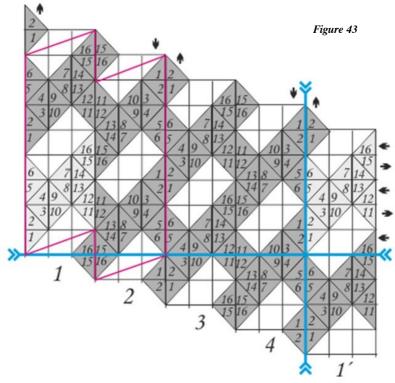
The three vertically arranged independent UrLabs in Fig. 41-3 are merged into a single structure by means of two M-pairs (marked in light colour). Together with the outer steps of the two M-pairs, the R-steps now form a "frame" (green path arrows) for the inner steps of the M-pairs (red path arrows). These are now assigned the new "role" of central UrLabs. The path is opposite to that of the frameless pre-figure (Fig 41-2). If a further frame is added (Fig. 41-4, blue arrows), the figure again expands vertically, and its lab path is reversed again.

In the two structural images in Fig. 42, three frames are placed around a central UrLab (red arrows). These figures have a dual character: on the one hand, this construction method has created opposing spirals. On the other hand, Roman artists used the same or similar paths as labyrinthine substructures for a number of their labyrinth figures (e.g. the Sancta Eclesia labyrinth in the cathedral of Algiers, ca. 324 CE).

Reduced frames, such as the Lab figure from the Roman villa in Cormerod, Switzerland (200-225 CE), were probably developed for aesthetic reasons. With this method, radial frame arms are superimposed in order to save multiple identical paths. A large number of frame arms without even the slightest suggestion of content can overload the viewer's overall impression of a figure with tiring consequences (cf. "Flächenlabyrinthe," p. 71 ff. and p. 90 ff. in: www.labyrinthstrukturen.eu).

Labyrinths Area Modules

One way of developing lab structures that goes beyond the traditional idea of lab figures is now presented with the next example figure:

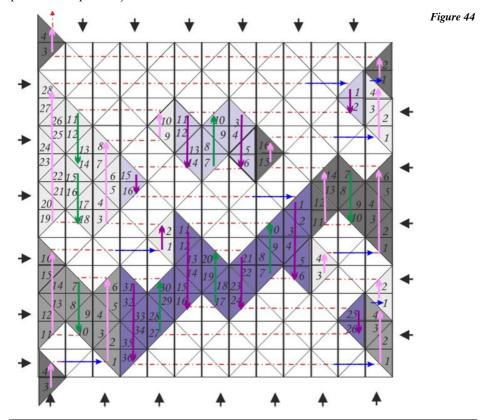


The basic structure of this figure (here: light - e.g. vertical column 1 at the bottom or column 1' at the top) has already been presented in Figures 14 and 15. The basic structure in column 1 (it can be lined up vertically any number of times) has been horizontally adapted (**docked**) to its 180° rotated copy - column 2. This allows graphically different structural expansions to be equalised. Both structures were positioned in relation to each other so that their last two steps (**L-steps** - 15-16) with their opposing numerical sequences are next to each other without a gap. Here, transitions into the respective horizontal neighbouring structure are possible along the linear number sequences; further transitions: 11-12 (the possibilities of the transitions depend on the actual construction of the structure).

Columns 3 and 4 are docked to the resulting structural unit of vertical columns 1 and 2 (docking sequence - outlined in red). This means that the StartSteps 1/2 (S-Steps), which run in opposite directions, are placed next to each other so that their number sequences enable transitions into the respective neighbouring structure (further transitions here: 5-6). This creates a unit (LabModule) for this LabStructure, which can be arranged both horizontally and vertically in any order (see blue orientation lines). The start of the next LabModule is labelled 1' in the illustration. As each docking process shifts the next docking sequence vertically by two horizontal bands (see vertical columns 1 and 3), the number of horizontal repetitions until the next module cycle depends on the vertical extension of the base structure. Both within the LabModules and between them, the LabPath can be routed along the linear number sequences as required. The recognisable counter-rotation of horizontally following LabStructures and their repeated use is a component of the regularity of general LabStructures.

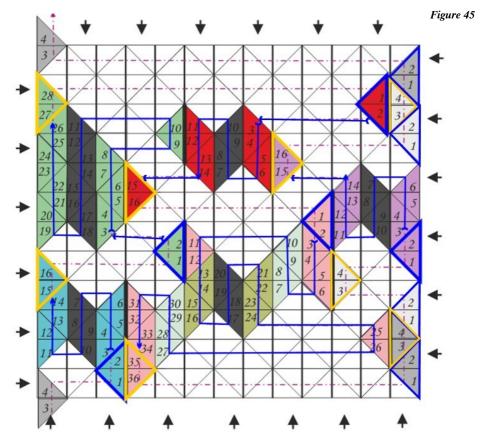
Patchwork Labyrinths

Within a labyrinth system, the structures of different labyrinth shapes can be combined to form a labyrinthine unit like a "patchwork." The steps are positioned in such a way (other positions are possible) that non-structural enclaves cannot arise:



The different sub-structures together form the unity of the meta-figure. The orientation of the sub-labyrinths within their meta-structure follows the labyrinthine regularity of alternating directional orientation of horizontally following complete lab structures, as already shown by the orientation of the vertical columns of lab modules (Fig. 43). For example, the middle structures highlighted in blue are oriented in opposite directions to the outer structures highlighted in grey. The light and dark violet directional arrows of the outer guides of the M-pairs clearly show this change in direction (they run in the main direction of the respective substructure). Between each of the complete substructures of this meta-structure run the Ur-paths (blue path arrows) in the same direction (entry side of the meta figure -> its exit side) towards the entrance of the next sub-sequence. As in the sub-structure marked with a darker blue (centre, bottom), the LabPath can run in an unclear offset (see below for more details!). Its alignment within the horizontal and vertical bands that determine the direction remains unaffected.

The following illustration shows that the internal structures are embedded between their S-steps (outlined in blue) and their L-steps (outlined in yellow):



The frame structures in a labyrinth figure are not always obvious. In the figure, optical highlighting of the frame arms is used for orientation purposes, making it easier to recognise the structure of the substructures. The conspicuous position of the R-step 11/12 (coloured pink) of the middle, lower substructure results from its displacement in connection with the positioning of step 1/2 (green) of the left horizontal neighbouring structure.

The meta-structure of a patchwork labyrinth can be arranged vertically (as in the labyrinth structure in Fig. 6, for example). The possibilities of their horizontal arrangement depend on the construction of the vertical boundary structures, on their mutual linear transition opportunities.

Bends

Labyrinths Surface figures can be bent both horizontally and vertically and connected at their respective outer boundaries in a docking process to form open **tubular shapes**. (Such structures can be found, for example, in the meandering figures of Greek-antique bowls or high-walled vessels). The combination of both processes results in self-contained figures in the form of **ring tubes**.

Hans-Georg Gusek, Potsdam, Germany; March 2024 Email: simgus@t-online.de

For further investigation of surfaces and intersections of **labyrinthine spatial systems** in the surface figures presented in this work please see: "Structures of labyrinthine spatial systems" on my website: www.labyrinthstrukturen.eu

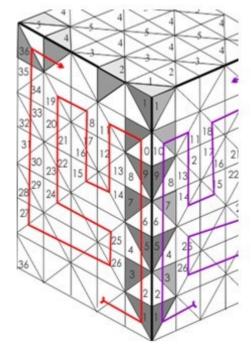


Figure 46

Note: illustrations 1, 5 & 8 are from:

Kern, Hermann. Labyrinthe, Erscheinungsformen und Deutungen, Munich, 1983.

The Schwedenhieb Labyrinth in Graitschen auf der Höhe



Konrad Franz

Graitschen a.d. Höhe in Germany is home to a cultural and historical treasure. It is a turf labyrinth, a very old, protected monument. This mysterious place still puzzles us today. Who created it, when and for what purpose, and what does it want to tell us?

The labyrinth used to be called the Schwedenkreis (Swedish Circle) by the locals, and sometimes also the Wunderkreis (Miracle Circle). Various authors also wrote Schlangenweg (snake path) and Schneckengang (snail path). When quarrying created the hill on which it stands, it probably became the Schwedenhieb or Schwedenhügel (Swedish cut or hill). From 1881, the name Trojaburg came into use, probably 'imported' from Sweden. According to some researchers, the term is no longer appropriate, because Trojaburgs are stone settings in the form of a labyrinth, which can still be found in northern Europe today. But can a term that was coined centuries ago be changed so easily – time will probably tell.

Unfortunately, there are hardly any written records from earlier times. In 1841, a poem was published in the *Camburger Wochenblatt* journal (1841, no.33, 13 August) about "Der Schwedenbaum zu Graitschen" (the Swedish pine tree) that is also mentioned in connection with the Schwedenhieb. It is marked on early maps, but the tree had probably died by 1911, and my attempt to plant a new one failed, so I erected a memorial stone on the spot. In 1853, G. Brückner writes in the *Landeskunde d. Herzogthums Meiningen* "...close to the church is an oval-round lawn and in it is the well-known so-called Schwedenhieb."

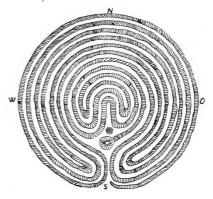
It is located on the southern edge of the village, on the road to Grabsdorf and is hidden on a hill overgrown with bushes, but this isolated location gives a false impression. Graitschen is rich in stone, still recognisable today by the nearby Wagner gravel works, and more than 150 years ago gravel was quarried here in Graitschen. As our ancestors recognised its historical significance, they left the Schwedenkreis (as it used to be called) untouched. The result was an island, a conical mound with an upper plateau diameter of approx. 10 metres.

Probably on the initiative of the first schoolteacher in Graitschen, A. Grämer (the school was inaugurated in 1869), the bare hill was given an honourable appearance around 1885 when two paths to the summit and 5-6 terraces surrounding the mound were laid out. Ornamental shrubs such as roses, lilacs, snowberry, laburnum and irises in all colours were planted on these. However, after about 50 years, there was not much left of the terraces to be seen, although the lowest terrace was clearly visible during recent renovation work and is now around 60 cm below the top edge of the road alongside. Weather conditions, animals running around freely, and children playing had probably left their mark, and the bushes and shrubs had also grown taller.

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However, the small community continued to cherish its landmark. For the local mayor and teachers, it was probably both a matter of course and a duty to preserve the Schwedenhieb, and they immortalised the labyrinth in the municipal seal (in 1989 the heraldry group Schwarzer Löwe designed it as a coat of arms and entered it in the Quedlinburg coat of arms register). In a newspaper article from 19 June 1907, on the occasion of the church anniversary, it is reported that mayor A. Eisenschmidt had the Swedish circle refreshed to celebrate the day. In 1903, the teacher A. Graul records the Schwedenhieb with 11 rounds in the *Sammelbogen für Heimatkunde* (local history records).

In 1926, however, the teacher F. Hennicke caused confusion by depicting the Schwedenhieb with 12 rounds in the *Monatsblätter für Wanderfrohe*. In his article entitled "Die Trojaburg bei Graitschen, eine nordische Sonnenkult-darstellung in Thüringen" (The Troy Castle near Graitschen - a Nordic sun cult representation in Thuringia) he probably wanted to present a 'complete' Trojaburg with 12 circuit = 12 months, in the sense that symbolised the course of the sun along the horizon through the individual months.



Hennicke's 1926 plan of the Graitschen "Trojaburg."

1929 saw the first energy revolution in Graitschen. The existing wind powered supply for drinking water was given electrical support, and during line construction a pylon was placed on the Schwedenhieb, and the resulting disputes probably only ended in 1965 with the construction of a new transformer station nearby. After the turmoil of the Second World War, it was the teacher H. Lobert who, together with the "Young Historians" working group, restored the rare monument in 1946 and took over its upkeep.

There was some excitement at the beginning of the 1950s when allegations in the press, a visit by the Thuringian State Museum, and a letter from the district heritage office finally led to the decision to erect a fence around the mound. The quoted price of DM 2600 quickly put paid to the idea, and instead, a thorn hedge was planted. However, this proved to be a breeding ground for fruit tree pests and had to be sprayed regularly. Discussions continued, but nothing happened in the end, but the monument was placed under protection by the Weimar State Museum of Prehistory and Early History on 15 November 1955.

Until 1960 the teacher H. Lobert had taken over the ongoing maintenance, which was then probably in the hands of several pensioners in the village. From the mid-70s, E. and J. Eisenschmidt conquered the "Burg." With a great deal of dedication and passion, they looked after and cared for the village attraction, and it was E. Eisenschmidt in particular who endeavoured to research the history of the labyrinth. The result can be seen today in the small chronicle that was published the 950th village anniversary celebrations in 1990. When the Graitschen Heimat und Seeverein (local history and lake) association was founded in 1994, it took over the maintenance and the Schkölen Archaeological Society also took part in the ongoing conservation work.

Unfortunately, our ancestors had quarried away a little too much gravel around the labyrinth, so that various influences caused the hill to crumble. The most recent conservation measures in 2024 were quite costly. Gabion baskets were installed at the foot of the embankment on the roadside to stabilise the hill from below. At the top of the plateau, a galvanised sheet metal ring anchor was dug in to stop the outer edge from breaking off any further and the path on the eastern side of the mound was filled in, as the slope was particularly steep at that point. The small village association could not manage these measures alone, so we were very grateful to the Free State of Thuringia for its great, unbureaucratic support. In particular, we would like to thank the employees of the TLDA in Erfurt, Dr T. Schüler from the TLDA Weimar and the construction company U. Rosenkranz with Metallbau Niehle for their support.



The Graitschen Schwedenhieb following its recent restoration. Photo: © M. Milbradt, Thuringian State Office for Heritage Management and Archaeology, Weimar, with thanks to Dr. Anja Endrigkeit.

It is in the nature of things that the Schwedenhügel has to be maintained and occasionally renovated. The inhabitants of Graitschen have been doing this for more than 200 years and will continue to do so. Because, despite all the uncertainties and question marks, it is and remains an old cultural monument worth preserving.

Konrad Franz, Heimat und Seeverein, Graitschen an der Höhe, Germany; October 2024. Email: K-R-Franz@t-online.de

The Usgalimal Labyrinth: An Archetypal Form in the Indian Context



Aditi Kashyap

Often carved into rocks, the symbol of the labyrinth is an ancient one found all over the world and recently at multiple sites along the Konkan coast of India. In 1993, a petroglyph site was discovered in the village of Usgalimal in Goa, India. Thirty rock carvings were found etched into the laterite bed of the Kushavati river. These include a labyrinth (Figure 1) along with carvings of various animals, a possible mother goddess and a pair of footprints. The report submitted to the Government of Goa dates this site approximately, and with some uncertainty, between 1000 BCE and 200 BCE. However, local guides say that the site is ten thousand years old, consistent with Shirodkar's research where he concludes that the site is much older and dates it to the Palaeolithic/Mesolithic period (8000-6000 BCE).



Figure 1: The labyrinth petroglyph at Usgalimal, photographed by the author on 11 November 2024.

The labyrinth has remained an enigmatic, although widely occurring, symbol from prehistoric times. The purpose and meaning of this symbol remains largely unknown. While there are various theories regarding its meanings and origins, it is generally agreed that the symbol had some sort of magico-religious or ritual significance. I am interested in the labyrinth petroglyph at Usgalimal due to its presence here in an Indian setting, placing it within the genealogy of Indian art and opening new avenues for its interpretation. In this essay, I explore the meaning of this symbol in an Indian context, turning to Alice Boner's book *Principles of Composition in Hindu Sculpture*, where she elucidates the intrinsic connection between form and meaning in Indian art.

Boner speaks of the circle as the fundamental factor in determining composition for Hindu sculpture: all forms are laid out on a circular field. Arrangements of the foundation are tied to the centre as a common point of reference and thus, become concentric.³ Although a relationship between the Usgalimal petroglyphs and Hindu metaphysics is uncertain, the labyrinth's concentric nature and the pronounced centrality of the form leads me to analyse it in accordance with these principles of composition. Further, Boner argues that form has an inherent-symbolic value.⁴ The labyrinth's geometric nature without any obvious representative elements, preserves meaning in line and form itself. Boner's analysis of the language of form, along with its metaphysical foundations, thus, offers a suitable framework for interpreting its meaning.

The carving at Usgalimal is made up of seven concentric circles. It is a unicursal path that flows into itself, the end of the line linking back to its beginning, forging a cyclical continuous form. A cord runs from the outside to a central circular depression, hub or blotch. The cord intersects with the circles to form a cross just below the hub. Hints of quadrate division can be seen here - four sections are not clearly demarcated throughout the form but indicated by the horizontal and vertical lines of the cross that eventually curve back into circles as can

be seen clearly in Figure 2.⁵ This seven-course "classical" design is one of the most common labyrinth designs found in rock art tradition. Labyrinths with varying numbers of outer circles, ranging from one to thirteen, have been documented across the country, yet their defining central hub and concentric structure persist across iterations.⁶



Figure 2: Rough diagram of the Usgalimal labyrinth, by author.

The circle or sphere, unified and continuous, is considered a perfect representation of the cosmos in Indian metaphysics. Boner explains that its centre is the *bindu*, the seed or egg from which the cosmos is born. It is a singularity from which all Manifestation emanates, giving rise to the dimensions of time and space. The bindu extends upwards and downwards to create the vertical dimension. Two horizontal dimensions emerge at right angles to each other, opposing the vertical and expanding outwards. The ascending vertical and horizontal dimensions respectively correspond with the *sattvic* tendency towards Light, Consciousness and Truth, and the expanding *rajasic* tendencies towards Power. The descending vertical corresponds to the *tamasic* tendency towards Inertia, Darkness and Ignorance.⁷

The bindu in this aspect of creative concentration is called the *Ghanibhuta Bindu*, that means the bindu pregnant with all elements that will constitute the totality of Manifestation. In this Point the creative will of the Supreme is latent and potential, but ready to break forth, to divide and multiply itself into the infinite expansion of the universe.⁸

In analysing the form of the Usgalimal labyrinth, two possible centres can be considered. It is somewhat logical to assume the seed-like central hub as the bindu. This is the point where concentricity of the larger form is maintained as the seven outer circles curve around it, speaking to the formation of space from the cosmic egg. In contrast to carved lines of the outer circles, the hub is marked as a depression, evoking an absence and referencing the unmanifested potential of the bindu. However, lines indicating space directions extend from

the cross, which lies slightly below the central hub and the point of intersection in the cross also formally corresponds to the bindu. This presents a problem – the bindu is a "singular" point of origin and, by definition, there cannot be two in a cosmic diagram.

One possible explanation for the two centres is found when examining closely the cord that marks a direct path to the central hub. Looking at earlier iterations of the labyrinth symbol, the linear cord is often depicted as a ladder leading to the centre. Ladder symbolism, concurrent with the idea of the ascent of the soul into a higher state of being, 9 indicates that the cord is perhaps, leading 'upwards' from the bindu to a divine entity.

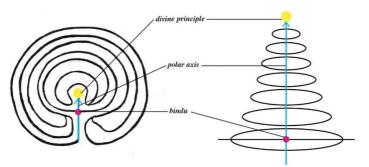


Figure 3: Projecting the two-dimensional labyrinth in three dimensions; diagram by author.

If the labyrinth is considered a three-dimensional form depicted as a 'plan' in two dimensions (Figure 3), the central hub can be understood as elevated along the 'vertical' cord, implying its divine nature. Raised off the earthly plane with a path leading to it, the form implies that it is something that is to be "reached" or "attained." Parallels can be found in the stepped pyramidal forms in sacred architecture and the practice of raising the vertical axis from the bindu to the roof when constructing dwelling places, temples or sanctuaries. According to Boner, the vertical axis links the sacred bindu on the physical plane with the divine Principle on the metaphysical plane. Architectural features of temples and stupas – conical roofs, spires, domes or openings at the top – symbolize the aspiration towards the divine. In the domestic sphere, smoke rising upwards from an altar, hearth or chimney also reflects this profound symbolism. The central hub of the labyrinth can then be considered synonymous with the openings or pinnacles that are found at the apex in architectural forms.

The labyrinth also finds a close formal likeness in *yantras* and *mandalas* that emanate around a central bindu. Boner understands these, too, as two-dimensional representations of the three-dimensional cosmos. She states that the bindu here, as in other contexts, symbolises the inherent Principle of existence, while simultaneously functioning as the polar axis when viewed from above. She explains that on the journey to spiritual Ascension, one moves from the periphery of the circle to its centre. Proximity to the centre corresponds to progressively higher states of existence. Reaching the centre represents identification with the Supreme or the divine essence within the self. This is the ultimate goal of spiritual practice. ¹¹ Thus, the concentric circles of the labyrinth becoming smaller as they reach the central hub, imply a path to Ascension. They can be interpreted as a representation of the heavens, as the winding path that one must walk on towards Actualization or the various stages leading towards Enlightenment.

Jungian analysts read the circle as a primordial symbol, one that pervades the visual arts as an archetypal image of the Self. It is understood to describe man's relationship with the cosmos, expressing the ultimate wholeness of existence. As an archetypal symbol, it exists in the collective unconscious and appears in different contexts reiterating the same idea. While Jung does not specifically mention the labyrinth, it is possible to consider it together with the mandala and other circular motifs, understanding all of these as representative of a journey to the 'centre,' towards self-Actualization. Grounded in these notions, one could speculate that the labyrinth at Usgalimal is a kind of proto-mandala.

Ultimately, the labyrinth symbol remains a mystery, with no way to accurately confirm what it might have been. This paper explores one possible explanation: that the symbol can be seen as a diagram of the cosmos when looked at through the formal and metaphysical conceptions in Indian art. It can then be understood as a representation of the transformative journey towards the divine, carrying within it symbolism associated with death, spiritual Ascension and Enlightenment. The frequent and extensive depiction of the labyrinth in prehistoric rock art traditions across the globe adds to its intrigue and reiterates its archetypal nature. Further study into its meaning can, perhaps, bring us closer to understanding the common roots of human cosmological ideas.

Aditi Kashyap, Mumbai, India; November 2024. Email: aditikay@gmail.com

This essay was first written towards the fulfilment of the Indian Aesthetics Diploma at Jnanapravaha, Mumbai in November 2024, and is reproduced here with thanks offered to the Institute for permission.

Notes

1. Mascarenhas, 3-4, 6.	6.	Kumar, 88.
2. Nambirajan, 117.	7.	Boner, 19-20.
3. Boner, 8.	8.	Boner, 19.
4. Boner, 10.	9.	Kumar, 89.
5. The quadrants become more obvious in later	10.	Boner, 21-22.
labyrinth designs, each section containing an	11.	Boner, 25.
intricately winding path within it.	12.	Jaffé, 266-270.

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Nambirajan, M. Coastal Archeology of Western India. New Delhi, Kaveri Books, 2007.

Obituary



One of the joys of following the labyrinthine path is the fellow travellers one meets along the way, but one of the consequences of the length of the journey is the inevitable sadness of losing those companions. Here we remember the contribution of Terrol Dew Johnson, Tohono O'odham basket weaver and culture preservationist.

Terrol Dew Johnson: 1973-2024

I first met Terrol Dew Johnson on the Tohono O'odham reservation south of Tucson, Arizona in 1996, when he kindly showed me some of his Man in the Maze baskets and the small garden where he was growing Devil's Claw (*Proboscidea parviflora*), whose seed pods are stripped to produce the distinctive black fibres used in the construction of the baskets produced by his ancestors for many generations. Terrol had started weaving on a full-time basis in 1992, having learned the art from some of the elderly women on the reservation, and in 1996 was in the process of co-founding the Tohono O'odham Community Action (TOCA) group to promote basket weaving, traditional foods and build community amongst his people in a deprived and troubled part of Arizona on the Mexican border. He also took me to meet Frances Manuel (1912-2006), one of the foremost basket weavers of her generation, who proudly showed me some of her award-winning baskets, including a fascinating Man in Man basket created in a fashion quite different to the usual variety.

Our paths crossed again in 2008 when Kimberly and I were back in Arizona and looking at the various labyrinths that adorn the courthouse and other public buildings, as well fire trucks and signboards, in Sells, the administrative centre of the Tohono O'odham reservation. We stumbled across a modest building that was clearly the TOCA office and entering we were greeted by Terrol who instantly remembered our meeting some 12 years prior, and again took the time to chat and explain his ongoing work. His basketry utilising the plants and natural objects that he found in the desert on the reservation received many awards and his activism to ensure fair prices for native crafts and to highlight the social and health issues that plague indigenous communities in the Southwest was also widely applauded. His death in May 2024 has taken away an important piece of the long and complex story of the Man in the Maze – a man who did much to promote and popularise the symbol as a sign of the O'odham Himdag – the People's Way.





Jeff Saward

Left: Terrol Dew Johnson Right: Frances Manuel Photos: Jeff Saward, 1996.

Labyrinth Reviews



Reviews and copies of maze and labyrinth related books and publications, etc., are always welcome for inclusion in future editions of Caerdroia.

The Labyrinth by Amanda Lohrey. Published by The Text Publishing Company, Melbourne, Australia, 2020. https://www.textpublishing.com.au/books/the-labyrinth

This is a rather different book from those normally reviewed in *Caerdroia* as it is a work of fiction: a novel about a woman who builds a labyrinth. The author is Australian and the book is set on the coast south of Sydney, though in my mind's eye I placed it near Dungeness where the late Derek Jarman lived in a shack and made a garden in the shingle surrounding it. The heroine, Erica, also uses local materials so that her labyrinth also becomes part of the landscape, and part of her life. The building of it brings together not only the people living round about, but most importantly her son who is serving a life sentence in prison.



What is interesting for maze-enthusiasts is that the process of construction is something you almost never know about, either because it all happened a long time ago or is not documented (leaving aside commercial maze-builders such as Adrian Fisher). So we have no idea about what conversations there almost certainly would have been as to shape, size, position, and construction materials of historic, and indeed prehistoric, labyrinths such as normally grace the pages of *Caerdroia*. In this book, the heroine has a dream of a labyrinth, and she searches the internet for a suitable design – not a maze, where you grapple with the challenge, but a simple labyrinth which makes you let go: "a model of reversible destiny."

As the story unfolds, references to actual labyrinths come to the surface: Chartres¹ becomes a leitmotiv, including the fact that you can't walk it because there are chairs over most of it (though I have walked it when the chairs had been removed). It is also too large for Erica's purposes, and too rigid a design; she prefers the seed pattern. Erica also wants something that merges with the dunes, so that nature and the made work will fit together.

The second half of the book is concerned with the actual building of the labyrinth, beginning with detailed descriptions of a trial run with stones from the beach: a nine-circuit seed pattern in four equal quadrants. When that is finished, Erica walks it in the dark, and realises that the centre is too small – she wants room for a wooden bench to sit on. After many twists and turns the permanent labyrinth is built, and in the process her neighbours, once wary of a stranger, become friends.

The book itself is like a labyrinth, as Erica gradually works towards the centre, sorting out her life as she goes. I won't spoil the denouement but will merely say that it certainly made me think about the "why" of labyrinths.

Dr Penny McClean

1. Centennial Park, Sydney, has a white sandstone replica of the Chartres labyrinth, opened in 2014.

Notes & Queries



Our regular round up of matters labyrinthine brings together short contributions and notes from Caerdroia readers worldwide, also items from the Labyrinthos Archives that require further research, or simply deserve recording. Similar notes and queries are welcomed for future editions.

An Early 19th Century Labyrinth Sampler

photos from Linda Hadden

Another stitched sampler including a labyrinth design has been recorded, to join the four examples previously noted in the pages of *Caerdroia* (C'43, p.4-6; C'50, p.72 & C'51, p.58). The newly reported sampler is 18 inches (46 cm) square and was created by Hannah Bedford, aged 17, in 1819, later than the other similar examples, but no clues are provided to where Hannah was living when she created her handiwork. In common with the other examples, the rectangular labyrinth design, with simple bastions at the four corners, is probably derived from an engraving that first appears in Thomas Hill's *The Profitable Art of Gardening*, first published in 1579, and the accompanying depictions of Noah's Ark, Adam and Eve, and Solomon's Temple are common motifs on samplers of the period. Curiously, the labyrinth this time has eight, instead of seven, circuits, resulting in the outer circuits becoming isolated and redundant. As noted before, three of the four samplers previously known were from Dewsbury in Yorkshire, England, and the close similarity of the respective labyrinth designs on each of the samplers might suggest a similar geographical origin for this latest example, although a currently undiscovered printed source for the precise stitching pattern is also a possible explanation.

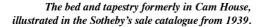




Hannah Bedford's 1819 sampler and the labyrinth design in detail Photos: Linda Hadden.

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An 18th century (so-called Soho) tapestry sold at auction in November 2024 by Busby Auctioneers & Valuers in Bridport, England, for £ 2718 (including buyer's fees and taxes) was described as "depicting a knight and lady in a landscape, with maze in background." This large fabric tapestry, 181 x 156 cm (5³/₄ x 5¹/₄ feet) in size, was previously sold by Sotheby's of London in 1939 for £150, and formerly hung above an impressive four-poster bed in Cam House in Campden Hill, West London. At the earlier sale it was described as "Penelope and Ulysses, in a formal garden within a landscape," and identified as Flemish 17th century.







The 18th century Soho tapestry sold in November 2024. Photo: Busby Auctioneers & Valuers.

However, it appears that the subject matter of the tapestry has never been correctly attributed. Closer inspection of the design reveals the obvious identity of the two characters depicted in the scene – it is clearly Theseus receiving the thread from Ariadne, prior to entering the labyrinth depicted behind him, in his quest to dispatch the Minotaur. The inspiration for this tableau can surely be traced to one of the various engravings from the same period that accompanied illustrated versions of Ovid's Metamorphosis. There are numerous editions with suitable illustrations that the unknown weaver of the tapestry may have had to hand, from the earliest published in the 1500s onwards, although one of the French editions from the latter half of the 17th century is perhaps a more likely match for the style of the figures and the depiction of the labyrinth in the background – see The Ovid Collection (https://ovid.lib.virginia.edu/index.html) for examples and further information.



Theseus & Ariadne, published in Les Metamorphoses D'Ovide, en Latin et François, Divisées en XV Livres, published in Brussels in 1677. Engraving in the Labyrinthos Archive.

The Labyrinth Society & Labyrinth Locator

The Labyrinth Society, affectionately known as TLS, was founded in 1998 to support all those working with or interested in labyrinths. Although based in the USA, it is an international organization with members around the world. Membership in the Society not only connects labyrinth enthusiasts to a worldwide community, but also supports websites and other labyrinth projects that provide information and resources to the world at large, including the **Worldwide Labyrinth Locator** website that now lists over 6500 labyrinths, including a few mazes, worldwide: **www.labyrinthlocator.org**

TLS also holds an Annual Gathering and has an extensive website, for details and more about The Labyrinth Society, visit: www.labyrinthsociety.org

Submissions to Caerdroia



Caerdroia is always pleased to receive material for publication. Readers are urged to submit papers, shorter articles, notes, information, photographs – indeed, anything labyrinthine – for possible publication in future editions of Caerdroia. Articles and notes should preferably be sent as e-mail attachments in Microsoft Word .doc or .docx format (although .rtf and similar formats are acceptable).

Illustrations and photographs are preferred in .jpg or .tif format at 300 dpi resolution please, but please keep illustrations separate from text, and send as separate files, with position in text clearly marked. Photographs: colour or b&w prints and 35mm transparencies are also welcome if digital versions are unavailable. A preferred style guide for authors is available on the Caerdroia Submissions page on our website: www.labyrinthos.net/submissions.html

Because Caerdroia is a specialised journal for enthusiasts, no payment can be made for submissions, but any permission or reproduction fees incurred will be covered, and all significant contributors will receive a digital PDF of the edition in which their work is published. Deadline for inclusion in Caerdroia 54: May 2025 please, for scheduled publication late Summer 2025.

Subscription to Caerdroia



As an enthusiast's journal dealing with a specialised subject, Caerdroia relies on reader subscriptions to allow it to continue to provide a forum for maze and labyrinth research and news. Subscription provides the next digital edition of Caerdroia and supports the production of the journal, maintenance of the Caerdroia Archives, covering all aspects of mazes & labyrinths worldwide, and our extensive website. A scanned reprint service from out-of-print editions is also available to subscribers.

The annual fee is £6.

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The story of mazes and labyrinths is as long and tortuous as their plans might suggest. For many, mention of the labyrinth may recall the legend of Theseus & the Minotaur. An increasing number will know of the ancient labyrinth symbol which occurs around the world, at different points in time, in places as diverse as Brazil, Arizona, Iceland, across Europe, in Africa, India and Sumatra. This symbol and its family of derivatives have been traced back 4000 years or more, but its origins remain mysterious. Modern puzzle mazes, however complex their form, are but the latest episode in this labyrinthine story.

Labyrinthos is the resource centre for the study of mazes and labyrinths, with an extensive photographic & illustration library and archive, offering professional consultation and services for owners, designers, writers and publishers and consultation for labyrinth design and installation. Contact Jeff Saward or Kimberly Saward at the address above or visit our extensive website **www.labyrinthos.net** for further details of Labyrinthos and *Caerdroia*.

Our annual journal *Caerdroia*, first published in 1980, is dedicated to maze and labyrinth research and documentation. Produced by labyrinth enthusiasts for fellow enthusiasts, it keeps in regular contact with correspondents throughout the world, exchanging information and ideas, to help create a clearer picture of the origins and distribution of the enigmatic labyrinth symbol and its descendants, from the earliest rock carvings and artefacts through to modern puzzle mazes of ever-increasing complexity and ingenuity.

Current subscribers to *Caerdroia* include maze and labyrinth researchers and enthusiasts, archaeologists and historians, artists and authors, designers and owners, and members of The Labyrinth Society. As a non-profit making journal dealing with a very specialised subject, *Caerdroia* relies on reader contributions, submissions and subscriptions for support. If you are interested in the history, development, diversity or potential of mazes and labyrinths in any of their forms, perhaps you would care to join us on the path....

Jeff Saward & Kimberly Saward, Labyrinthos



Caerdroia is an independent journal for the study of mazes & labyrinths

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