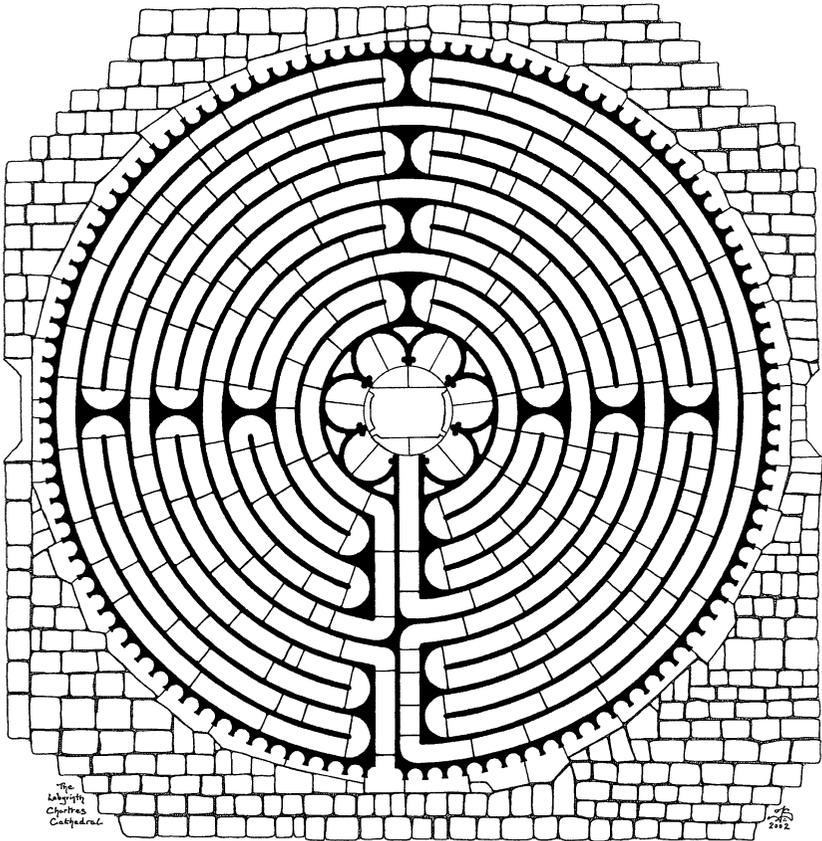


# CAERDROIA

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THE JOURNAL OF  
MAZES & LABYRINTHS



: XXXIII :  
CAERDROIA 33

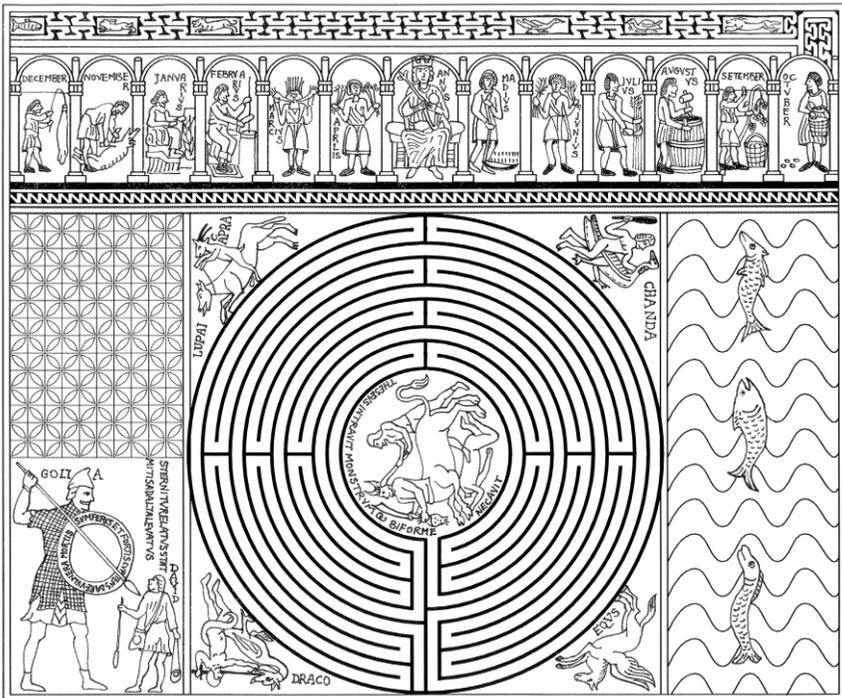
# CAERDROIA

*The Journal of Mazes & Labyrinths*



33<sup>rd</sup> Edition

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*The early 12<sup>th</sup> century labyrinth pavement in Pavia Cathedral, Italy.  
Although only a small section survives, this reconstruction by Jeff Saward from his  
forthcoming book, Labyrinths & Mazes, restores the full splendour of the pavement.*

# CAERDROIA 33

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## *The Journal of Mazes & Labyrinths*

July 2003

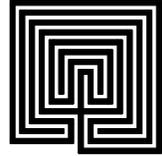
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*Caerdroia 34 is due for publication December 2003. Submissions by November 2003 please.*

# Editorial - Caerdroia 33



Jeff Saward, Thundersley, July 2003

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Welcome to the 33<sup>rd</sup> edition of Caerdroia and, firstly, our apologies for the considerable delay with the appearance of this edition. The last year or so has been an extremely busy time for your editors. I have written two books - further details below - and have spent some five months travelling in America, on three separate visits, lecturing and researching the history of labyrinths in the American Southwest and the development of hedge mazes in 19<sup>th</sup> century parks and gardens. All of this has consumed much of the time that would normally be available for Caerdroia, the production and administration of which, despite consuming much of our time, remains a not-for-profit operation. As many of you will know, and hopefully understand, my full-time writing, lecturing and photographic work - the jobs that put food on the table - sometimes need to take priority. But fear not, the production of Caerdroia will continue regardless.

As a consequence of the delays with this issue, a wealth of material destined for publication has amassed on the editorial desk, and in an attempt to 'clear the decks' this 33<sup>rd</sup> edition contains many of the articles that were waiting on file. In a departure from our normal policy, the shorter items and notes, which normally appear in the "Notes and Queries" section, have been held over for a bumper round up in Caerdroia 34, which is planned for production towards the end of the year, thus bringing the publication schedule back on track. Likewise we have several new books and publications on file, which will also be reviewed next time. So, our apologies to those of you hoping to see your submitted items, or mention of your labyrinth projects, in this edition, but we can promise a wonderfully eclectic mix of items in the next edition!

Those of you who have been involved in the writing and production of books yourselves will understand the all-consuming process of writing, revising and illustrating the pages of a new book. So hopefully you will appreciate the torment of producing not one, but two, new books on mazes and labyrinths, since the last edition of Caerdroia was published. The first - *Magical Paths - Labyrinths & Mazes in the 21<sup>st</sup> Century* - was published by Mitchell Beazley last October and is a lavishly illustrated essay on the development of mazes and labyrinths, with particular emphasis on the modern revival of interest during the last twenty or thirty years: a revival that has seen remarkable growth taking place in a number of diverse cultural contexts, regions and settings. Illustrated with over 120 beautiful photographs, selected from the best shots submitted by many photographers, it is proving a popular introduction to the subject for the general reader and was recommended as the garden-related book to buy for Christmas by one of by the national newspapers here in Britain.

My second book, although it was actually started long before the first, is the volume I have long wanted and waited to produce. Entitled *Labyrinths & Mazes* it is a comprehensive study of the history and distribution of labyrinths and mazes worldwide. With 224 pages and over 400 photographs and illustrations, plus extensive maps, tables and bibliography, it contains many of the latest discoveries and new interpretations that have appeared in Caerdroia in recent years. With much new material, and many previously unseen photographs and illustrations, especially of the labyrinths in Scandinavia, Asia and the Americas, it will provide a much-needed sourcebook for information, suitable for researchers, students and enthusiasts, beginners and experts alike. Three different editions will appear simultaneously: published by Gaia in the UK, Sterling in the USA and also in German language in Germany & Austria. An Italian edition is hopeful in the near future. As this edition of Caerdroia goes to press, the new book is also at the printers and is due for publication during August 2003. See the leaflet enclosed with this edition for the latest information and advance ordering details.

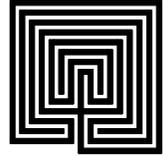
But the printing presses here at Labyrinthos HQ have not been idle while all this has been going on. Kimberly's ongoing research of labyrinth folklore and traditions worldwide has resulted in the publication of her first study of this material, *Ariadne's Thread - Legends of the Labyrinth*. See our publications leaflet enclosed for details. Further titles are planned in the Labyrinthos publications series, including a new edition of my *Ancient Labyrinths of the World*. But we still have the last few copies of the 3<sup>rd</sup> edition, so order one now while they last.

The coming months will also see the long-awaited revision and updates to the Labyrinthos & Caerdroia website: [www.labyrinthos.net](http://www.labyrinthos.net) - another of those projects that needs more than just a spare half-hour! Future plans include placing key articles from earlier out-of-print editions of the journal on the website, available for download, and maybe a CD-based "Best of Caerdroia" compilation. Send me your feedback on that, if the idea appeals.

Many of you attended the Labyrinth Symposium that we helped organise on behalf of the Labyrinth Society last summer in Glastonbury, and thanks for your congratulations for staging such a fun and informative event. Indeed, it was such a success, that we are considering staging a similar event again, early next summer, probably at Breamore in Hampshire, England, the location of the beautiful Mizmaze turf labyrinth. More details in the next edition of Caerdroia and on the TLS website: [www.labyrinthsociety.org](http://www.labyrinthsociety.org) For those of you planning to be in the USA in early November, a reminder that Kimberly and myself will be speaking at this year's Labyrinth Society Gathering in Baltimore, November 6-9, 2003, where we will be displaying and signing all of the new books. Meanwhile we will wish you all a happy summer and we will be back towards the end of the year with the next edition - Caerdroia 34.

Jeff Saward, July 2003. E-mail: [jeff@labyrinthos.net](mailto:jeff@labyrinthos.net)

# A New Labyrinth Discovery at Petra



Andrew Collins

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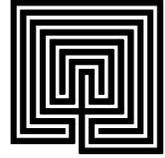
I was in Jordan recently, visiting Petra, on the trail of the true site of Mount Sinai. While exploring the Jebel al-Madhbah mountain (which I am convinced is the true site of Mt. Sinai/Horeb), I asked a local Bedouin if she knew of any carvings on the mountain and she led my wife and myself to a ledge, under a cliff face, about half way down the path between the High Place and the rock-city, co-incident to the so-called Theatre. There, carved on the floor of the cliff, are two labyrinth carvings and alongside another drawn in black at some unknown time. Below is another carving that seems more like a Hindu yoni.

I asked a local archaeologist and tour guide about the carvings and he said that he knew of them and attributed them to the Nabatean period, sometime between the 2<sup>nd</sup> century BCE and the 1<sup>st</sup> century CE. Clearly the locals see them as very old indeed, and the guide we befriended appeared extremely knowledgeable. Since Jebel al-Madhbah is such an important part of Jordan's historical past the presence of these carved labyrinths begs explanation.



*The labyrinths on the rockface at Petra, Jordan. Photo by Andrew Collins.*

# A New Labyrinth at Knidos



Staffan Lundén

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In *Caerdroia* 31, (2000), p. 54, the discovery of a labyrinth inscription at Knidos in Turkey was reported, hitherto unknown to labyrinth researchers. The purpose of this brief article is to add some more information on this interesting example.



*Fig.1: The labyrinth inscribed on a block of masonry at Knidos, Turkey.  
Photograph courtesy of Prof. Christine Özgen.*

**Location and context:** The labyrinth (Fig. 1) is carved on a block of black marble (height 60 cm, width 76 cm, depth 23 cm) broken on the right and left ends, which lies on the ground to the West of the Corinthian temple at Knidos.<sup>1</sup> Above the labyrinth is an inscription in Greek: KYRIE BOETHEI "Lord help".<sup>2</sup> On both sides of the inscription the Christian cross is carved. A third cross is found to the left and below the labyrinth. A fourth, larger, cross is to the right of the labyrinth.

Beneath the arms of the large cross are the letters Alpha and Omega, connected to the arms by a vertical stroke. Further to the right of the large cross is a tendril emerging from a vase. The tendril has clusters of grapes and a heart-shaped ivy leaf. Between the labyrinth and the tendril are two palm trees and what appears to be a tree or a bush. The branches of the tree or bush terminate in small dots, which perhaps represent fruit.

The block is clearly a piece of masonry from a building, but probably the carvings postdate the removal of the block from this unidentified building. The rather symmetrical placement of the carvings on the block suggests that they were executed after the right and left ends of the block were broken off and this damage is less likely to have occurred when the block was still in its original position. (The damage in the upper left corner on the block, obliterating the upper parts of the first letters of the inscription, of course postdates the carving.) The block lies on the border of a main road; at Knidos, crosses and other carvings are also found at street junctions, which may tentatively suggest that both these locations were some sort of public meeting or waiting place.<sup>3</sup>

**Description:** Shape: Round. Size: Judging from the dimensions of the block and the size of the letters in the inscription (max. height 4.5 cm according to Bluemel) the size of the labyrinth can be estimated to measure c. 21-23.5 cm high and 18-21 cm wide. At the centre the labyrinth is a small hole that indicates the labyrinth was constructed with the help of an engraving tool, probably a compass or divider.

**Date:** The carvings on the block appear to be uniform in style and were probably executed at the same time. Crosses of the type found on the block begin to appear at the end of the 4th century CE. Crosses with Alpha and Omega as pendants typically belong to the 6th and 7th centuries AC.<sup>4</sup>

**Comment:** KYRIE BOETHEI “Lord help” is a very common Christian inscription. It may be followed by the words “your servant” and/or the name of the person(s) for whom aid is being sought. Sometimes “Lord” is exchanged for “Lord Christ”, “Jesus” and “Jesus Christ”, “Mother of god” or the names of various Saints.<sup>5</sup> It is interesting to note that on a vertical rock face in the marble quarry at Dokimia (Docimium) modern Iscehisar, Turkey it is found (written KĒ BOETHI)<sup>6</sup> above a number of broken, concentric circles (diameter c.40 cm) that have been interpreted as a labyrinth (Fig. 2).<sup>7</sup>

Numerous representations of the cross (dating 6th-8th centuries AC)<sup>8</sup> and other Christian motifs are found in the vicinity. Due to the weathering of the rock, it is impossible to establish with certainty whether the Dokimia design actually is the remains of a labyrinth. Earlier I was sceptical,<sup>9</sup> but now when the Knidos labyrinth is associated with the same formula, it is tempting to suggest that the Dokimia carving represent a labyrinth or an attempt to draw a labyrinth.

*Fig. 2: The inscription at Dokimia, Turkey. Difficult to interpret, it would seem likely that this may indeed be a weathered representation of a labyrinth. Illustration by Jeff Saward, after Röder.*

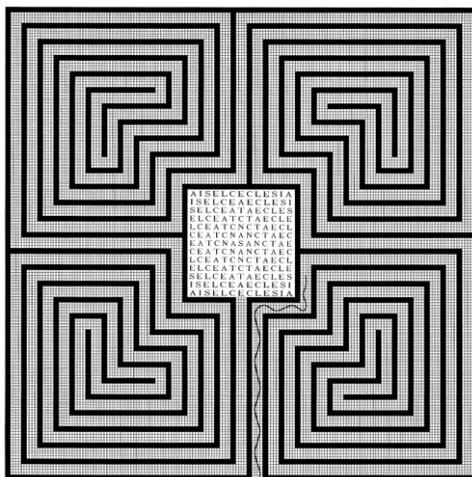


The Knidos labyrinth, and the possible labyrinth at Dokimia, are among the earliest known examples recorded in Christian contexts. To the present author's knowledge, the only earlier securely dated<sup>10</sup> and securely attested<sup>11</sup> labyrinth is a Roman mosaic labyrinth found in the Reparatus basilica in Orléansville/El Asnam in Algeria, which was founded in AD 324.<sup>12</sup> All the other motifs on the Knidos block – cross, tendril with grapes emerging from vase, palm tree, fruit tree - are all well established in the Christian repertoire of pictorial elements.<sup>13</sup>

It is beyond the scope of this presentation to try to enquiry into all possible explanations for the presence of the labyrinth in this milieu, but some tentative suggestions may be made. Perhaps the most straightforward explanation for the appearance of the labyrinth in a Christian setting is that the labyrinth design is based on a cross. Mention should also be made that, among the many variants of the cross employed in Early Byzantine times is the staurogram or *crux monogrammatica*, i.e. a Latin cross with the upright arm in the form of Greek letter Rho, (similar to a Latin “P”).<sup>14</sup> As the centre of the Knidos labyrinth is circular it is possible that it was seen as incorporating this type of cross, with the upper part of the letter Rho corresponding to the right half of the labyrinths circular centre.

It may be noted that the cross is found also in the design of the Orleansville labyrinth. The spokes of this labyrinth may be seen as corresponding to the arms of the cross. Moreover, in what looks like a jumble of letters in the centre of the labyrinth, one can read, beginning from the letter S in the middle, the word SANCTA “holy” in all four directions in the form of a cross. It is followed by the word ECLESIA “church” along the sides of the quadrant (Fig. 3). Possibly, the Knidos labyrinth contains a related idea. At the very first glance there are only inextricable lines, but a closer look reveals the cross.

*Fig. 3: The mosaic pavement labyrinth at Orleansville (Al-Asnam), Algeria. Illustration by Jeff Saward.*



In a previous issue of *Caerdroia* (29, 1998, p. 38-42) it was suggested that the labyrinth might have a protective function. This conclusion was based on the context of the Conimbriga and Quanawat labyrinths. For the sake of completeness, it should be asked whether there is any evidence that the labyrinth on the Knidos block was executed for protective purposes.<sup>15</sup> Looking at how the other motifs on the Knidos block are used in other contexts, such evidence could be argued to exist. The formula KYRIE BOETHEI is found together with protective symbols. For example, on a copper plaque excavated at Anemurion, Turkey, the formula appears above a representation of a the “much-suffering eye”, i. e. the Evil Eye of Envy being threatened by various weapons and animals.<sup>16</sup>

Representations of the cross may be accompanied with inscriptions that show that the cross was considered to give protection against different sorts of evil influences. For example, an inscription in Tepedschi, Turkey, reads: "Where the cross is present, Envy has no power" and on an inscription in Anasartha, Syria we read: "When we engrave your cross, O Christ... we escape every form of wickedness".<sup>17</sup> Still, notwithstanding the fact that the cross and the formula KYRIE BOETHEI were rendered for protective purposes, this does not mean they were executed for this purpose only. The cross, especially, is a symbol that has been invested with a multitude of meanings.<sup>18</sup> Thus, although it is certainly possible the carvings on the Knidos block were rendered for protective purposes, substantial evidence to support such an assumption is lacking. Given the polyvalence of the different motifs on the block, other interpretations are also possible.<sup>19</sup>

Staffan Lundén, Rome, December 2002.

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## Endnotes:

<sup>1</sup> Knidos is situated on the tip of the peninsula Resadiye Yarımadası (SE of the Greek island Kos and NW of the Greek island Rhodes) on the West coast of Turkey.

<sup>2</sup> The inscription is published in W. Blümel, *Die Inschriften von Knidos* (Inschriften griechischer Städte aus Kleinasien 41), Bonn 1992, 146, no.244. Blümel gives a brief description of the block and its carvings. To the present authors knowledge this is the only previous mention of this labyrinth in a scholarly publication.

<sup>3</sup> For this information I owe thanks to Prof. Christine Özgen, who also kindly supplied the photograph of the block as well as permission to use the photograph for this publication.

<sup>4</sup> It should be noted that a 5th century AC date has been proposed for a cross with holes for pendants in a private collection in Munich. A. Effenberger in eds. M. Brandt & A. Effenberger, *Byzanz, Die Macht der Bilder*, Hildesheim 1998, 35-39, no.3, pl.22-25, *idem* in eds. L. Wamser and G. Zahlhaas, *Rom und Byzanz. Archäologische Kostbarkeiten aus Bayern*, München 1998, 72-76, no.64. However, Effenberger provides no evidence for this early date. For information on the dating of crosses, as well as the reference to Effenbergs publications, I am indebted to Prof. Josef Engemann (e-mail 31 October 2001).

<sup>5</sup> W. Prentice, *Greek and Latin Inscriptions. Part 3 of the publication of an American archaeological expedition to Syria in 1899-1900*. New York 1908, 22.

<sup>6</sup> The horizontal stroke over the E indicates that KE is a contraction (i.e. the nomen sacrum) of KYRIE. A. Paap, *Nomina sacra in the Greek papyri of the first five centuries A.D.*, (Papyrologica Lugduno-batava 8), Lugdunum Batavorum 1959, 1f, 101f. Cf. J. Diethart "Kyrie boethi in byzantinischen Notarsunterschriften" *Zeitschrift für Papyrologie und Epigraphik* 49, 1982, 79-82.

<sup>7</sup> J. Röder, "Marmor Phrygium. Die antiken Marmorbrüche von Iscehisar in Westanatolien," *Jahrbuch des deutschen archäologischen Instituts* 86, 1971, 252-312, 288, 291, 293, fig.37. To the left and above the labyrinth and inscription is a further inscription (probably to be read as BOETHI) beneath a cross.

<sup>8</sup> Röder 1971, 294.

<sup>9</sup> "The Labyrinth in the Mediterranean," *Caerdroia* 27, 1996, 54.

<sup>10</sup> The labyrinth on the Hollywood stone, found beside a pilgrims trackway leading to the monastery of Glendalough, Wicklow, Ireland is dated to the 6th-14th centuries AC. J. Saward, *The Caerdroia Field Guide* 1987, 13f, *idem*, *Ancient Labyrinths of the World*, Thundersley 1997, 3. Accepting a low date for this labyrinth would make it roughly contemporary with the Knidos and Dokimia labyrinths, but as I have noted before ("The Labyrinth in the Mediterranean," *Caerdroia* 27, 1996, 32f, n.16) the absence of evidence for labyrinths in the British Isles before the Medieval period calls for caution against such an early dating. Cf. also A. Saward, "The Rocky Valley Labyrinths," *Caerdroia* 32, 2001, 23.

<sup>11</sup> On the T'igzirt "labyrinth", see next note.

<sup>12</sup> W. Daszewski, *La mosaïque de Thésée. Etudes sur les mosaïques avec représentations du labyrinthe de Thésée et du Minotaure*. (Nea Paphos 2), Warsaw 1977, 102f, no. 4, H. Kern, *Through the labyrinth. Designs and meanings over 5,000 years*, Munich, London, New York 2000, 88, no. 117f. This labyrinth stands at the very end of the long tradition of designing labyrinths in mosaic floors. As no securely dated mosaic labyrinth postdates the beginning of the 4th century AC, the "labyrinth" in the basilica in T'igzirt erected in the second quarter of the 5th century AC, (most likely built in the period between AD 429 and AD 455) stands in marked isolation.

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It is included in both Daszewski's (no.6) and Kern's (101, no.171+) catalogues of mosaic labyrinths without any reservations, but ought to be treated with some scepticism. It is no longer extant and no photograph or drawing of it seems to exist. It is only known from the description by Gavault who writes "on retrouve les traces d'une partie du pavage représentant un labyrinthe de la forme la plus simple, c'est-à-dire une sorte de volute carrée ou de grecque à enroulements multiples, dont les lignes sont blanches en noires." (P. Gavault, *Étude sur les ruines romaines de Tiggirt*, (Bibliothèque d'archéologie africaine 2) Paris 1897, 55.) Gavault continues with noting that representations of labyrinths are not rare on Christian monuments, referring to the pavement labyrinths of mediaeval churches. Clearly, Gavault describes a pattern with a complicated design, but can we be sure it is a labyrinth, although he uses this word to describe it?

The term "labyrinth" has been employed by modern scholars for many different sorts of patterns (for example, different swastika or meander patterns), which do not share the basic characteristics of the labyrinth (i.e. having a unicursal "path", which must be covered in its entirety to reach from the entrance of the design to its centre) and which were not necessarily conceived as labyrinths by their ancient designers and viewers. (Cf. Kern's critique of Daszewski using the term "labyrinth" for a meander/swastika pattern on a mosaic close to the Cestius pyramid in Rome Kern 98, no.163). The issue is further complicated by that Gavault adds that the labyrinth is of "the simplest form". What does this mean?

He may have observed that the mediaeval pavements labyrinths (which are of the Chartres type) have a different lay-out than the Roman mosaic labyrinths, and thus a Roman mosaic labyrinth may be said to be "simpler" than a Mediaeval pavement labyrinth. But his way of phrasing may also signal that he describes a pattern which is somehow different from that of a Roman mosaic labyrinth. Unfortunately, from Gavault's account of the mosaic it cannot be determined for *certain* whether he describes a true labyrinth, as opposed to some other sort of geometric pattern.

Above the Tiggirt "labyrinth" is a fragmentary inscription, beginning with the letters CERNI, probably to be read as the latin word CERNIS "you see". Gavault, 56, fig.13, P. Monceaux, "Enquête sur l'épigraphie chrétienne d'Afrique," *Revue archéologique* 1906, 126-142, 138 no.210. It has been suggested (by W. Batschelet-Massini, "Labyrinthzeichnungen in Handschriften," *Codices Manuscripti* 4, 1978, 33-65, 41) that the inscription quoted a passage from the work *Contra Symmachum* by the Christian author Prudentius. In this passage (2,882-890), beginning with the word "cernis", Prudentius speaks of the path, which through many windings leads to error and death. In Prudentius' text this is compared with the simple path that leads to God (2,843-857).

Thus, in Batschelet-Massini's interpretation the labyrinth becomes a graphic illustration of the crooked path of heresy. The problem with Batschelet-Massini's theory is that it relies on just one word, which is not uncommon in the Latin language. Latin inscriptions written on mosaics, statues, grave monuments etc., frequently invoke the reader to take a look at the work of art in question. There is at least one (pagan) inscription that begins with the same word "cernis". F. Buecheler, *Carmina latina epigraphica* 1, Lipsiae 1895, 173, no.369. Although the Tiggirt inscription begins with "cernis" it is far from certain that it quotes Prudentius.

An oft-repeated dogma in the literature on labyrinths is that the pavement labyrinths of Mediaeval churches originated in the Roman mosaic labyrinth, but the total absence of evidence for labyrinths in the church floors and in all forms of mosaic art of the intervening period of c. 700 years between the latest mosaic labyrinths in the 4th (or possibly the 5th century AC, if one counts the Tiggirt "labyrinth") to the appearance of pavement mosaics in North Italian churches in the 12th century AC, makes this assumption untenable. Neither is the composition of the Chartres labyrinth type, which is used for the Mediaeval pavement labyrinths, hereditary to that of the Roman mosaic labyrinth. The Chartres type is instead a development from the cross labyrinth, probably via the Otfrid type. It might be worthwhile to remind that the pavement

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labyrinth in the church of San Vitale in Ravenna dates to the 16th, not to the 6th century as sometimes stated in older literature. (Kern 160, no.280f.)

<sup>13</sup> The significance of motifs drawn from the natural world in Early Byzantine art are discussed in H. Maguire, *Earth and ocean. The terrestrial world in Early Byzantine art*, (Monographs in the fine arts 43), University Park and London 1987. Early Byzantine interpretations of such motifs as vegetation bearing fruit may range from the literal to the symbolic. In the former case the motifs illustrate the richness and abundance of nature, and thus show the magnitude of Gods creation. In the latter case they signify different concepts beyond this world, like, for example, the Paradise. A representation of a vine with grapes may be understood literally, i.e. as a further example of the richness of nature, or symbolically. If the latter, the vine may signify a whole range of concepts including the Eucharist, Christ, his people and the Kingdom of God. Maguire 9f. Cf. E. Maguire, H. Maguire, M. Duncan-Flowers, *Art and holy powers in the Early Christian house*, (Illinois Byzantine studies 2), Urbana and Chicago 1989, 23f. Maguire rightly notes, that often only an inscription explaining the imagery, or a visual pointer within the imagery itself, can reveal which symbolism was intended. On the Knidos block, the interpretation of the carvings becomes difficult as any such key to their understanding is lacking,

<sup>14</sup> The staurogram derives from the Chi Rho monogram, formed of the first two letters of the name of Christ.

<sup>15</sup> Many protective symbols of pagan origin, continued to be used well into the Early Byzantine period, and are found in Christian contexts (like churches) and together with Christian symbols (like the cross). Cf. C. Bonner, *Studies in magical amulets, chiefly Graeco-Egyptian*. Ann Arbor 1950, 208-221. H. Maguire, "Magic and geometry in Early Christian floor mosaics and textiles," in eds. W. Hörandner, J. Koder & O. Kresten *Andrias. Herbert Hunger zum 80. Geburtstag, Jahrbuch der Österreichischen Byzantinistik* 44, 1994, 265-274. (reprinted in H. Maguire, *Rhetoric, nature and magic in Byzantine art*, Aldershot 1998.)

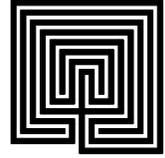
<sup>16</sup> J. Russell, "The evil eye in Early Byzantine society. Archaeological evidence from Anemurium in Isauria," *Jahrbuch der Österreichischen Byzantinistik* 1982, 32:3, 539-548, 544f, pl.4f, *idem* "The archaeological context of magic in the Early Byzantine period", in ed. H. Maguire, *Byzantine magic*, Dumbarton Oaks 1995, 35-50, 39f, pl.5f. The protective sense of BOETHEI is discussed in Prentice 1908, 22 and Bonner 1950, 46, 180.

<sup>17</sup> J. Engemann, "Zur verbreitung magischer Übelabwehr in der nichtchristlichen und christlichen Spätantike," *Jahrbuch für Antike und Christentum* 18, 1975, 22-48, 42f with further examples. When discussing a possible protective and luck-bringing symbolism of the carvings on the Knidos block it should be noted that designs showing, the riches of nature – such the fruit tree and vines with grapes - may be intended to invoke abundance and prosperity. E. Maguire, H. Maguire & M. Duncan-Flowers 1989, 9-13.

<sup>18</sup> On the various meanings and uses of the cross: s. v. "Kreuz 1", in *Reallexikon zur Byzantinischen Kunst* 5, 1995, 1-202, A. Felle, s v "Croce" in ed. F. Bisconti, *Temi di iconografia paleocristiana*, (Sussidi allo studio delle antichità cristiane 13) Città del Vaticano 2000, 158-162.

<sup>19</sup> When discussing the Cominbriga labyrinth, it was suggested that the labyrinth protected through bewilderment or confusing the Evil Eye. It might be noted that a very late (9<sup>th</sup> or 10<sup>th</sup> century AC) Latin inscription shows that the cross was considered to protect by confusing the Devil. The inscription reads: CRUX XRI CONFUSIO DIABOLI, "The cross of Christ (is) the confusion of the Devil," eds. R. Hodges & J. Mitchell, *San Vincenzo al Volturno. The archaeology, art and territory of an Early Medieval Monastery*, (BAR International series 252), Oxford 1985, 158, fig. 6:34f.

# A Labyrinth Graffito in Spain



Carlos Soreto

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## Location and Context:

A labyrinth scratched on the northern pillar of the Romanesque church of Santa María de Taüll at Barruera, Vall de Boí, Alta Ribagorça, Lleida, Catalonia, Spain. This graffito is incised amongst Romanesque drawings along with five Solomon's knots and other symbols, alongside an inscription to St Clemens. The drawing fragment, where it can be seen, measures c. 57 cm in width by 100 cm in height.

It is on display in the 'Sala de Arte Romántico' at Museu Nacional d'Arte de Catalunya in Barcelona, Spain.

## Date:

According to the archaeological evidence the graffiti, including the labyrinth and the other drawings on the pillar, can be dated to the 12<sup>th</sup> century AD.

## Description:

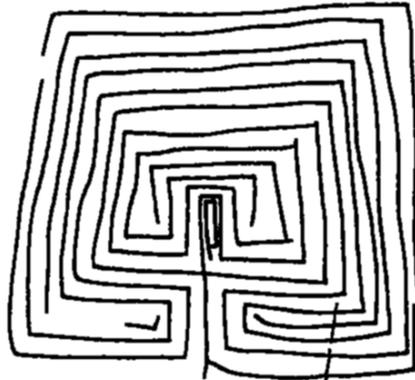
Despite some flaws, it has a peculiarity not often found on labyrinths of this type: at its centre can be seen a little rectangle design. The entrance faces left and down.

## Type/shape:

Classical 11-circuit square labyrinth.

## Size:

It measures 40 x 33 cm.

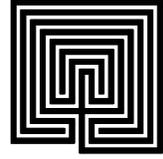


*The labyrinth graffito from the church of Santa María de Taüll at Barruera, NE Spain.*

## Bibliography:

José María Carbonell, "Acerca del laberinto: un graffito de Santa María de Taüll". *Fragmentos* 17-18-19 (1991), 47-55.

# Is That A Fact ?



**Jeff Saward & Kimberly Lowelle Saward**

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We have all read about the curious overlay and overlap of the celebrated rose window in the west frontage of Chartres Cathedral with the labyrinth that spans the floor of the nave, heard about the text of the psalms formerly engraved upon its pathway or maybe seen mention of the pools of coloured light that stream through the rose window to fall on the labyrinth on certain days of the year. But have you ever stopped to think what the source of these 'facts' might be, or ever seen the evidence to support these assertions? These cherished items of accepted labyrinth folklore, and many similar alleged facts surrounding other labyrinths, have become popular topics in a number of recent books and publications. Regrettably, many of these notions, however attractive they may seem, are based on shaky scholarship and dubious sources, often perpetuated from speculative statements made many years ago and subsequently repeated and embroidered many times over.

Labyrinth literature has long been riddled with error, exaggeration and romantic speculation, requiring readers and researchers to navigate a minefield of confusing and contradictory statements, as well as patently false information. With so many popular books on mazes and labyrinths published within the last ten years or so, at an ever-increasing rate, the recent proliferation of this labyrinth misinformation has continued apace. The quality and value of information published in a book can sometimes be gauged by the reputation of the author or the publishing house, and other times by the context of the book in which it appears. However, the recent advent of the Internet, despite its many benefits, brings with it an information source that has no quality control and no easy way of determining which of the many websites you can find might be reliable sources. Unlike a well-produced book from a recognised publisher, a polished website with flashy graphics, bells and whistles, comes with no guarantee of quality content.

In books, magazine articles and the Internet alike, a process akin to the childhood game of Chinese Whispers (known to American audiences as Telephone or Gossip) has been responsible for many of the more serious items of labyrinth misinformation. An account from one source gets misquoted repeatedly until it no longer even faintly resembles the original statement. And because we are dealing with a field where fact and mystery intertwine in many languages over a long history and broad geographical area, it becomes especially difficult to discern between fact and fiction. Equally, a statement which was never true in the first place, if repeated enough times, is assumed by all that hear it to be correct, if only because everybody tells the same story.

A sound research base of documented, verifiable facts does exist, but checking it may require more than just referring back to favourite popular books whose authors may themselves be guilty of merely quoting others. What is required is an inquiring and open mind, coupled with a willingness to follow the thread of a statement back to its original source and to weigh that writing against the statements of others. Often considerable light can be shed simply by considering the context of the original statement, evaluating it for common sense and possible bias— not always the easiest thing to do when we ourselves are holding to an agenda we want to prove.

Even when writing about a favourite theory in hopes of convincing others toward your way of thinking, a good rule of thumb can be: *Don't mystify fact and don't factify mystery to prove your point.* We don't need to mystify facts when Mystery is all around us in our experience of the process. The labyrinth is an archetype; when we are walking it, we are in direct interaction with an archetype – that is Mystery, which doesn't need embellishment by human hands to make it useful.

Myth and Mystery are not quantifiable. This can mean that if numbers fit a story too well, we might do well to be suspect. Real life is messy, but that doesn't negate the need for integrity or the effort required to strive for objectivity. Good research is a tool in the hand of a teacher, and the nature of teaching is a sacred trust. It is the responsibility of the teacher, the writer and the researcher to convey information factually and fairly. This trust is broken when the gaps between a handful of facts are filled with misinformation, made-up ideas or imaginative embellishment. As examples of how easily some statements can be become distorted, and how difficult it can sometimes be to verify factual information, we will give three particular case studies that illustrate well the problems that exist within the field of labyrinth research.

## **Case Studies:**

### **1... The American Southwest**

In her book, *Exploring the Labyrinth*, Melissa Gail West writes:

“Imagine Arizona, 1000 years ago. You are an Anasazi Indian, living high in the cliff dwelling of Casa Grande. It is a cold afternoon in January, too cold to venture from the mesa, and you idly scratch a crude labyrinth into the adobe walls of your pueblo. As you carve out the labyrinth from the soft pink earth, you remember how this labyrinth represents your people's emergence into this world from the previous world in which they dwelt. Your spirit swells with pride as your fingers trace your people's birth from the centre of this labyrinth.”<sup>1</sup>

This statement, which refers to the labyrinth inscribed on the inner wall of the Casa Grande ruins in Arizona, is admittedly not presented as a factual account of the origin of this inscription, more as a suggestive visualisation for the reader to ponder (or use with others) as part of an exercise. But this example brings up the

problem of creating imagery with no foundation in fact. While perhaps not the gravest of sins, it should be remembered that when working with visualizations and guided imagery, one is working with deep recesses of the psyche where personal imagery is formed and ideas can be deeply implanted; it is, in fact, hypnosis. By definition, hypnosis bypasses the critical factor of rational thinking. Do we really want to be responsible for constructing for someone else an imagery that has no basis in reality, but which we pass off as real fact? Careful research is an important precursor to responsible spiritual teaching and psychological process as well as to writing. The reader, or another writer, imagining that this original statement is based on sound knowledge might well repeat part, or all of the supposed sequence of events given above as factual information, with or without the source being given to allow others to check the origin of the 'facts.'

The problem here is that the statement is riddled with error and misinformation. Firstly, the ruin at Casa Grande is not an Anasazi cliff dwelling perched on the edge of a mesa; instead it is a four-storey adobe tower house, surrounded by the remains of a settlement with single storey dwellings. Situated amongst the saguaro forest of the open desert of the Gila River valley, on the edge of the modern town of Coolidge, some 45 miles (75 km) southeast of Phoenix, it was constructed and inhabited by the Hohokam people, sometime during the early 14<sup>th</sup> century CE, but was abandoned by about 1450.<sup>2</sup> While the origin of the labyrinth inscription high on the inner wall of the tower is impossible to determine for certain, it would seem likely that it was scratched by a later visitor to the ruins, maybe 200 – 400 years ago to judge from the position of the labyrinth and the surface erosion of other (datable) inscriptions on the adobe walls of the tower house.<sup>3</sup>

*The labyrinth inscribed on the inner wall of Casa Grande, near Coolidge, Arizona.*

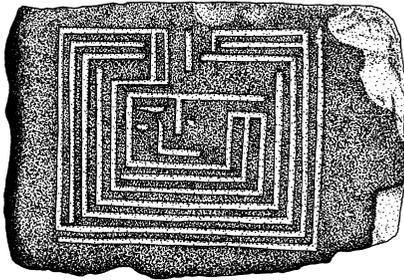
*Difficult to date with any accuracy, it would appear to be between 200 to 400 years old. Notice the unusual enlarged centre of the labyrinth design.*

*Photo by Jeff Seward, 1996.*



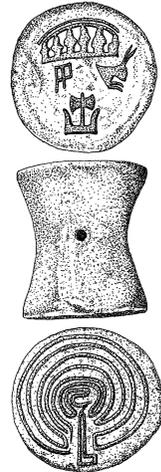
The history of the labyrinth symbol amongst the native peoples of the Americas is poorly understood and the question of the initial origin, whether an independent discovery, or a colonial introduction, remains a contentious issue. In such a vacuum of factual information, speculative ideas are bound to flourish. The labyrinth inscribed objects in the collection of Fr. Carlo Crespi, formerly housed in the church of Santa Maria Auxiliadora in Cuenca, Ecuador, one of which was recently displayed in Vienna at an exhibition of 'evidence' for ancient astronauts,<sup>4</sup> provides a good example of where this process can lead. Although claimed as ancient artefacts by various writers with particular agendas to promote,<sup>5</sup> the majority of the objects in the Crespi collection, including the items crudely inscribed with labyrinths, are probably little more than modern fantasies produced to meet the demands of an antiquities collector.

Similar items have appeared on the market before. Two supposedly Olmec bowls inscribed with labyrinths were sold by an antiquities dealer with dubious credentials in Mexico City in the 1950's.<sup>6</sup> A supposedly Minoan seal stone with a labyrinth, purchased in Beirut in the 1960's, was published in a learned journal before subsequently being exposed as a fake.<sup>7</sup> When dealing with antiquities, there is always fraud in the marketplace and researchers and writers dealing with similar items with uncertain provenance should always be aware of these potential pitfalls.



*Above: a labyrinth inscribed on a stone slab formerly in the Crespi collection in Cuenca, Ecuador. Although claimed as an ancient artefact, it is certainly a modern forgery.*

*Right: a supposed Minoan seal stone, inscribed with a labyrinth, likewise a modern forgery. Illustrations by Jeff Saward.*

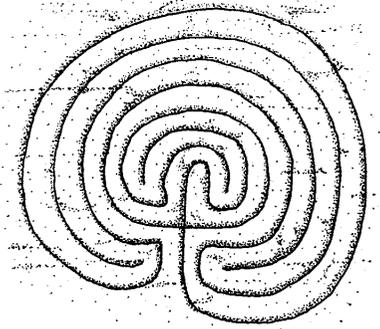


Likewise, commercialism can bring misleading information, as well as objects, into the field. Recently we've seen websites talking about labyrinths as part of the Mayan tradition, even though there is absolutely no historical evidence for the labyrinth in Mayan culture. Further information on this labyrinth tradition is offered, on receipt of credit card details, as part of an online Mayan shamanic training service.<sup>8</sup> People selling sacred and secret information about labyrinths, especially on the Internet, should ring alarm bells!

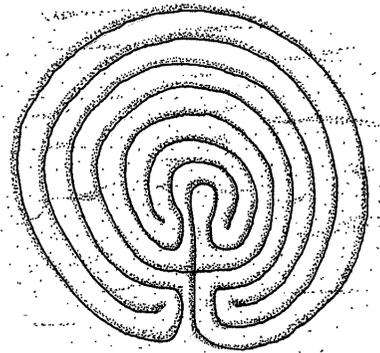
## 2... The Rocky Valley Labyrinths.

The controversy surrounding the dating of the two classical labyrinths inscribed on a rockface behind Trewethett Mill in Rocky Valley, Cornwall, England, has been around ever since the carvings were discovered in the late 1940's. The 'official' plaque attached to the rockface is carefully phrased to say that the carvings are "like" others that date to the Bronze Age, c.1800-1400 BC. However, this dating was proposed some 50 years ago by a non-specialist and was never investigated or questioned by qualified archaeologists, despite the fact that the sharp edges of the carvings, clearly engraved with a metal tool, are quite unlike the pecked lines of genuine prehistoric petroglyphs found elsewhere in the British Isles.<sup>9</sup> Besides, the petroglyphs at Rocky Valley, carved into relatively soft, easily weathered slate, would surely not have survived over 3500 years of weathering and root action from the vegetation that cloaks the sides of the valley and rockfaces.

*The Rocky Valley labyrinth carvings.  
Illustration by Jeff Saward.*



Nonetheless, the dating was accepted without question, because it fitted the notion of sea-borne trade and diffusion of Mediterranean culture and symbols, popular at the time with archaeologists and writers alike. Modern archaeological thinking now downplays these links, and the rock art found in the British Isles is more often dated to the Neolithic or early Bronze Age - prior to 1800 BCE and it is only recently that the original dating has been questioned.



The Rocky Valley carvings have also been claimed to date to the early Christian period, partly by association with nearby early Christian settlements and antiquities, and partly because a similar classical labyrinth petroglyph has been found on the Hollywood Stone from County Wicklow, Ireland. Although these two locations

are separated by 300 kilometres and the stormy Atlantic Ocean, this has been presented as evidence for a perceived link between these otherwise isolated labyrinths in early Christian Cornwall and Ireland. While cultural links between these two areas certainly existed at this time and the context of the Hollywood labyrinth certainly suggests a Christian heritage, ascribing a date to this labyrinth is fraught with problems - at best it could be said to likely date from anywhere between the 6<sup>th</sup> and 14<sup>th</sup> centuries CE.

More recently, a study of the history of Trewethett Mill, adjacent to the cliff on which the Rocky Valley labyrinths are carved, has provided a timeframe into which the labyrinths can be more plausibly located.<sup>10</sup> The mill was built sometime during the mid-1700's and functioned until at least the 1860's. The similarity of carved dates and owner's initials on the ruins of mill to the carving style of the labyrinths, certainly suggests that they are contemporary with each other.

While many people might wish to cling to a romantic notion that the Rocky Valley labyrinths were carved by sea-faring Bronze Age traders or prospectors, or even some Celtic hermit or wandering missionary, en route to Ireland, a revised origin during the late 18<sup>th</sup> or even the early 19<sup>th</sup> century CE cuts the supposed age of the labyrinths at a stroke, and perhaps dispels the air of mystery that has long surrounded them. However, this revised dating doesn't devalue them – they remain a fascinating example of an ancient folk symbol in use just a few hundred years ago and they remain situated in a beautiful and evocative setting.

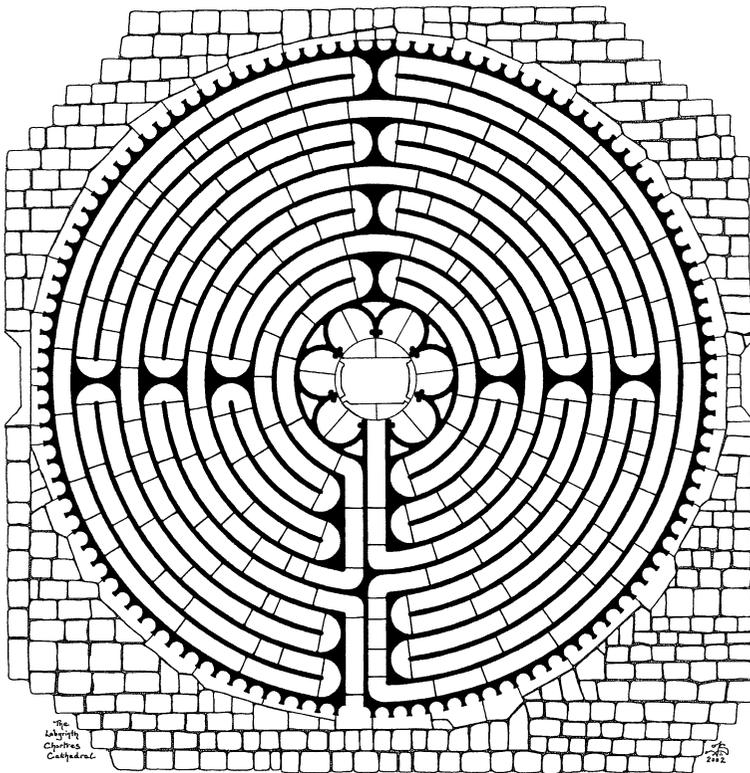
If the Rocky Valley carvings date to the 18<sup>th</sup> century – which they could – then they're not so far removed, either in time or distance, from the unique and fascinating occurrence of labyrinths on the Scilly Islands, 45 kilometres off the southwest coast of Cornwall. The stone labyrinth on the island of St. Agnes was originally constructed in 1729, just a little earlier than the time when the Rocky Valley labyrinths may have been carved, and is likewise of the same classical type. A number of other examples of this labyrinth design in use during the 18<sup>th</sup> and early 19<sup>th</sup> century, throughout the British Isles, provides far more evidence for knowledge of the labyrinth at this time than either the Bronze Age or Early Christian periods.

One might ask whether all this really matters. When a labyrinth is simply enjoyed in situ, the details of its construction probably don't matter. However, the accurate dating of these or any labyrinth becomes vital when the dates are being used to construct theories about their origins. If the dates don't tally, the theory won't hold water. The problem with the example of Rocky Valley is that for the better part of half a century there has been no questioning of received wisdom, probably in part because the proposed dating fitted so nicely with romantic notions. It provides a good lesson on using disputed or untenable dates to construct theories about how something got there, without ever considering the context of the location.

### 3... The Labyrinth in Chartres Cathedral

With the splendour, the awe, the mystery of Chartres Cathedral, it is no wonder that it has attracted so much mythology over the course of its long history. As a repository of holy relics, it has attracted pilgrims for over 1000 years, and in much the same way it has attracted popular folklore as well as misinformation. For instance, the story that the cathedral is situated on the site of a former Druidic temple, erected in honour of the “Virgo Paritura” (The Virgin who will conceive) is not based on any historical or archaeological evidence. As Jean Villette has shown, this story was created in the 16th century and popularised in the early 17<sup>th</sup> century by Sebastian Rouillard.<sup>11</sup> Recent archaeological excavation has shown that the cathedral overlies the alignment and foundations of earlier Roman buildings. However, the topic of this case study will be one particular part of this remarkable building – the pavement labyrinth situated in the nave of the cathedral. Not surprisingly, the published information about this labyrinth is riddled with confusion, supposition and fantasy – probably more so than any other labyrinth.

*The Chartres Cathedral Labyrinth. Illustration by Jeff Saward.*



## Date of Construction

Nobody actually knows when the labyrinth was constructed, because it simply was not documented. Various writers have published dates of 1200, 1220 and 1235, even as late as 1240, all given as if they were provable installation dates. The reality, as clearly demonstrated by the architectural detective work of John James, is that the labyrinth must have been laid in the first decade of the 13<sup>th</sup> century.<sup>12</sup> Conceivably it could have been put in place as early as 1200, or as late as 1210, when the construction of the nave was essentially complete and the masons moved on to finish other parts of the cathedral structure. Speculation that the current labyrinth replaced an earlier labyrinth in the nave is totally unfounded. While labyrinths with 'Mediaeval' designs laid as floor decoration first appeared in churches and cathedrals in Italy during the early 12<sup>th</sup> century, it would appear that the idea did not spread to Northern France until the last decade of that century at the earliest. The labyrinth at Sens may date to the 1190's, but the example at Chartres was certainly among the earliest, and was clearly influential in the subsequent popularity of labyrinths in 13<sup>th</sup> century France and elsewhere in central and northern Europe.

## The Central Plaque and the Psalms on the Pathway

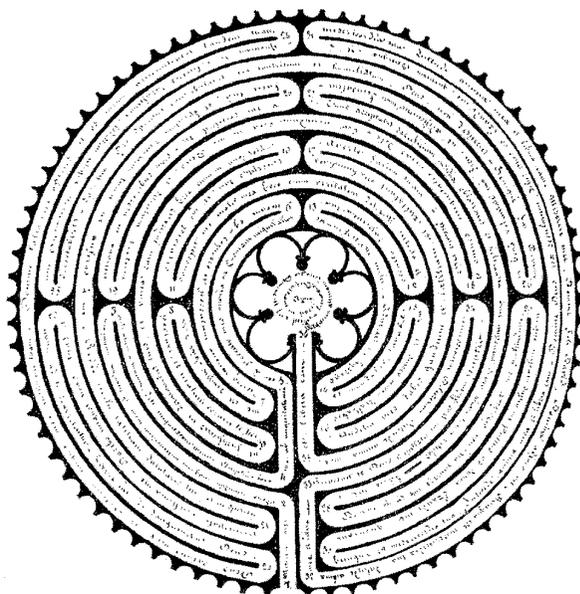
All that remains of the copper plaque that formerly decorated the centre of the labyrinth in Chartres Cathedral are the worn stubs of the rivets that held it in place. While we know, from a description of the plaque from around 1640, that it formerly bore a representation of the combat between Theseus and the Minotaur, we have no plan or diagram of the layout of its design. It would surely have been similar to the depictions of this scene found in contemporary labyrinth decorated manuscripts, or at the centre of the 12<sup>th</sup> century floor labyrinths in Italian cathedrals.

However, in a recently published book, we are told that the plaque used to bear the following legend: "This stone represents the Cretan's labyrinth. Those who enter cannot leave unless they be helped like Theseus, by Ariadne's Thread."<sup>13</sup> Since the plaque was supposedly removed in 1792, and no record of any text inscribed upon it survives, this statement might seem to the uninformed to provide a long-missing piece of the puzzle. But this is in fact a garbled version of the inscription alongside the labyrinth at Lucca in Italy. A simple enough case of confused information, but one that will surely be repeated, sometime in the future, in another book on labyrinths.

Likewise, another misunderstanding that has appeared on a number of occasions, concerns the words of the 50<sup>th</sup> psalm, *Miserere mei, Deus*, that were supposedly once engraved on the stones that form the path of the labyrinth at Chartres. This old chestnut continues to appear from time to time,<sup>14</sup> despite the fact that Jean Villette dispelled this notion as nothing more than a misinterpretation of an old engraving of the words of the psalm superimposed over a plan of the labyrinth, probably

drawn in the mid 17<sup>th</sup> century, but not published until 1918. As Villette rightly points out, had the words ever been engraved on the flagstones, some trace of their former presence would surely survive, however worn.<sup>15</sup>

*Plan of the Chartres labyrinth with psalms superimposed on the pathway, from the Recherches sur Chartres manuscript of Charles Chalilne, first published in 1918, but originally written c.1640.*



LABYRINTH.

## Measurements

Much has been written about the exact size and measurements of the Chartres labyrinth. Hermann Kern, for example, stated categorically that the labyrinth is elliptical rather than circular, 12.60 x 12.30 metres (41'4" x 40'4").<sup>16</sup> He based his statement on comments from Maurice Guinguand, who had presumably taken his measurements from the often-published overhead photograph that appears in many books. However, this photograph, taken through a small hole in the ceiling of the nave, where the vaulting ribs intersect, is not directly above the centre, but offset toward the entrance of the labyrinth. As a consequence, it will always appear slightly elliptical in any of these 'overhead' photographs.

The exact size of the labyrinth has also been the subject of some disagreement. W.H. Matthews said about 40 feet,<sup>17</sup> Nigel Pennick<sup>18</sup> and Lauren Artress<sup>19</sup> say approx 42 feet and Emanuel Wallet gives 13 metres, nearer 43 feet.<sup>20</sup> Actually the labyrinth is 42 feet 3<sup>3</sup>/<sub>8</sub> inches by 42 feet 4 inches (12.887 x 12.903 metres), with the longest axis across the line of the entrance to the far side, or top, of the labyrinth.<sup>21</sup> This slight discrepancy from a true circle, although only a 0.0465 % error, might seem to support the claims that the labyrinth is slightly elliptical, but it

is difficult to see that the original architects would have created this slight obliquity of  $\frac{5}{8}$  inch (1.6 cm) on purpose. It would seem more likely to be the result of 800 years of gradual compression of the floor from the weight of the aisle pillars that line the nave, either side of the labyrinth, causing the individual interlocking stones that form the pavement to creep slightly inwards across the width of the labyrinth. The mortar gaps between the individual stones would easily absorb this movement without damage to any of the stones.

There is also confusion surrounding the width of the paths of the labyrinth. Some claim the paths are 16 inches wide; in fact they average  $13 \frac{1}{4}$  inches (34 cm) with a 3 inch (7.5 cm) wall separating each path. Similarly the path length from entrance to centre is claimed to be anywhere between 450 feet (Matthews)<sup>22</sup> and 965 feet (294 m according to Kern).<sup>23</sup> This is clearly a considerable range, which should suggest caution in believing any of these figures, however apparently reliable the source may seem. Several books give the path length as 666 feet, a number that is surely too good to be true, often quoting Jean Shinoda Bolen's *Crossing to Anolon*, published in 1994. But Bolen gives her source as Barbara Walker's *The Woman's Dictionary of Symbols & Sacred Objects* (1988), which in turn quotes Elizabeth Pepper and John Wilcock's *Magical & Mystical Sites* from 1976.<sup>24</sup> Turning to this source, we discover that this information comes from an unnamed "old book about Pagan Rome" which is clearly not a reliable basis for the subsequent faith in this almost magical path length.

The thing to bear in mind is that almost certainly, none of the authors confidently quoting numbers for this measurement have actually taken a tape to the path and measured it in person. At best these numbers are estimates based on approximate diameters, at worst just wild guesses! John James, who has measured much of Chartres Cathedral gives a path length of 261.5 metres (858 ft), which is surely correct, although it is not specified exactly where his path begins and ends.<sup>25</sup> Based on actual measurements and a mathematical model of the labyrinth, we calculate that the path length from the entrance to the very centre of the labyrinth is somewhere around 860.9 feet (262.4 m), but it is still worth checking if you ever happen to be in Chartres Cathedral with a pedometer!

The number of stones that form the path of the labyrinth provides a final numerical puzzle. Often quoted as exactly 270, and considered by many as symbolic of the number of days of human gestation, the exact number is in fact difficult to determine.<sup>26</sup> Several of the original stones have clearly broken since they were originally laid in place and now appear to be two slabs instead of one. Those with ragged, interlocking cracks are easy to spot; others with clean breaks are more difficult. There are also a few short slabs that look suspiciously like 'patches' inserted to replace damaged portions of pathway. Depending on how you count, it is possible to arrive at a number anywhere between 268 and 274. Either way, the use of the word 'exactly' in discussion of this, or any other labyrinth, should be treated with caution, as labyrinths tend not to conform to exactitudes.

## Overlays and Alignments

Without doubt, the most frequently quoted 'fact' about the labyrinth at Chartres is the notion that the famous rose window, set high in the west frontage of the cathedral, if hinged down along the length of the nave, would exactly overlay the pattern of the window onto the labyrinth.<sup>27</sup> It's a nice image, but unfortunately it isn't true. This is a good example of a statement that has been repeated so frequently, but never checked, that nobody ever questions its authenticity. The idea was first popularised by Keith Critchlow in the 1970's, but even then he stated only that... "the west rose window conforms basically in size to the labyrinth" and admitted that... "there is room for splitting hairs at the mechanically precise level."<sup>28</sup> As the Rose Window has a diameter of around 11.9 metres (clear aperture of the glazed area, and nearer 13.6 metres including the moulding around the window), with the labyrinth measuring just under 12.9 metres, these are thick hairs indeed.

Overlaying the two designs would result in approximately 14 inch (0.35 m) overlap all round including the moulding and approx. 19 inch (0.50 m) shortfall if just the glazed pattern is overlaid. However this ignores a vital error in the original concept - the height of the rose window on the west wall is not the same as the distance of the labyrinth from the base of that same wall, indeed the difference would seem to amount to approximately 10 feet (approx. 3.0 m) based on published plans of the cathedral and trigonometric measurement (see note below). The whole business is a nice piece of imagery, but in reality it just doesn't work. Instead, the two designs would overlay to form a symbol somewhat akin to a vesica. No doubt this piece of imagery could also spawn a whole new mythology, especially if it were to be retold in the same fashion as the original overlay concept.

Likewise the often claimed astronomical alignments involving the labyrinth - the notion that the sun shining through the western rose window, or the Virgin Mary panel in the window below the rose, projects its coloured pattern onto the labyrinth on certain days of the year - are also seriously flawed. For a start, the stained glass of the original mediaeval windows does not transmit the sun's rays directly; rather it diffuses the light to produce the remarkable glowing colours that are especially celebrated at Chartres. The pattern of the rose window simply cannot be seen falling on the labyrinth. More importantly, all of the calculations that have been used to prove these supposed projections, real or symbolic, use the same magnetic compass bearing for the alignment of the cathedral, 223 degrees.<sup>29</sup> This apparently ignores the magnetic correction for Chartres, currently around 2 degrees, but slowly and constantly changing, which constitutes the difference between true north and the magnetic north pole to which the compass points. This correction is critical for determining any astronomical alignments and therefore the true alignment of the labyrinth on the centre of the rose window is around 225 degrees, almost exactly southwest.

Another problem, often overlooked with these theories, is that all of the calculations seem to assume that the Rose Window is the same height up the wall as the labyrinth is away from it – therefore subtending a 45-degree angle between the labyrinth and the window. While the sloping floor of the nave makes calculating this angle from absolute measurements difficult, measure this angle with a clinometer, which negates the uncertainties and provides a true azimuth, and you will discover that it is a little under 41 degrees (average reading 40.9 degrees).<sup>30</sup> Clearly this makes all such calculations published to date either suspect or invalid.

Finally, any such calculations need to take account of the differences between the current calendar and the dates that any such alignments may have worked some 800 years ago when the current cathedral and the labyrinth were built. Pope Gregory XIII's reform of the Julian calendar in 1582 shifts all such alignments by around seven days from the day where we might observe the same effect today. Therefore, such alignments claimed by several recent authors to happen on August 15<sup>th</sup>, the day of Assumption in the mediaeval calendar, would now happen on August 22<sup>nd</sup>.<sup>31</sup> But they would also happen in exactly the same fashion during the Spring, as the movement of the sun back and forth between the extremes of the solstices creates duplicate conditions at either end of the cycle.

### **The "Lunations"**

Without doubt, the most remarkable feature of the Chartres labyrinth is the halo of ornamentation that surrounds the outer circuit of the labyrinth. Comprising of 112 'cusps,' enclosed within 113 'foils,' the complete circle would contain 114 of each, but for the two cusps and one foil omitted to allow entrance to the labyrinth. Various described by different authors as cups, cusps, spikes, teeth or cogs, the majority of recent books on the subject refer to this unique arrangement as the 'lunations.' This term is obviously redolent with connotation, suggesting some ancient symbolic meaning, but what is the origin of this terminology?

Keith Critchlow first coined it, almost inadvertently, as recently as the early 1970's. Talking about the 112 cusps around the halo, he says, "When one does divide 112 by 4 (the major divisions of the paths of the maze) we find it gives us 28. The days of a lunar month?"<sup>32</sup> He later talks in the same sentence about the 'lunations' and 'cusps' and although he is talking about lunar months, and not naming the pattern as such, the connection was made and this nomenclature has been used ever since, especially since it was popularised by Lauren Artress in her 1994 book *Walking a Sacred Path*. In that book, Artress says, "Some believe that the labyrinth served as a calendar. It offered a method of keeping track of the lunar cycles of 28 days each. Using this, the church could determine the date of the lunar feast of Easter."<sup>33</sup> Many folk have picked up on this qualified statement without inquiring how exactly such a supposed lunar calculator might work in practice, and what started life as nothing more than a simple speculative observation has now become accepted fact in many circles.

The biggest problem with this notion is that there are actually 29.5306 days in a lunar month, not 28, and the mediaeval mathematicians and clerics were well aware of this awkward number, if not its exact value. They created complex lunar calendrical systems with alternating months of 29 and 30 days, employed embolistic years with additional intercalated months and inserted leap days, to keep track of this cycle in order to keep the theoretical lunar cycle in sequence with the solar calendar according to the principles determined by Dionysius Exiguus during the early 6<sup>th</sup> century CE. The tables constructed to determine in advance the date of the first full moon that would occur on or after the spring equinox in any given year and thus calculate the date of Easter, the primary festival of the Christian Church. These tables were assiduously compiled, copied and distributed by Christian scholars, scriptoriums and centres of learning across Europe.

These same lunar calendrical systems can still be found in old Bibles as the tables of Golden Numbers. In early Christian manuscripts and encyclopaedia they were sometimes accompanied by drawings of labyrinths, presumably to illustrate the complexity of the subject matter, as much as anything else. Arguably, this juxtaposition may have been influential in the subsequent connection between labyrinths and Easter festivals and dances in the cathedrals of France.

Undoubtedly, the complex alternating circuits of the labyrinth were seen as symbolic of the intermeshing cycles of the calendars, as well as the spheres on which the sun, moon and planets moved around the firmament against the background of the fixed stars. Beyond these lay additional spheres representing the spiritual heavens, where saints and angels resided. The use of labyrinths to exemplify these principles is a further demonstration of the flexibility of the symbol to reflect the complex interplay of the scientific and spiritual worlds of mediaeval thought.

So the supposed 28-day lunar month is a fallacy, based on a modern misperception of 'primitive' calendrical systems. However, early Babylonian, and subsequent Greek astronomers, over 2500 years ago, had not only calculated the length of both lunar and solar cycles, but also figured out how to integrate the two. Our modern calendar of alternating days of 30 and 31 days, with a shorter month in February allocated to contain a leap day to correct the exact number of days in the year, has essentially been in operation since the calendar reforms of Julius Caesar were enacted in 46 BCE.<sup>34</sup>

However, we recently heard a well known speaker tell how there were formerly 13 (lunar) months of 28 days in mediaeval Europe, until the Gregorian calendar was introduced in the 16<sup>th</sup> century to replace it with a solar calendar – absolute nonsense! It was introduced to bring the existing Julian (solar) calendar back in line with the equinoxes, which had been drifting ever since it was introduced some 1600 years earlier, because there were too many leap years - a reform first suggested by Roger Bacon in his *Opus Mains* sent to Pope Clement IV in 1267.<sup>35</sup>

## Conclusions

Because of the uncertainty and genuine mystery that surrounds the origin, construction, and meaning of the labyrinth at Chartres Cathedral, it typifies the problems that occur in published research and popular works within this field. The contradicting “facts” and numerical discrepancies are highly significant in terms of measurements and historical accuracy, but not so significant in terms of symbolism if your point is merely to describe relationships as you might do if you were to say that something is nearly the same size as something else. You can’t, however, construct a 21<sup>st</sup> century theory of Medieval symbolism without taking into account the specific details of what the world was like back then. A society with its inherent culture and spirituality cannot be separated from its history.

If your own writing is based on other people’s research, you need to be aware and constantly question the premises of that research. Look for clues as to what’s real and provable fact and what’s speculation, so you don’t pass one off as the other. Further, if you are using broad parameters for determining symbolic relationships, be truthful by avoiding words that imply specificity and exactness. Be careful, therefore, about using words like ‘always’ and ‘exactly’ and qualify your statements unless you have precise figures or measurements. The intent and the impact will remain the same without casting shadows of imprecise scholarship on your work.

Don’t make up facts to fill in gaps. If you don’t know, don’t guess. There is nothing wrong with admitting you don’t know something. Make it clear when you are giving an opinion and be equally clear when you are quoting someone else. Crediting and referencing your sources validates your work and serves as a guide for future researchers who are building on what you have done. Above all, as you strive to communicate your information, stay in integrity: temper your creativity with responsibility.

Jeff Saward & Kimberly Lowelle Saward, Thundersley, February 2003.

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### Notes:

<sup>1</sup> West, Melissa Gayle. *Exploring the Labyrinth*. New York: Broadway Books, 2000.

<sup>2</sup> Houk, Rose. *Casa Grande Ruins National Monument*. Tucson: Southwest Parks & Monuments Association, 1987.

<sup>3</sup> Saward, Jeff. *Labyrinths & Mazes*. London: Gaia, 2003, p.70. The labyrinth clearly shows more weathering than graffiti scratched nearby from the early 1800's onwards, but would have been at floor level on the polished walls of the building, if scratched during the occupation phase - an unlikely position and the only such inscription anywhere on the walls.

<sup>4</sup> *Die Welt des Unerklärlichen Ausstellung*, Vienna Art Centre, 22 June - 23 September 2001.

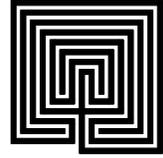
<sup>5</sup> Von Däniken, Erich. *The Gold of the Gods*. London: Souvenir Press, 1973.

<sup>6</sup> Schuster, Carl. *Social Symbolism in Ancient & Tribal Art*, Volume 3, Book 2, ed. Edmund Carpenter. New York: Rock Foundation, 1988, p.322-3.

<sup>7</sup> See "Notes & Queries", *Caerdroia* (24) 1991, p.62.

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- <sup>8</sup> Originally at [www.itzmal.com.mx](http://www.itzmal.com.mx) and [www.mayamystery.com](http://www.mayamystery.com), but both links now defunct.
- <sup>9</sup> Beckensall, Stan. *British Prehistoric Rock Art*. Stroud, England: Tempus, 1999, p.85.
- <sup>10</sup> Saward, Abegael. "The Rocky Valley Labyrinths" *Caerdroia* 32 (2001), pp.21-27.
- <sup>11</sup> Villette, Jean. "L'énigme du labyrinthe de la cathédrale" *Notre-Dame de Chartres* 58 (1984), pp.4-13.
- <sup>12</sup> James, John. *The Master Masons of Chartres*. Leura, NSW Australia: West Grinstead Publishing, 1990.
- <sup>13</sup> Schaper Donna & Carol Ann Camp. *Labyrinths from the Outside In*. Woodstock, Vermont: Skylight Paths Publishing, 2000, p.8.
- <sup>14</sup> e.g. Pennick, Nigel. *Mazes and Labyrinths*. London: Robert Hale, 1990, p.120.
- <sup>15</sup> Villette, Jean. "L'énigme du labyrinthe de la cathédrale" p.9.
- <sup>16</sup> Kern, Hermann. *Labyrinthe*. Munich: Prestel, 1982. Revised edition published in English as *Through the Labyrinth*, ed. Robert Ferré & Jeff Saward. Munich & London: Prestel, 2000.
- <sup>17</sup> Matthews, W.H. *Mazes and Labyrinths – A General Account of their History and Developments*. London: Longmans, Green & Co., 1922.
- <sup>18</sup> Pennick, Nigel. *Mazes and Labyrinths*.
- <sup>19</sup> Artress, Lauren. *Walking a Sacred Path – Rediscovering the Labyrinth as a Spiritual Tool*. New York: Riverhead Books, 1995.
- <sup>20</sup> Wallet, Emanuel. *Description d'une crypte et d'un pavé mosaïque de l'église St-Bertin à Saint-Omer*. St.Omer and Douai, 1843.
- <sup>21</sup> Measurements taken by Jeff Saward and Marty Kermeen, June 2002.
- <sup>22</sup> Matthews, W.H. *Mazes and Labyrinths – A General Account of their History and Developments*.
- <sup>23</sup> Kern, Hermann. *Labyrinthe*. Munich: Prestel, 1982.
- <sup>24</sup> Bolen, Jean Shinoda. *Crossing to Avalon*. San Francisco: Harper Collins, 1994, p.25; Walker, Barbara. *The Woman's Dictionary of Symbols & Sacred Objects*. Edison, New Jersey: Castle Books, 1988, p.215; Pepper, Elizabeth & John Wilcock. *Magical & Mystical Sites*. London: Weidenfeld and Nicolson, 1976, p.159.
- <sup>25</sup> James, John. *The Contractors of Chartres*. London: Croom Helm, 1981.
- <sup>26</sup> It would appear that this matter was first mentioned by Robert Ferré in his unpublished manuscript *A Day at Chartres*, (1995), where he credits Canon Legaux and Jean Villette for pointing out that the path is composed of 272 stones.
- <sup>27</sup> Ketley-Laporte, John & Odette. *Chartres - le labyrinthe déchiffre*. Chartres: Éditions Garnier, 1997, see p.64 with a diagram of the arrangement. This assertion is repeated uncritically by many recent authors, including Craig Wright, *The Maze and the Warrior*, Harvard University Press, 2001, p.43, and Penelope Reed Doob, *The Idea of the Labyrinth*, Cornell University Press, 1990, p131.
- <sup>28</sup> Critchlow, Keith, Jane Carroll and Llewelyn Vaughan Lee. *Chartres Maze – a model of the universe?* London: RILKO Occasional Paper No.1, 1975, p.15.
- <sup>29</sup> Ketley-Laporte, John & Odette. *Chartres – le labyrinthe déchiffre*. p.63.
- <sup>30</sup> Measured by Jeff Saward with a Suunto 360 PC clinometer, May 2001, averaged from three readings taken across the labyrinth and weighted towards the reading taken from the centre of the Labyrinth to the centre of the Rose Window.
- <sup>31</sup> Ketley-Laporte, John & Odette. *Chartres – le labyrinthe déchiffre*. See p.65, the authors shift the dates correctly, but ignore the Spring alignment.
- <sup>32</sup> Critchlow, Keith, Jane Carroll and Llewelyn Vaughan Lee. *Chartres Maze – a model of the universe?* p.9-10.
- <sup>33</sup> Artress, Lauren. *Walking a Sacred Path – Rediscovering the Labyrinth as a Spiritual Tool*. p.60.
- <sup>34</sup> Richards, E. G. *Mapping Time - The Calendar and its History*. Oxford: Oxford University Press, 1998, see pp.354-378.
- <sup>35</sup> Duncan, David Ewing. *The Calendar*. London: Fourth Estate, 1998, see pages 1-9.
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# The Labyrinth of Caserta



Anna Nilsson

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The purpose of this article is to draw attention to a little-known garden labyrinth in Caserta, near Naples in Italy, which was created in 1791 and probably destroyed sometime in the 1810's. The labyrinth represented an anomaly in contemporary garden design, as it was found in an English-style landscape garden. Garden labyrinths are a feature of the formal garden, with trimmed hedges, parterres and flowerbeds arranged in complicated patterns. The labyrinths were playful features in the formal gardens, with associations to games and love affairs.

During the second half of the 18th century the "English" or "landscape garden" came into fashion, with arranged landscape scenes, composed of hills and lawns. Since garden labyrinths and mazes were formed from trimmed hedges, they were considered improper in this setting, and therefore, when earlier formal gardens were transformed into landscape gardens, the labyrinths were often destroyed.<sup>1</sup>

Formal gardens were sometimes embellished with copies of classical sculptures. This was acceptable in English gardens, where also classicising architectural elements were frequent. Through the construction of classicising buildings, the designers of English gardens had made the antique history their own. The English landscape gardens were supposed to give the contemporary viewer an appropriate conception of his/her position in history. Hermitages and real or faked graves reminded about mortality and the perishability of everything. The surrounding landscape was presented as a pastoral landscape, directly related to contemporary British wool industry. Fake Gothic ruins reminded the observer of earlier eras of greatness. In this past was also the classical antiquity included, through copies of antique monuments.<sup>2</sup>

For the people of that time, the two types of gardens contained certain political implications. While the formal, French garden represented royal absolutism, the English landscape garden represented parliamentary reforms.<sup>3</sup> On the Continent, the English garden mainly gave rise to general associations to the Enlightenment, and several rulers established a minor English garden in connection to the formal castle park.<sup>4</sup>

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1 Kern 2000, 247.

2 Blennow 1995, 205-207.

3 Blennow 1995, 205.

4 *Vases & Volcanoes* 1996, 288.

In Italy however, with a long tradition of formal gardens, there was no great interest in landscape gardens. When Sir William Hamilton, the British envoy in Naples lost his first wife in 1782, he sought consolation in intense activities of a different kind. One of many projects was to persuade the queen, Maria Carolina, to have an English landscape garden laid in the grounds of the castle at Caserta, c.25 km NE of Naples. The queen approved and agreed to finance the construction, so Hamilton sent for an English gardener, John Andrew Graefer,<sup>5</sup> and in the autumn of 1786 work started on the extensive construction work.<sup>6</sup>

At Petit Trianon in Versailles there had been, since the 1770's, a small English garden and Maria Carolina might have felt a need to compete with her sister, Marie Antoinette. In that way Maria Carolina would also be first in Italy with such a garden.<sup>7</sup> Furthermore, she was still enthusiastic about the Enlightenment, and although in years to come the execution of Marie Antoinette, Napoleon's occupation of Italy and the violent reaction which followed the short-lived Neapolitan republic would follow, when the project started these events were still in the unforeseeable future. At the time, such a garden might be interpreted as a renewal of the friendly relations between Naples and Britain. For Hamilton it might be regarded as a personal success in his commission as ambassador.<sup>8</sup>

Two years later, though, the queen was getting tired of the garden. People were not impressed and the court preferred Maria Carolina to spend her money on them, rather than on building a garden.<sup>9</sup> Then King Ferdinand suddenly offered to pay for the project. No one had expected this,<sup>10</sup> for Ferdinand was a thoroughly uneducated person. His father, king Carlo III, had feared that the young prince was disposed to hereditary insanity and thus he deliberately avoided giving Ferdinand any kind of intellectual education.

Instead, Ferdinand was trained to ride, hunt and make acquaintances among the common people and at the age of 37, this was still his main interest.<sup>11</sup> Ferdinand wanted a garden, but he had no understanding of the aesthetic rules that governed contemporary garden design. He sought to improve Graefer's original plans and presented propositions that left Graefer bewildered. Among other things, he asked for a hedge labyrinth.<sup>12</sup> Graefer had to obey and in the winter 1790/91 a labyrinth was constructed in the garden.

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5 *Vases & Volcanoes* 1996, 17f.

6 *Vases & Volcanoes* 1996, 20.

7 *Vases & Volcanoes* 1996, 17f., Blennow 1995, 224f.

8 *Vases & Volcanoes* 1996,

9 *Vases & Volcanoes* 1996, 286.

10 *Vases & Volcanoes* 1996, 21.

11 *Vases & Volcanoes* 1996, 30.

12 *Vases & Volcanoes* 1996, 21.

There are no plans of the labyrinth preserved, but there is some information to be found about its construction, which indicates the associations it was supposed to inspire.<sup>13</sup> The king wanted a traditional hedge labyrinth for games and jokes. Hamilton and Graefer wanted a modern landscape garden, which would bring out the landscape and at the same time inspire associations with Naples great, Roman past. Through the hedge labyrinth, several undesired associations would be brought into the garden. The visitor wouldn't associate it with the great past, but to unfashionable attitudes in the present, both aesthetic and political. Hamilton summed up the problem in a letter, to the botanist Sir Joseph Banks:

*The first improvement the King of Naples is going to make in the English Garden is to make a Labyrinth, that he may have the fun of bewildering his Courtiers therein. Graefer is at loss for a plan of one, and I can only help him by showing one on an antique medal.*

We don't know whether Graefer actually used Hamilton's medal as a model for the labyrinth.<sup>14</sup> Graefer's real problem may not have been to find any model for a labyrinth, but to find a model that made the labyrinth acceptable in a landscape garden. The reason why Hamilton showed Graefer the medal was hardly because Graefer couldn't find a simple model of a labyrinth, but because Hamilton wanted to show Graefer that there had been labyrinths before the time of formal gardens and that labyrinths might give rise to associations to classical antiquity. If these associations were more intense than the associations to formal gardens, the labyrinth might have a place in an English landscape garden.

These classical associations were emphasized through the construction of the tempietto, the small temple, in the middle of the labyrinth. The tempietto was built 1791 by Carlo Vanvitello, son of the castle architect, and is a round building that consists of 6 doric marble colonnes under a domed roof.<sup>15</sup> It is possible that,

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<sup>13</sup> In the notes to Graefer, from the winter 1790/91, his search for plants to the labyrinth is mentioned. (Knight 1986, 51.) We also know that it was placed in a grove. Today there is only a glade, where 4 paths meet.

<sup>14</sup> There are no known medals or carnelians with labyrinths from classical antiquity, but engraved gems were being manufactured both during antiquity and later. During later times, they often depicted classical motifs. There are two gems with labyrinths known to us today, both made in Italy during the 16th century. Hermann Kern has published these two gems in *Through the Labyrinth* as no. 370 and no. 371. No. 370 is today at the British Museum. No. 371 is in Florence and was published 1709 by Paolo Alessandro Maffei, who presented it as antique (Kern 2000, 202.). Consequently, Hamilton might have owned no. 370, since his gem collection was acquired by the British Museum, and he may have had a picture of no. 371 in Maffei's publication. In this context, though, it doesn't matter which labyrinth Hamilton showed Graefer, since they are practically identical.

<sup>15</sup> Knight 1986, 52f. From 1785, the painter Jakob Philip Hackert was residing in Caserta, having been commissioned by the king to decorate the castle. Hackert also made several paintings and drawings that represented the progress of the English garden. One of these paintings, from the beginning of the 1790:s, depicts the tempietto. It is reproduced in front of the grove and is surrounded by hedges, which differs from the other vegetation in form and height. These hedges are possibly the new labyrinth (Knight 1986, 28.).

through the tempietto, the labyrinth became more acceptable, as part of an antiquising architectural arrangement. Graefer had thus tried to give the labyrinth a new identity, which would give rise to associations suitable in an English landscape garden.

It is doubtful whether Graefer appreciated the labyrinth, even in this version. During the years between 1799 and 1815, when the king resided in Palermo and Graefer's sons were free to decide upon the garden, the labyrinth fell into decay and was later entirely taken away. As early as 1815 Giovanni Graefer, John Graefer's son, describes the labyrinth as overgrown and on a detailed plan of the garden, from 1876, there are no traces of any labyrinth.<sup>16</sup> The tempietto though, which alone might had been a conventional element in an English garden, still stands there.

To sum up, for a short period of time, between 1791 and the 1810s there was a hedge labyrinth in one of the most lavish landscape gardens of Europe. It seems that the labyrinth could be accepted, because it possibly combined classicising architectural elements with the mistaken assumption that its form was based on the decorations of a medal from classical antiquity. Nevertheless, the labyrinth inspired disgust among the connoisseurs and they had it removed as soon as they had the possibility.

Anna Nilsson, Rome, September 2002.



*The gemstone inscribed with a labyrinth, published in 1709 by Paolo Alessandro Maffei.*

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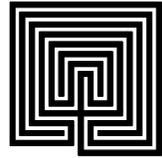
Knight, Carlo, *Il Giardino Inglese di Caserta: Un'avventura settecentesca*. Naples 1986.

Jenkons, Ian & Kim Sloan (eds). *Vases & Volcanoes: Sir William Hamilton and his Collection*. London 1996.

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<sup>16</sup> Knight 1986, 120; appendix II.

# Portuguese Mosaic Labyrinths



Carlos Soreto

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## Introduction

The labyrinth is an old symbol to be found in many places and civilizations. From prehistory to modern times, once man has learned the design, it has never stopped being depicted and trodden in human memory. Its symbolism belongs to our collective unconscious and became an archetype that people of different eras and cultures carry in folklore and costumes.

From the Iberian Peninsula to Australia it may be found in many cultural areas; for some New Age movements it is employed as a spiritual tool for personal development. Native Americans, who have a creation myth related to it, used to draw it in the sand and also to make basketry and jewellery adorned with this symbol. In Scandinavia the fishermen associated it with fish trapping and fishing magic, and the seamen of Scotland and Sweden traversed its winding paths as an apotropaic ritual before setting sail. Delians and the people of some Mediterranean isles, in memory of the crane dance instituted by Theseus on the isle of Delos, continue to dance its pattern.

In India it is a mandala for meditation. To medieval Christians it was the 'Chemin de Jérusalem,' symbolizing the path to the Holy Land, and a penitential way to be traversed on knees. The Greeks depicted it on coins, the Etruscans inscribed it on other objects of daily life and the Roman people laid it on their magnificent mosaics. From the 2<sup>nd</sup> century BC until the fall of the Western Roman Empire in 476 AD, the labyrinth design became, according to W.H. Matthews, a favourite motif. We can see throughout the Roman Empire, from Africa through Europe, beautiful representations on mosaics of this archetypal symbol.

In Portugal, part of the ancient Roman province of Lusitania, there are five mosaics on which are depicted the labyrinth, as I will describe below. Among the first four mosaic labyrinths, found at Conimbriga, it seems that two are unique examples, while the fifth example to be examined, found at the villa of Torre de Palma, near Lisbon, is not a labyrinth *stricto sensu*, but a three-dimensional representation of it – and thus related to its symbolism.

Note: the names of the labyrinths I will use here are based on the terminology employed by Paul de Saint-Hilaire in his book *L'univers secret du labyrinthe*. They neither relate to their dimensions nor follow the standard typology, but are only nomenclatures for the purpose of identifying them in this article.

## Conimbriga

Since late in the 19<sup>th</sup> century, when the first excavations took place at this archaeological site near Coimbra, many beautiful mosaics decorated with a multiplicity of figures and symbols have been discovered; among them there are four different kinds of labyrinths, as we shall see.

Although several authors have written on the labyrinths at Conimbriga, only the archaeologist Bairrão Oleiro included all four specimens in one of his works. Thus, and for the first time in the literature of the labyrinth, are the four mosaic labyrinths found in the centre of Portugal described and illustrated together.

### 1. The Large Labyrinth

The first mosaic labyrinth (Fig. 1), found *intra muros* at an unknown place, is a square measuring 3.40 x 3.10 m made almost entirely of black and white tesserae. From top to bottom we can see, on a white background, some of the current use decorative patterns of the Roman mosaicists. This labyrinth, unearthed during the excavations of 1899, belongs to the vast majority of mosaic labyrinths found throughout the Roman Empire: it is a square, whose sides measure between 3 and 4 m long and is surrounded by a two-course brick wall fortified with crenellated corner towers with T-merlons and windows and having battlements in the middle of each side (the quadrant or city labyrinth). The centre is reached only from one of the doors, which is open. At the centre, which is 24 cm wide, a half-length portrait of a man, whose head has horns, is depicted with polychrome tesserae.

Hermann Kern says of this labyrinth, that: "the path mistakenly runs from the middle of the right side directly to the lower left quadrant, thus bypassing the lower right quadrant, which is likely, attributable to an oversight of the artist." Professor Bairrão Oleiro has another point of view and says that this fault may have happened during the restoration process. Even with this 'imperfection' it is, of course, the representation of the labyrinth, and the symbolism of the fortified crenellated wall is an evident witness of the meaning of the composition.



*The large labyrinth from Conimbriga. Photo: Sílvia Regolati.*

From 1899 to 1912 this mosaic was exhibited in the ancient Museu Arqueológico do Instituto de Coimbra. Then it moved to Museu Nacional Machado de Castro (Paul de Saint-Hilaire and Adrian Fisher say erroneously that it still is there), where it hung vertically on a wall of the Roman Section until 1962, when it was moved to the Museu Monográfico de Conimbriga, the place where it can be seen today.

It seems that the function of this labyrinth was twofold: decorative and apotropaic; the Minotaur is the protagonist of the myth that mythographers have described through the centuries and modern labyrinthologists know very well (see Chapter 3 of Sig Lonegren's *Labyrinths: Ancient Myths & Modern Uses*, for the best resumed version, in five scenes, of this mythological theme). According to the archaeologist Bairrão Oleiro it dates from the middle of the 2<sup>nd</sup> century AD.

Like the next mosaic labyrinth I will analyse, this is one of the best documented and studied mosaic labyrinths found at the Roman *oppidum* in Conimbriga. Archaeologists and labyrinth researchers such as Bairrão Oleiro, Blanco Freijeiro, Wiktor Daszewski, Nigel Pennick, Saint-Hilaire and Hermann Kern have all published and/or described it in some of their works and studies.

## 2. The Small Labyrinth

This square polychrome labyrinth (Fig. 2) measuring 1.50 x 1.42 m is surrounded by a twisted rope and like most of the Roman labyrinths it consists of four quadrants arranged around the centre. There, in a square 23.5 cm wide is depicted the head of a bull, representing the Minotaur, and to reach it "the paths of the Roman labyrinth methodically filled one quarter at a time, before repeating the pattern in the next quarter and so on." (Adrian Fisher).



*The small labyrinth in the Casa dos Repuxos at Conimbriga. Photo: Delfim Ferreira*

It was found at 'Casa dos Repuxos' (The House of the Fountains) and was unearthed in 1939, the date of the first excavations of this big building. The mosaic was lifted in 1957/8 and then consolidated over three layers of concrete at the same place where it lies today – at the entrance of the peristyle of 'Casa dos Repuxos.' Beyond its decorative function it could have had an apotropaic and prophylactic meaning. It dates from the 3<sup>rd</sup> quarter of the 3<sup>rd</sup> century AD, or is maybe a little more recent.

It is no doubt the most famous of all the four labyrinths found on the mosaics at Conímbriga. A photograph of this labyrinth taken by the late Delfim Ferreira has travelled around the world on a postcard. It illustrates several books and booklets, including Gernot Candolini's *Labyrinth: ein Praxisbuch zum Malen*, Jeff Saward's *Ancient Labyrinths of the World*, and Anna Hatherly, a Portuguese scholar and Baroque literature specialist, published a book in 1995 entitled *A Casa das Musas* (The House of the Muses) – a collection of most of the texts she wrote on labyrinths in literature – with a photograph of it on the cover of the book. Beyond this its design has inspired a British hedge maze planted in 1981 at Cawdor Castle, Nairnshire, Scotland, UK, and opened to the public in 1994.

Still in the peristyle of 'Casa dos Repuxos,' on its western side and separated by a narrower mosaic with pelts and other geometric figures on a white background, lies the third mosaic labyrinth I will now examine.

### 3. The Classical Square Labyrinth

This classical seven-circuit polychrome square labyrinth (Fig. 3) with walls made of black and white tesserae measures 1.74 x 1.72 m and its path, which begins at the upper left side, is made of a guilloche ribbon (with flaws) that leads to the centre. According to labyrinth scholars and archaeological findings, it is a very uncommon type in the Roman World. The other examples were found at Salinas de Rosio in the province of Burgos, Spain, and at Les Mas Foulc, southern France, although the last one, now at Nîmes, is a 'modified' design of this type.



*The square classical labyrinth mosaic, in the Casa dos Repuxos at Conímbriga.*

*Photo: John Kraft.*

Like its neighbour, the small labyrinth, The Classical Square Labyrinth was found during the excavations of the late 1930's, lifted and consolidated in 1957/8 and can now be seen at the entrance to the peristyle of 'Casa dos Repuxos'. Its function seems to be merely decorative and it dates from the 3<sup>rd</sup> or 4<sup>th</sup> quarter of the 3<sup>rd</sup> century AD.

Like the labyrinth I have just described, the next one is also a classical seven-circuit labyrinth but with some different features, as we shall see.

#### 4. The Petaloid

This unusual example (Fig. 4) lies on a mosaic that occupies the whole area of a room (3,60 x 4,50 m), which has three doors. At the centre, surrounded by a quadrate, there is a much damaged octagon, which sides measure 90 cm, decorated with swastikas and other geometric symbols and in each of the four corners of the quadrate are depicted *kantharoi* (drinking cups), from which emerge vines. At each one of the entrances of the room there is a geometrical symbol: a trident, three concentric circles and the little labyrinth made of black tesserae on a white background – like all the other symbols there.

This classical seven-circuit circular labyrinth measuring approximately 30 cm in diameter<sup>1</sup> was found in the 1930's when 'Casa de Cantaber' was completely excavated. Because the mosaic pavements there needed to be protected, the mosaic was covered with sand until 1957, at which point it was rediscovered and published for the first time in an article on the labyrinth of Mogor, Pontevedra, Spain, by the archaeologist Blanco Freijeiro, according to the information that Prof. Bairrão Oleiro, the director of the 1957 excavations, gave him.



*The small labyrinth, only 30 cm. in diameter, in the Casa de Cantaber at Conimbriga.*

*Photo: Silvia Regolati.*

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<sup>1</sup> And not 1.4 m as stated in Kern's books and in Paul de Saint-Hilaire's *L'univers secret du labyrinthe*. Staffan Lundén in an article published 1996 in Caerdroia says, perhaps based on Prof. Oleiro's paper, that it measures c. 50 cm in diameter.

The oldest known examples of this circular type are found carved on rocks at Mogor, Galicia, Spain (c. III-II millennium BC) and Naquane (c. 750-500 BC), Val Camonica, Italy, depicted on a wine jar (the *oenochoe* from Tragliatella) dated c. 620 BC, on coins of Knossos (3<sup>rd</sup> century BC), to cite only the most famous example. As Prof. Bairrão Oleiro pointed out in his article *O Tema do Labirinto nos Mosaicos Portugueses*, published 1990 in ‘VI Coloquio Internacional Sobre Mosaico Antigo’, this labyrinth has no parallel with other known Roman mosaic labyrinths. It seems that it had, like the trident and the triple circle, an apotropaic and prophylactic function. This small and quite unique labyrinth dates probably from the end of the 2<sup>nd</sup> century AD.

### Synopsis of the labyrinths at Conimbriga

<i>Type</i>	<i>Date</i>	<i>Dimensions</i>	<i>Location</i>	<i>Notes</i>
1 City	II AD	3.40 x 3.10 m	Museu Monográfico	Thirteen-circuit square labyrinth. Discovery site unknown.
2 City	III AD	1.50 x 1.42 m	Casa dos Repuxos	Nine-circuit square labyrinth. <i>In situ</i> .
3 Classical	III AD	1.74 x 1.72 m	Casa dos Repuxos	Classical seven-circuit square labyrinth. <i>In situ</i> .
4 Classical	II AD	30 cm diameter	Casa de Cantaber	Classical seven-circuit circular labyrinth. <i>In situ</i> .

### Torre de Palma

Although it is not a (geometrical) labyrinth, as Hermann Kern pointed out, that is represented in the ‘Mosaico das Musas’ (Mosaic of the Muses), found in 1947 at Torre de Palma, Monforte do Alentejo, some kilometres away from Lisbon, it may be mentioned here. The mosaic, made of beautiful polychrome tesserae depicts a scene of the battle between Theseus and the Minotaur. We can find this scene in many of the Roman mosaic labyrinths like the square mosaic found near Salzburg and now at the Kunsthistorisches Museum in Vienna, Austria, on the mosaic from Thuburbo Maius, Tunisia, at Fribourg, Switzerland, etc.

Unlike the samples mentioned, where we see the battle between the Attic hero and the Beast at the centre of a geometrically represented labyrinth, the former offers us the symbolic representation of it in a three-dimensional form: a building with crenellated towers and merlons.

Beyond its decorative function, according to Prof. Oleiro, it could also have had an apotropaic meaning. It is dated to the 3<sup>rd</sup> century AD. The whole 'Mosaico das Musas' was restored at Museu de Conímbriga over a twenty year period, and on 12<sup>th</sup> March 2002 was transferred to its new place of exhibition – the Museu Nacional de Arqueologia, Lisbon, Portugal.

Carlos Soreto, Tocha, Portugal, November 2002.

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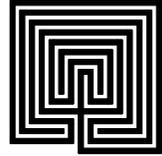
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# The Arboretum Labyrinth at JMU



Pat Kennedy, Dennis Whetzel & Ron Nelson

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James Madison University in Harrisonburg, Virginia, U.S.A., now has a labyrinth in its arboretum - thanks to the dedication and hard work of several people and to the generosity of Robert Frazier of Frazier Quarry, who donated the limestone for the job. The labyrinth is situated in a spot that was formerly dead and dying trees, cleared by Ron Brown and Dennis Whetzel. Nestled within dense forest, it is a pleasant surprise to those who chance upon it as they walk or jog along the nature trail. This article will address three aspects of JMU's arboretum labyrinth, written by those responsible for the layout of the labyrinth, its embellishment with medieval plants, shrubs, and trees, and the current and future use of the labyrinth.

## Laying Out the Labyrinth

Pat Kennedy (Dance Instructor)

A rope swings an arc across a nearly flat piece of land in the JMU arboretum. My husband, Vic, and I position and re-position the rope around the numerous trees that fall within its path. The rope is 32' long, yellow tape marks every 3' 8", except at the beginning, which measures 5' 4" before the first yellow marking appears. The larger beginning space will create an extra large centre; the other measurements are intended to preserve the 2:9 ratio found in the Chartres Cathedral labyrinth. Small orange flags on two-foot metal poles are placed into the ground where the tape marks indicate. The earth does not readily yield to the invasion of the flags: a drought has made the ground hard. After two hours, hundreds of orange flags float above the earth in a confusing pattern. It is difficult to see where the paths should be. We decide to lay down rope, using the flags as a guide - only to discover a misplacement of several rows of flags. Measured again with the rope, the misplaced flags soon find their proper locations. The pattern finally takes on the shape of a labyrinth. Walking the rope labyrinth, we tie ribbons around some trees that are too dangerous to leave, due to disease or location. These will be cut down.

All this work was preceded by numerous visits to the site to determine the exact location and position of the labyrinth. Two cottonwood trees, the only ones in the arboretum, stand tall observing us. Dennis suggests they be in the centre of the labyrinth. Everyone immediately agrees. We walk around the site, viewing the cottonwoods from various angles as we discuss placement of the opening. All agree that the entrance should not be right next to the walking path. People need to make a conscious choice to walk the labyrinth, not just stumble into it. As we continue our circular walk around the site, keeping the cottonwoods as our focal

point, we realize we have “turned our backs” to the main road that runs next to the arboretum. Although vehicles are hidden from view, traffic sounds float into our conscious minds. Viewing the cottonwoods from this perspective, we have literally turned our backs to everyday reality, the hectic and chaotic pace that often characterizes our daily existence. This will be the entrance to the labyrinth

Two months and several trips to the quarry pass before we resume our work on the labyrinth. We are surprised to see the flags still standing when we return to our labour of love. Two large piles of crushed limestone sit unceremoniously, one near the entrance of the labyrinth, the other near the walking path. A pile of 4-6" stones (riprap) rests as companions to the gravel. The task of spreading the several tons of stone seems daunting. Three wheelbarrows, four shovels, two rakes, three adolescents and several adults join forces over several weeks to meet this Herculean task. As the rope marking the circuits disappears under the gravel, small rocks replace it. Using the yellow-taped rope, we check the measurements again.

Over the course of a month we squeeze time from our everyday lives to line the paths with rocks. The original intention is to use two 4-in. rocks side by side; along with 36" paths of crushed limestone, this keeps the integrity of the 2:9 ratio. The two-rock barrier is dwarfed by the sheer size of the labyrinth, which has a diameter of 60'. Another pile of larger rocks is donated, but there is not enough for the entire labyrinth. We decide to use the large rocks to surround the centre. This pile also yields two very large rocks to mark the entrance of the labyrinth and four medium-sized stones to mark the directions, north, south, east, and west.

The use of the larger rocks provides the freedom to be generous with the four-inch stones. Instead of two stones side by side, we pile rocks on top of each other, creating a slightly bulkier barrier all around. Our rope-measuring tool is in constant use, checking and re-checking the placement of the stones. The last rocks slide into place and the labyrinth is complete. The two large boulders marking the entrance of the labyrinth are ready to welcome all who enter. There is discussion about whether to mulch the paths. We change our minds several times, finally deciding that the monochromatic grey gives the recently built labyrinth an admirably ancient look. Nature will provide the mulch as the labyrinth matures and greets each season.

With compass in hand, Vic heads to the arboretum. Summer has given way to fall, and we are preparing for the official dedication and placement of the directional stones into the labyrinth. Vic will use the compass to mark where the stones will go and move them near their locations so they can be rolled into place during the ceremony. As I search for appropriate readings for the dedication, the phone rings. Breathlessly, Vic says, “Guess where the north is?” Not waiting for a reply, he continues, “Dead centre in the entrance.” When we share this information with the other labyrinth builders, we take this as an affirmation that we made the right decision.

## Embellishing the Labyrinth

Dennis Whetzel (Director of the Arboretum)

A number of factors were taken into consideration in choosing plant material to enhance the labyrinth. First, the physical conditions of the site itself presented a challenge. The site is located within a deciduous oak-hickory forest. High shade and the lack of a supplemental water source were limiting factors, so plants likely to survive in that environment were selected. Second, with these environmental restrictions in mind, plants of ancient origin that have had significant historical, ethnobotanical, and cultural associations were chosen. Mugwort (*Artemisia vulgaris*), an ancient plant mentioned by the Roman historian, Pliny, in the first century A.D. as a comforting and soothing herb for weary travellers, has been planted, symbolically, near the entrance/exit to the labyrinth. Then there is betony (*Stachys officinalis*), an herb known to the ancient Greeks and praised by Antonius Musa, chief physician to the Roman emperor Augustus, in the third century AD, as being a panacea for at least 47 different diseases. It became endowed through the ages with powers against evil spirits.

A number of plants held sacred by the ancient Celtic druids of Britain have also been planted, including vervain (*Verbena officinalis*), used in concocting their ceremonial lustral waters, meadowsweet (*Filipendula ulmaria*), monkshood (*Aconitum napellus*), primrose (*Primula vulgaris*), and pasqueflower (*Anemone pulsatilla*). Moreover, other ancient plants such as setterwort (*Helleborus foetidus*), self-heal (*Prunella vulgaris*), lungwort (*Pulmonaria officinalis*), belladonna (*Atropa belladonna*), herb bennet (*Geum urbanum*), sowbread (*Cyclamen hederifolium*), lady's mantle (*Alchemilla vulgaris*), King's-spear (*Asphodeline lutea*), herb-of-grace (*Ruta graveolens*), and sweet woodruff (*Galium odoratum*) have been planted in the borders surrounding the labyrinth proper.

In addition, native and naturalized shrubs and trees have been incorporated, primarily for screening purposes and for providing year-round aesthetic appeal, as well as food for wildlife. A common shrub, privet (*Ligustrum vulgare*), has become naturalized in the surrounding arboretum woods. Originally from Europe, this semi-evergreen shrub provides partial screening for the labyrinth as well as black, berry-like fruit for birds.

Evergreens such as Norway spruce (*Picea abies*), eastern white pine (*Pinus strobus*), and English yew (*Taxus baccata*) add important colours and textures for winter. Other shrubs that produce berry-like fruit, such as beautyberry (*Callicarpa japonica*), aronia (*Aronia arbutifolia*) and the deciduous holly (*Ilex x verticillata* 'Sparkleberry') have been included. A special tree, the rowan (*Sorbus aucuparia*), with its clusters of bright orange-coloured pomes and long revered as a magical tree in Europe, has been planted near the entrance to the labyrinth to welcome pilgrims on their journey through the labyrinth.

## Using the Labyrinth

Ron Nelson (Professor of English)

In addition to the frequent use of the labyrinth by passers-by on the nature trail, Sunday school classes have met there, and part of the Sacred Arts Festival for the JMU community and the community at large took place there. These activities reinforce our regard for the labyrinth as a sacred space. Moreover, the JMU Animal Rights Coalition met at the labyrinth for an inspirational walk.

The chief classroom use to date has been in my sections of General Humanities (GHUM) 200: Great Works: The Labyrinth. Students read Helen Curry's *The Way of the Labyrinth*, W.H. Matthews' *Mazes and Labyrinths: Their History and Development*, essays from the special issue of *Parabola* devoted to the labyrinth (Volume 17, No. 2, Summer 1992), as well as poems, short stories, plays, and novels based on labyrinths and labyrinthine situations. They find themselves immersed in the literature. But students need first-hand experience in walking a labyrinth, so a major requirement of the course is a field trip report, in which students record their experience in walking the arboretum labyrinth. For almost all the students, it is their first walk through a labyrinth. I try to reinforce the readings, especially from Curry, in suggesting that there is no one right way to walk a labyrinth, that a person should go at one's own pace, and that one should not expect miracles but may well expect subtle change to occur.

When they arrive at the labyrinth, many of the students react as I did in my initial labyrinth walk: they wonder what they are doing there. After the momentary confusion, they seem to realize that they have a project to do and so proceed with business. Many students report that they find their walking pace slows as they proceed, one of the results of the turns from circuit to circuit. They spend varying amounts of time in the centre, depending on what they have on their minds. Often the students find that the way out goes quicker than the way into the centre.

Students frequently take roommates or friends with them--a practice that seems to relieve the pressure for them. Although sometimes the other persons are distractions, they often ease matters. And the walk becomes, in a way, a bonding activity. If the walk is not as successful as it might have been, the students know that they can go back later to walk it again. I encourage students also to walk a second labyrinth in town (to the rear of Pat Kennedy's house) or to walk a maze for the purpose of comparison-contrast. This exercise broadens their perspectives by increasing their awareness of the differences between labyrinths or the differences between labyrinths and mazes.

I have been called upon to lecture on labyrinths in other classes, like graduate courses in psychology, and to deliver lunch-hour talks on campus. Newspaper articles have appeared in local papers, and the word is getting out that a labyrinth is available for all to use. Although it is technically a work-in-progress--we will soon be putting in benches and identifying, directional, and instructional signs--the

labyrinth itself invites the JMU community, the local community, and other pilgrims to derive benefits from it and will continue to do so, I suspect, long into perpetuity.

Over the coming months, I will explore with others how the potential of the arboretum labyrinth might be actualised in classroom and real-world situations. For example, psychology students might benefit from the introspection that the labyrinth nurtures. Conflict resolution exercises might be developed for psychology and human resources students. Mathematics students might find great pleasure in learning about the sacred geometry that informs the labyrinth at Chartres Cathedral and to an extent at the arboretum labyrinth. Health science students might explore the healing value of labyrinths as already found in various hospitals. Students of criminology might delve into the already discovered value of labyrinths in prisons. Art and design students might delight in the aesthetic qualities of our labyrinth and others, comparing and contrasting their beauties. Students of history and cultural diversity might find fascinating the labyrinths through the ages and cultures. Childhood education students could expose young people to the pleasures and mysteries of labyrinths and mazes, giving some important early experience to them. And people concerned with local matters and problems might seek answers, using the calming, reassuring qualities that they are likely to find in walking the arboretum labyrinth.

Finally, we feel fortunate to have been given the opportunity to work together in constructing a lovely labyrinth in the arboretum. I would be remiss if I failed to mention that, on a day with the sun shining through the leaves of the tall trees, dappling the sacred ground with its radiance, there are few sights in this often chaotic world so refreshingly beautiful. We trust that others over the years will discover the satisfactions that we have been lucky enough to experience and so become linked with those through the ages who have found gratification as a result of aligning themselves with this ancient instrument.

Pat Kennedy,  
Dennis Whetzel  
& Ron Nelson,  
JMU, Harrisonburg,  
Virginia, USA,  
November 2002.

*The newly completed  
labyrinth at JMU,  
Harrisonburg,  
Virginia.*

*Photo: Ron Nelson.*

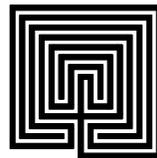


# Architectural Labyrinths

## Contemplative Structures for the 21<sup>st</sup> Century

Dennis Marshall

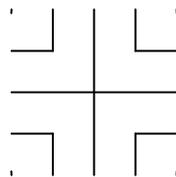
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When a friend of mine interested me in labyrinths, I began to investigate the various aspects of them with varied results. I early came to the conclusion that the more esoteric claims for labyrinths are essentially a personal decision for most to make for themselves and thereby freed myself to not consider any of them, deciding to claim all labyrinths as, at the very least, contemplative paths.

As regards the geometric generation of labyrinths, little other than anecdotal directions seem to be available. Having worked with geometric constructions in courses I teach at Purdue's Architectural Engineering Technology in Fort Wayne, Indiana, I turned known techniques to the seven-stage Cretan labyrinth.

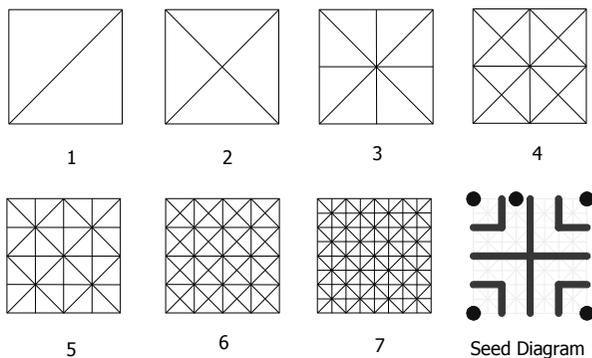
The original seed pattern as it is usually described for the seven-stage labyrinth seemed to be missing parts that would explain its generation process. The traditional seed pattern implies a 16 square grid, four by four as shown in Figure 1.



*Figure 1: Traditional Seed Pattern*

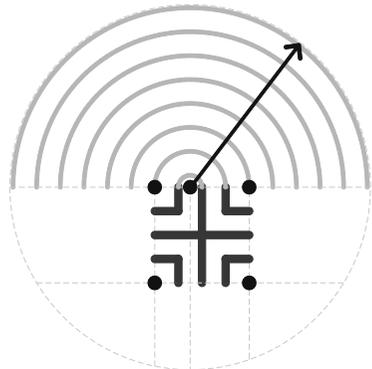
This grid however does not account for the centre point of what is typically the first connection or movement of the seven-stage's generation process. What gave me a clue to this point was a remembered article by Brunel (1) about the origins of the 8x8 64 square chessboard. His suggestion was that a square that is divided seven times identifies the subdivision of the eight by eight square. The process is shown in figure 2.

*Figure 2:  
Seven Divisions  
of the Square*



This arrangement allows a different approach to generating a seven-stage labyrinth. The new generation process starts by using what are typically called dots in the seed diagram. The dots actually are the centre points of several groups of arcs that comprise the labyrinth.

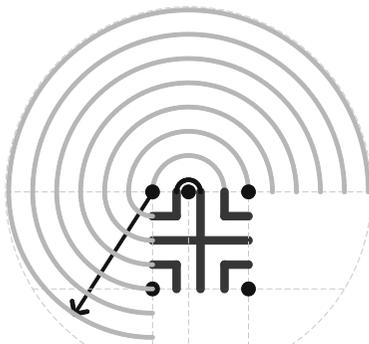
The process begins with drawing a series of seven concentric arcs around the offset centre point at the top of the seed diagram as shown in Figure 3. All of the arcs cover an entire 180 degrees at the upper part of the labyrinth. The seed diagram has the offset centre point on the left or the right depending on whether the labyrinth begins with a clockwise or counter clockwise circuit.



Stage One

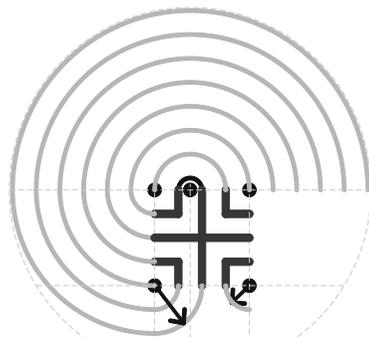
*Figure 3: Eight Upper Arcs*

The second stage, going in a counter-clockwise direction, is another series of eight arcs centred on the upper left centre point and covers 90 degrees as shown in Figure 4a. The third stage uses the lower left and lower right centre points for generating the next set of arcs in this as seen in Figure 4b.



Stage Two

*Figure 4a: Second Set of Arcs*

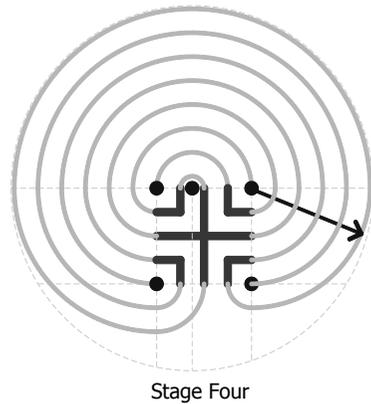


Stage Three

*Figure 4b: Lower Centre Point Arcs*

The last of the steps in this process uses the upper right centre point to close the labyrinth as seen in Figure 5. This is the conclusion of the process proposed for generating the Seven-Stage Cretan Labyrinth. Another process is used in the Eleven Stage Chartres Labyrinth and is described in Appendix A.

*Figure 5: The Completed Labyrinth*

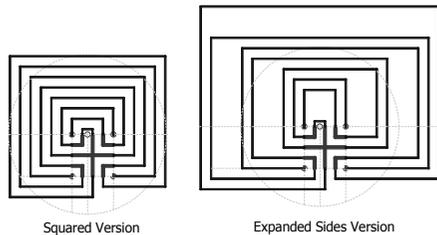


### Architectural Interpretations

Now that it has been established how the labyrinths are geometrically generated, I would like to present two different architectural interpretations of the seven-stage labyrinth and one example of the eleven-stage labyrinth.

#### Example One

The first example is of a squared seven-stage labyrinth. It begins with a two-dimensional adjustment of the labyrinth as shown in Figure 6.



*Figure 6: Expanded Sides*

Proceeding with this new two-dimensional path, it is assumed that each change of direction or oscillation of the labyrinth results in a vertical change of the path sufficient for a person to walk underneath. In the model displayed in Figure 7, the labyrinth's centre is raised up creating a reflecting pool beneath that can be looked down upon from the upper middle section of the labyrinth. Furthermore, when the labyrinth works its way upwards to the middle a corresponding pathway continues from the end of the inward path to proceed back down and outwards to the entry point. The model displayed demonstrates some of the spatial complexity possible with this version of the Cretan seven-stage labyrinth.



*Figure 7: Squared Cretan Version*

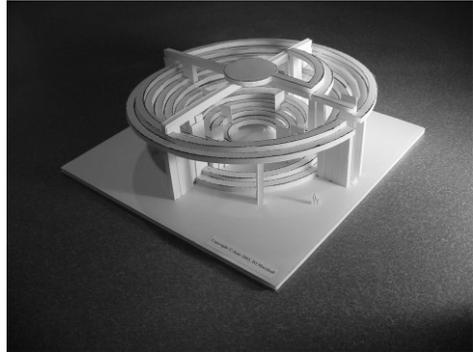
## Example Two

The second interpretation of traditional two-dimensional labyrinths is based on the two-dimensional eleven-stage Chartres labyrinth as shown in Figure 8.



*Figure 8: Eleven Stage Labyrinth*

The guidelines for the architectural interpretation of an eleven-stage labyrinth are similar to those of the seven-stage. As the pathway serpentine throughout, it increases in height with each change in direction and results in a stadium-like structure as shown in Figure 9 below.

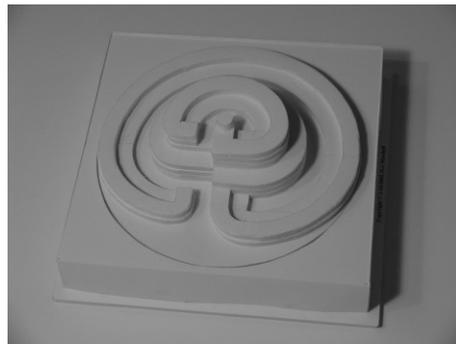


*Figure 9:  
A three-dimensional Chartres*

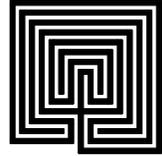
## Example Three

This third example is also of the seven-stage variety except this version is based on the traditional rounded version. Like the previous examples, the labyrinth increases in height as it winds its way to the centre. Unlike the other two examples, this labyrinth not only increases in height as it spirals upwards, it has an entrance to an underground labyrinth that is accessible just inside the main entrance and spirals downwards as it approaches the labyrinth centre. A long circular passageway leads to the underground vault which opens up to a domed space with a column screen as indicated in Figure 10.

*Figure 10: Above Ground Level*



D.J. Marshall, AIA, Assistant Professor, Purdue Architectural Engineering Technology, IPFW Campus, Fort Wayne, Indiana.



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*A bumper crop of new titles for the Labyrinth Library since we last reviewed the latest labyrinth literature. Review copies of maze and labyrinth related books and publications are always welcome for inclusion in future editions of Caerdroia.*

**Alle Tiders Labyrinter** : by Jørgen Thordrup. Dixit: Silkeborg, Denmark, 2002. ISBN 87-87643-97-9. Paperback, 176 pages, Danish-language, fully illustrated with colour photographs and line illustration. DK Kr190 (approx UK £16, €26.)

As one of the pioneers of the current study of mazes and labyrinths, Jørgen Thordrup has been researching since the early 1970's and will be familiar to many readers as a contributor to *Caerdroia* on numerous occasions and as 'our man in Denmark' for many years. Less well known will be his involvement in staging a number of exhibitions and his work building labyrinths in schools and parks across Scandinavia. Despite writing numerous articles on labyrinths over the years, this is, perhaps surprisingly, his first book and was produced to accompany Thordrup's latest exhibition of labyrinth related art and artefacts, staged in Silkeborg, Denmark, in October 2002 (see *Caerdroia* 34 for further details). As well as featuring photographs of many of the labyrinths that the author has built in Denmark over the years, this book draws extensively on Thordrup's 30 years of labyrinth research. With excellent photographs and plans throughout, this is without doubt, the most comprehensive survey of mazes and labyrinths in Denmark ever published, and also has a good overview of labyrinths throughout Scandinavia, turf and cathedral labyrinths elsewhere in Europe and the history of labyrinths in general. This is a valuable addition to the labyrinth library for the wealth of information and archival material it contains.

Jeff Saward

**Arte Rupestre No Sur Da Ría De Vigo** : by Fernando Javier Costas Goberna, José Manuel Hidalgo Cuñarro & Antonio de la Peña Santos. Instituto De Estudios Vigüeses: Vigo, Spain, 1999. ISBN 84-89599-13-0. Hardback, 204 pages, colour plates and numerous b+w line illustrations. No price given.

The prehistoric rock art, or petroglyphs, scattered along the Galician coastline of north-western Spain may not be as well known as the examples from Scotland, Ireland, Brittany or the Italian Alps, but it will be familiar to many readers as the location of a handful of labyrinth petroglyphs clustered around Pontevedra. In recent years, the local archaeologists who comprise the authors of this work, have discovered several new labyrinth petroglyphs in this region, especially around the area of Vigo, south of Pontevedra, and it is the rock art of this area that is presented in this book. Principally written in Spanish, the book also contains text and caption translations in Portuguese and English, thus ensuring that this important work will be understood in wider circles and includes some beautiful colour plates of the most interesting carved rock art panels in their region. Although published several years ago, it definitely deserves mention in the pages of *Caerdroia* for the wealth of information on prehistoric rock art, including the labyrinths, around Vigo, and more importantly for the startling conclusions concerning the age of the labyrinth petroglyphs in the northwest of the Iberian peninsular. It is clear that the tradition of decorating rock

panels with petroglyphs in this region can be dated to the late Neolithic, the second half of the 3<sup>rd</sup> millennium BCE, and ends abruptly during the beginning of the Bronze Age, probably the first few centuries of the 2<sup>nd</sup> millennium BCE. While always difficult to fit into any chronology, the labyrinths in this area are often associated with depictions of deer and hunting scenes, ritual activities inscribed on rocks that are somewhat hidden away from public gaze. The panels depicting weapons and items of an obviously early Bronze Age ancestry, are situated differently in the landscape, as if designed for show, and clearly represent a final phase of activity. While the authors are understandably cautious about ascribing absolute dates, they do suggest that the Galician labyrinths should be viewed as the earliest examples currently known, although whether this represents a point of origin is more debatable. Similarly, the long overdue revision of the dating of certain elements of the rock art tradition at Val Camonica in the Italian Alps, will also provide some surprises in the future. Either way, the dating of these labyrinths in Galicia, however tentative, certainly suggests that the search for the earliest examples of the labyrinth, and possibly the origins of the symbol itself, are to be found amongst the Neolithic rock art traditions of Europe.

Jeff Saward

**Das Labyrinth: oder Die Kunst zu Wandeln** : by Ilse M. Seifried. Haymon Verlag: Innsbruck, Austria, 2002. ISBN 3-85218-400-2. Hardback, 208 pages, numerous colour photographs & b+w illustrations. €34 (approx UK £22, USA \$35)

Ilse Seifried has long been active in the labyrinth field in her native Austria, and staged the excellent *Das Labyrinth* exhibition in St.Pölten in 1999, which resulted in the 'rediscovery' of the important labyrinth-decorated bowl from Tell Rifa'at, Syria. Ilse's work with fellow artists and labyrinth enthusiasts has now produced this beautifully illustrated German-language study of the current labyrinth revival, with contributions from a number of the leading labyrinth workers from Germany, Austria, Switzerland and Denmark, as well as Robert Ferré from America and photography from your editor. Highly recommended as a beautiful visual record of the more artistic side of the current labyrinth phenomenon, even if German is not your first language.

Jeff Saward

**Labyrinths: Ancient Myths & Modern Uses** : by Sig Lonegren. New revised edition published by Sterling Publishing: New York, 2001. ISBN 0-8069-7407-9. Paperback, 160 pages, numerous b+w illustrations. USA \$12.95, Canada \$18.95.

First published in 1991, Sig Lonegren's introduction to labyrinths has taught a generation how to draw labyrinths and provided inspiration for potential uses for these 'magical tools' as Sig likes to term them, throughout the 1990's. However, the original edition has long been out of print, so a new revised and updated edition is a timely addition to the labyrinth library alongside the current crop of labyrinth books. None of the charm of the original edition has been lost with this new printing, and Sig has added several new sections to the text and updated the bibliography and resources to include the websites that are now such an important resource for newcomers. If you never managed to get a copy of the original edition, buy this one; even if you have the original, add the new edition to your library!

Jeff Saward

**Magical Paths: Labyrinths & Mazes in the 21st Century** : by Jeff Saward. Mitchell Beazley: London. 2002. ISBN 1-840000-573-4. Hardback 176 pages, 120+ colour photographs. UK £25, US \$35, Canada \$60.

This is the latest book by Jeff Saward, the world's leading authority on these ancient devices. While Jeff is known for his emphasis on labyrinths, this coffee table sized book is as much about mazes as it is about the single-path magical tools that have been the focus of his attention for much of the last thirty years. The breath-taking colour photography alone is worth the price of this book that covers these amazing tools from the earliest known examples in the Eastern Mediterranean and Syria, and the world's most famous labyrinth at Chartres Cathedral, to new hedge mazes in Australia, and examples of the work of California earth mover, Alex Champion. It also includes some of Jeff's recent findings above the Arctic Circle. He has restored Wayland's House, a labyrinth on the west coast of Iceland, and photographed classical labyrinths in the White Sea in northern Russia that are accessible only in the short summer. If you have a friend who is new to these ancient tools, this is the best introduction that I have seen so far. It will also be of great interest to those of you who have been involved with labyrinths for a while - lots of new material and great photographs! It clearly illustrates the depth of popularity these magical tools and mazes have experienced in the last twenty years.

Sig Lonegren

**The Labyrinth and the Enneagram: Circling into Prayer** : by Jill Kimberly Hartwell Geoffrion and Elizabeth Catherine Nagel. The Pilgrim Press: Cleveland Ohio, 2001. ISBN 0-8298-1450-7. Paperback, 116 pages with diagrams. US \$15.

The third volume in the series, this book is another succinct invitation to self-exploration in the context of labyrinth walking. Co-authored with Elizabeth Nagel, this one partners the archetypal symbol of the labyrinth - employing the design of the labyrinth from Chartres Cathedral in this case - with the Enneagram, an ancient template for understanding personality. Inspirational suggestions to help the spiritual seeker along the path to deeper understanding of the journey are coupled with exercises and space for taking notes and journaling your experiences. Suitable for newcomers to either the labyrinth or the enneagram, it also offers fresh food for thought to those already familiar with either tool.

Kimberly Lowelle Saward

**Labyrinth and the Song of Songs** : by Jill Kimberly Hartwell Geoffrion. The Pilgrim Press: Cleveland Ohio, 2003. ISBN 0-8298-1539-2. Paperback, 99 pages. US \$12.

This fourth book in her labyrinth series is intended for the experienced labyrinth walker who is using the labyrinth as a spiritual tool. The entire Song of Songs, from Hebrew scripture, is included and interwoven with the author's original poetry on labyrinth themes. Described as a dialogue in three voices; those of the Lover, Beloved and Friends, this book is intended to lead readers into both the heart of the Biblical love story and into their own soul. It concludes with an original hymn by the author. This book will support and inspire personal introspection and reflection and would also be a useful resource for facilitating labyrinth walks in liturgical settings and for individual retreats.

Kimberly Lowelle Saward

**The Genesis and Geometry of the Labyrinth** : by Patrick Conty. Inner Traditions: Rochester, Vermont, 2002. ISBN 0-89281-922-7. Paperback, 296 pages, numerous b+w illustrations. USA \$29.95.

Subtitled “Architecture, Hidden Language, Myths and Rituals” and, according to the back-cover blurb, “Illustrated with a multitude of labyrinths throughout human history” you might expect this chunky large-format paperback to reveal everything you ever needed to know about the origins and mathematics of labyrinths. If you were to buy this book sight unseen you will certainly discover that you are getting less, but in other ways much more, than you were bargaining for! Written as a series of 39 short essays, often, but not always, interconnected, the author actually has very little to say about the origins or history of labyrinths, although his theory that they first developed as a puzzle of knotted string - as a kind of cats-cradle game - while interesting, is difficult to tally with the historical evidence. However, this leads the author on to some fascinating discussion of labyrinthine forms in Indian *Kolam* patterns, Malekulan sand tracings and similar knotted patterns in textiles, on Cretan seal stones and as architectural decoration and philosophical symbol in Western, Islamic and Oriental traditions. Similar labyrinthine threads run back and forth throughout the book, although sometimes the labyrinth proper only makes the most fleeting of appearances in certain chapters.

Conty is an artist, and sees many correspondences between similar patterns and symbols, however far apart they may occur in place or time, and clearly favours the view of the labyrinth as a recurring archetype. With much of the author’s discussion coming from a very philosophical direction, this book reminded me of Jacques Attali’s *The Labyrinth in Culture and Society*, published several years ago, and indeed both authors hail from France. Despite the claim on the back cover, only a handful of historical labyrinths are illustrated within the pages of Conty’s book, and several of these are misidentified, but with few actual labyrinth locations discussed in the text, he does not fall into the trap of basing his theories on flawed information, a fault that often hinders Attali’s conclusions. All in all then, this is a fascinating book, full of interesting information and ideas, even if the title and publisher’s description might seem positively misleading at first glance.

Jeff Saward

**Children and the Labyrinth: Liturgical and Non-Liturgical Uses** : by Christine Kallstrom. 112 pages, ring-bound. Available from the author: 809 E. Coral Way, Grand Prairie, Texas 75051, USA or visit: [www.treetopsintheforest.org](http://www.treetopsintheforest.org) - for current availability.

A useful self-published book of original songs, stories, and detailed activities for use with children in a variety of labyrinth settings and circumstances, many of the songs are set to familiar tunes and will be easy for children to learn. Drawing from her considerable experience with groups of children, Kallstrom points out pitfalls to watch out for, and gives clues for recognizing and taking advantage of potential teaching moments. Drawing principally on Biblical stories and religious festivals, the ideas are broad enough to be adapted into non-liturgical settings, as the book was specifically written for use in Waldorf schools. With musical scores and curriculum models, the detailed suggestions contained within this book will prove an invaluable resource for children’s school and church groups with access to a labyrinth.

Kimberly Lowelle Saward

**The Magic of Labyrinths: Following Your Path, Finding Your Centre** : by Liz Simpson. Element (HarperCollins): London, 2002. ISBN 0-00-712047-8. Hardback, 176 pages, monochrome illustration. UK £14.99, USA \$22.95, Canada \$29.95.

Small and on the face of it, nicely produced, the strong point of this book is the inclusion of a number of inspiring personal stories from individuals whose lives have been deeply affected by the labyrinth. If this book were comprised entirely of this material, it would be easy to recommend, for the insight that these interviews provide into the current popularity of labyrinths. However, it has unfortunately fallen prey to the problems that too often appear in books combining anecdotal material with factual information. The weaving of psychological material such as the hero's journey, ritual, and pilgrimage with personal stories actually felt more maze-like than magical, with the relationship of the stories to the concepts left vague and confusing. Much of the historical information in the book is taken uncritically from diverse sources, with no effort made to edit from either a factual or a common sense perspective, resulting in an unreliable commentary riddled with error and obvious contradiction. In addition, rough editing of the text has left fragmented sentences and difficult grammar, making for uncomfortable reading. An even bigger problem is the use of a number of inaccurate and misleading illustrations of historic labyrinths, and other graphics used without permission or any attribution, a problem that the publisher has not, as yet, adequately addressed. It is a shame when an author's well-meaning work is let down in this way, through a lack of adequate editing and poorly presented illustration.

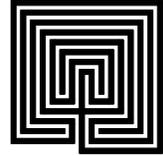
Jeff & Kimberly Saward

**Labyrinths for Kids & Let's Have A Labyrinth Party** : both by Lani Rossetta. Published by Leihuna Enterprises, 5205 Dobrot Way, Central Point, Oregon 97502, USA (e-mail: leihuna@cdsnet.net for availability). ISBN's 0-9709866-0-2 & 0-9709866-6-1, 101/173 fully illustrated pages. Both titles \$19.95 each.

Sub-titled: Exploring the Construction and Use of Labyrinths as a Tool for Increasing Fine Motor, Visual, Perceptual, and Gross Motor Skills in the Classroom for Occupational and Physical Therapists in the School Setting. - **Labyrinths for Kids** is a useful resource for anyone wishing to introduce children to the labyrinth. It presents good ideas in language appropriate for educational professionals, but is well within the scope of parents and community volunteers. A short history of labyrinths is given, along with directions for drawing and constructing labyrinths of all sizes using a variety of materials. Clear instructions are given for a number of exercises using the classical labyrinth. There is also a splendid appendix of children's samples included, which demonstrate some of the wonderfully diverse designs created by the author's classes. Not only will this book be useful to those working with children directly it is also a boon to anyone making formal presentations for the installation of labyrinths in schools or community settings. **Let's Have A Labyrinth Party** is intended for small groups and gatherings and is ideal family, neighbourhood, or preschool use. With many ideas for building labyrinths in outdoor settings, it is also filled with ideas for informal games as well as organized party activities. Perhaps this book is best suited for jump-starting one's own imagination for the creation of personalized labyrinth fun, but both books will surely prove invaluable for those that are looking for labyrinthine ideas to use with children. Great fun and instructive tool!

Kimberly Lowelle Saward

# New Labyrinths in Estonia



Urmas Selirand

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The labyrinth tradition in Estonia is connected with Swedish settlers, the Rannarootslased, who inhabited the coastal regions and off-shore islands of Estonia from the time of the Vikings until World War Two. Today we still have original old stone labyrinths on islands along the Estonian northern coast and some on the island of Hiiumaa (Dagö) off the west coast of Estonia. There are also some notes in literature and spoken tradition about more labyrinths, but mostly they are gone in the wind.

The *Hiiumaa Kuninglik Karskete Õlutinautlejate Selts* (Hiiumaa's Royal Club Of Sober Beer Drinkers) – also known as *Odratolgus Labyrindis* (Beer-fools in the Labyrinth) – was founded in 1997 on the island of Hiiumaa and one of the rules of the club is to build at least one labyrinth a year when we meet. We are quite an anarchistic club, so some years we manage to build more than one, some years no labyrinth at all, but to date we have succeeded in building eight new labyrinths: two in 1997 at Tahkuna and Kassari, two in 1998 at Kõpu and Suursadam, one in 1999 at Ristna, two in 2000 at Kärddla and the Mihkli Museum and one in 2002 on the Kõpu peninsula in Mägipe.

Our first labyrinth, built on Hiiumaa's northernmost peninsula at Tahkuna, was of the classical pattern and 8 metres in diameter. It was built as a copy of the original old labyrinth on the Kootsaare peninsula, but Tahkuna is very popular with tourists and they have added to the original labyrinth each summer, adding more and more stones and circuits. In this way it has become little more than a large stone spiral and we decided to let it stay so. Now we are planning to build another one nearby, and watch what will happen with this one. For the Hiiumaa Museum Xmas event in 1997 we built a labyrinth of limestone (usually we use granite boulders) at Kassari, but unfortunately it becomes overgrown with grass in summer, but it still exists.

We have an ancient tradition of the “Night of Bonfires” in Scandinavia and the Baltic states, which has been revived in recent years, and we have built two labyrinths in connection with that festival: one on Hiiumaa's northern coast near Suursadam in 1998, another on the Ristna peninsula on Hiiumaa's western shore in 1999. The first was built to be the world's largest stone labyrinth, it has 54 circles and a diameter of almost 100 meters. The path is 2,5 kilometres long! The same year, 1998, we built another classical labyrinth on midsummer night on the Kõpu peninsula. In 2000, Mati Lepna (also known as Mattias I), one of our founder members and the designer of our labyrinths, built one at his home in Kärddla. The

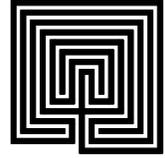
construction of another at the Mihkli Museum for their Xmas 2000 event was a special occasion. Visitors had a rare opportunity to watch real gnomes building a magical stone labyrinth from large granite stones. It has two entrances, allowing one to enter from the chosen entrance and exit from the other. Our most recent example was built in 2002 on the Kõpu peninsula, near the former village of Mägipe. It is built almost directly on the seashore and is not yet completed. All of our labyrinths, except Suursadam, are built of stones gathered on the site of their construction. At Suursadam we had to bring stones to the site, as there is only limestone at that place, although we used this too. Our labyrinths are mostly of the classical pattern, with 7 to 12 circuits, except those at Ristna, Mihkli and Suursadam, and diameters ranging from 8-15 metres.



*Stone labyrinths at Hiessaare, Estonia, constructed in 1996. Author's photo.*

There are more new labyrinths on Hiiumaa, built by people other than our club. There are 2 or 3 on the Hiessaare peninsula, built by the Hiiumaa guides camp in 1996. In 1999, beside the road from Puski to Kõpu, I found a freshly built small labyrinth of peculiar form, possibly built the previous year. There is also a magical labyrinth on the island of Vormsi, built during the 1990's by Enn, the local "sorcerer." The labyrinth tradition is still living in Estonia, especially on the island of Hiiumaa, where the labyrinths are becoming a tourist attraction, as well as an education for the visitors.

Urmas Selirand, Director of Hiiumaa Museum, Estonia, April 2003.  
aka King Urmas I of the *Odratoligus Labyrinthis*.



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*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 contributions of two of Scandinavia's leading labyrinth artists.*

## Søren Hede

Søren Hede, who died on April 4, 2003, at the age of 67, may have been little known outside of his native Denmark, but his output of labyrinth related artwork was truly prodigious. For 37 years a teacher and lecturer in art theory and practice in schools and universities in Denmark, his fascination with the labyrinth stretched back to the 1960's. An avid collector of labyrinth books, artefacts and trinkets, over the years he produced hundreds of pieces of labyrinth art, many in his distinctive style of collage, formed from old postage stamps, scenes clipped from prints of famous paintings, even pictures of other labyrinths. In recent years his work has featured at many of the labyrinth art exhibitions in Scandinavia, at the Das Labyrinth event in St. Pölten, Austria, in 1999 and most recently at the Alle Tiders Labyrinter event in Silkeborg, Denmark. A fascinating character, always willing to share his enthusiasm and knowledge, and a regular contributor of information and clippings to Caerdroia, his contribution to the labyrinth scene will be missed not only by his colleagues in Denmark, but further afield as well.

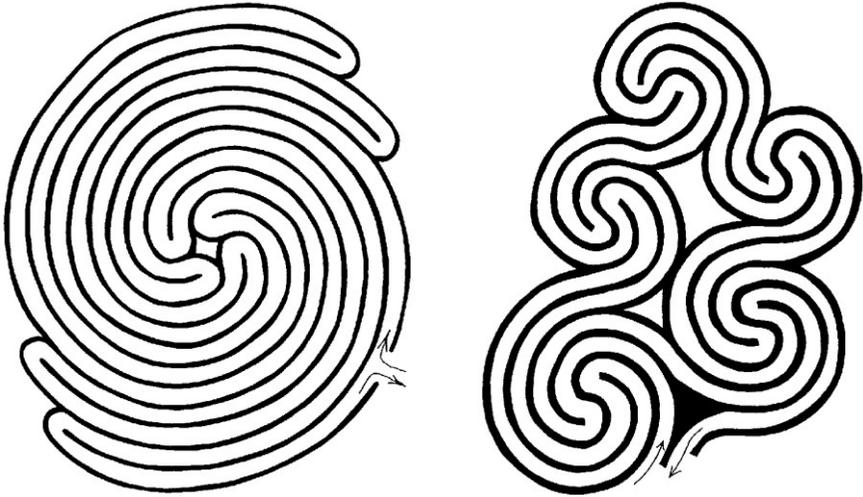
Jeff Saward & Jørgen Thordrup.

*Collage-Labyrint by Søren Hede, 2000.*



## Oscar Reutersvärd

Oscar Reutersvärd (1915-2002) died on the 6th of February 2002. Many may remember him as professor of art at the university of Lund in Sweden from 1964 to 1981. But most people know him as the artist who created the "impossible figures", confusing and in fact impossible, non-Euclidean geometric designs, which challenged the eye and mind of the spectator. Oscar Reutersvärd was well known as a painter, sculptor, critic and university teacher of art, but for me he was above all a labyrinth enthusiast, one of the oldest in Sweden, and one who was introduced to this subject long before people like me were even born.



*Labyrinth designs by Oscar Reutersvärd*

It all started in America. Oscar's father left Sweden to study at Harvard to become a dentist. He probably liked the new country, because he stayed in the USA for 18 years. In the USA he met several Swedish immigrants who had brought with them the idea of labyrinths (Trojeborgar) from Sweden, the same traditions which Oscar's father remembered from his own childhood in Sweden. These new Americans remembered how to design labyrinths and they used them for ritual purposes. In the USA!

After his return to Sweden, Oscar's father and some other Swedish-Americans persuaded the Nordic Museum (Nordiska Museet) to build a large stone labyrinth at the Skansen open-air museum in Stockholm, a copy of the well-known stone labyrinth at Visby on Gotland. It is still there. This was the reason why Oscar in 1921, at the age of six, was the first to run through the newly built labyrinth at Skansen. He has recently described in an article how the men working on the labyrinth suddenly shouted that it was completed. They asked him to be the first to test it. Later, in the years 1934-36, Oscar built three stone labyrinths of a somewhat modified angle type in the archipelago east of Stockholm. He has left sketches of them.

When Oscar was doing his service in the army in 1936, he had a lot of spare time and used much of it to draw intricate labyrinth designs. Altogether he designed 99 figures. On his last day in the army, on New Years Eve, he tried to draw another one to reach the more even sum of 100, but he could not make it, and later he had no time to proceed with this work. Two years later all the 99 labyrinth drawings were stolen and disappeared forever. That could have been the end of it. But 60 years later Oscar decided to recreate his lost labyrinths. Step by step he managed to remember and reconstruct the designs.

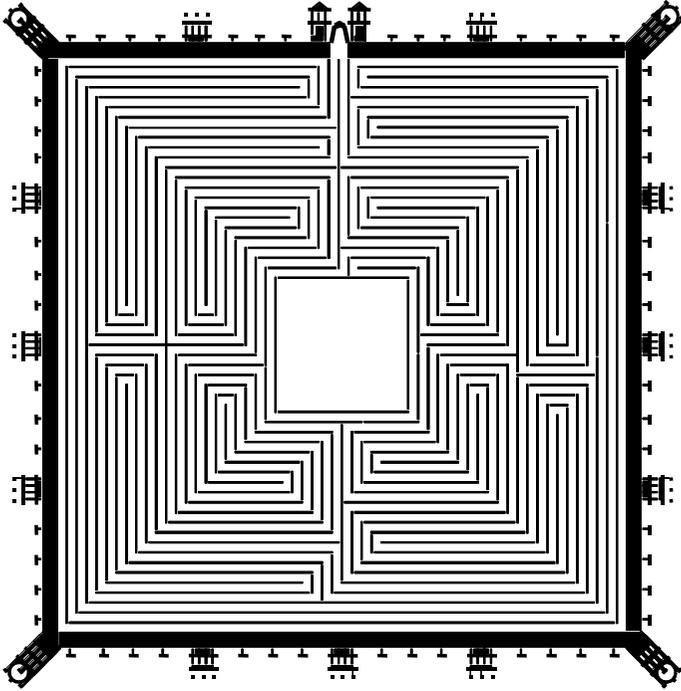
He made new drawings of all of them. They were shown at an exhibition at Skövde in Sweden in 1998. Oscar also designed a few labyrinths that were built in Sweden. A labyrinth made of concrete walls was built at a school in his own town Lund in 1968. Unfortunately it had to be destroyed after some years. A hedge labyrinth was planted in the city park at Lund in 1996. Another hedge labyrinth was planted at Borås in 1998. Oscar's last hedge labyrinth, at Skövde, was completed in May 2001.

In a letter from Oscar Reutersvärd to the Danish labyrinth researcher Jørgen Thordrup in February 2000, he recalls what he has heard from his father's time in the USA. During the years 1898-1905 Oscar's father travelled together with his uncle, the medical doctor Richard Hogner, to the central parts of the USA. There he discovered that immigrants from Sweden and Finland had built boulder labyrinths and also practised the ritual of walking in them before important journeys or other enterprises, believing that walking the labyrinth would bring luck.

Oscar's father saw that almost all of the labyrinths were of the same design as he remembered from his childhood in Småland (a province in southern Sweden). But at two places, in the areas where there were many Swedish immigrants, they had built boulder labyrinths of a somewhat different design. These were simplified "Trojaborgar" (Troy Towns) constructed from a central cross and four dots (stones). The immigrants called these labyrinths "Trollborgar" or "Västerbottensborgar" (Västerbotten is a province in northern Sweden). Oscar's father also discovered that there were different ways of building labyrinths among the immigrants. One was called the Swedish manner and was above all used among the Swedes. It resulted in a figure of stones with 8 or 12 walls. The other was the Finnish manner, which resulted in figures with half the number of walls. Jørgen Thordrup has kindly given me permission to read and use Oscar's unpublished letter for this note.

John Kraft, Vasteras, Sweden, March 2002.

**Editor's Note:** The existence of stone labyrinths in the USA in the areas settled during the late 19<sup>th</sup> century by Swedish and Finnish immigrants has not previously been documented. Clearly there exists the possibility that early photographs of some of these labyrinths may still exist in regional historical archives or family photograph albums. Our readers in the American Midwest, especially the states of Minnesota and Wisconsin, may care to follow up on this potentially exciting new discovery. John Kraft, Jørgen Thordrup and your editors would be keen to hear of your findings.



# CAERDROIA

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