The Babylonian Labyrinths

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Abstract: Labyrinthine patterns on three Old Babylonian tablets, ca. 2000–1600 BCE, are now probably the oldest confidently datable "labyrinths." Two of the tablets display sophisticated maze-like patterns, and a third displays a collection of much simpler ones – two different but related paradigms that do not accord precisely with modern notions of either multicursal mazes or unicursal labyrinths.

The earliest unicursal labyrinth that we can date securely comes from the Mycenaean palace of Pylos in the south-western Peloponnese in Greece. This square version of the Classical labyrinth (Kern 103–104) was inscribed on the reverse of a clay accounting tablet (fig. 1) – and three millennia later was discovered in the archaeological remains of the palace. The excavation yielded a treasure-trove of early Greek history; for many of the clay tablets, which ordinarily did not last long when merely dried, were accidentally fired when the palace was burnt and destroyed at the collapse of Mycenaean Greece sometime around 1200 BCE.

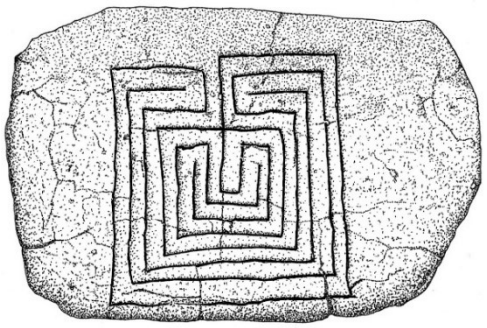


Figure 1: The Pylos labyrinth tablet. Illustration: Jeff Saward

This extraordinary event is what allows us to date the Pylos labyrinth with such precision. Although we suspect other labyrinths of being older, it is difficult to date rock formations or carvings or graffiti with anything like the confidence we have at Pylos. Even when a labyrinth appears in the context of other things that *can* be dated, it is nearly impossible to be sure that the labyrinth was not added at a much later date. So, despite our suspicions that the Classical 7-course design and its seed pattern may well date to Neolithic times, the Bronze Age at Pylos remains the oldest date of which we can be sure.

Recently, however, another set of old labyrinthine designs has surfaced – again on clay tablets – to which probable dates can be assigned. I first ran across these on the website of the Norwegian Institute of Palaeography and Historical Philology [PHI], which shows photos of a well-preserved square maze and four not-so-well-preserved simple square patterns. The only descriptive information posted there is this tantalizingly brief paragraph:

> "These [four small patterns] are details of an Old Babylonian clay tablet with 8 labyrinths. The [website's homepage] shows the photograph of a large labyrinth on a clay tablet, with two entrances (on the left and right side) only one of which is leading to the centre (the world's oldest known illustrations of a labyrinth, dating from 2000–1700 BC; private collection)."

Later I discovered that the private collection in question is the Schøyen Collection [Schøyen], assembled over the latter half of the 20th century by Norwegian businessman Martin Schøyen. He began as a teenager, and currently the collection of over 13,000 items, spanning a period of 5,000 years, is one of the largest private manuscript collections in the world. In addition to parchment manuscripts, it includes many clay tablets. The curators are putting together an online catalogue, and many images are already available on their website. Some of the Schøyen tablets have also been included in the Cuneiform Digital Library Initiative at UCLA, which posts high resolution images on its website [CDLI].

The Babylonian mathematical tablets from the Schøyen cuneiform collection – some 120 texts and over 150 miscellaneous tablets – have been extensively studied and documented by Jöran Friberg [Friberg 2007], whose book provides diagrams and plates that include the labyrinth tablets. Friberg's work generally is of very high calibre, but I disagree with several aspects of his interpretation of the labyrinths. It is evident from comparing Friberg's plates with the CDLI photos that the tablets were subjected to more cleaning after Friberg examined them, and most of my differences with Friberg can be attributed to the greater clarity of the CDLI photos taken after this cleaning.

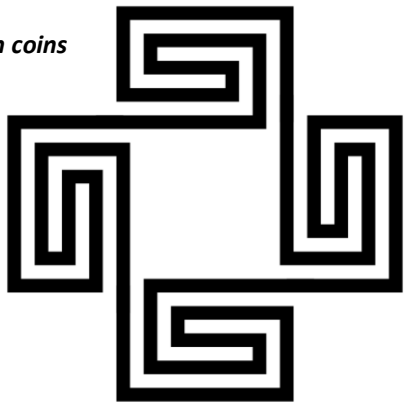
For our purposes there are three tablets of primary interest, which are discussed in Section 8.3 of Friberg (pp. 219–229):

MS 3194, "the Rectangular Labyrinth" (fig. 8) – an elaborate rectangular labyrinth with two paths that enter from opposite sides, intertwine with each other, and meet in the centre. Friberg's drawing of this is not quite accurate, and his plate is so severely pixilated that the details are impossible to make out. Fortunately, there is a very good photo on the Schøyen website. The tablet is in good condition, except that one edge is broken off. The path in the missing area, however, can confidently be reconstructed.

MS 4515, "the Square Labyrinth" (fig. 12) – a smaller but otherwise similar labyrinth, roughly square, again with two paths meeting in the centre. The condition of the tablet is not as good as MS 3194: there are several cracks, and bits of the path have fallen out during the cleaning process (including one critical piece where the two paths meet). This tablet has a good plate in Friberg showing the state before cleaning, a fine high-resolution photo at CDLI taken after cleaning, and a smaller version of the CDLI photo (slightly elongated) at PHI. Friberg's diagram again is not entirely accurate.

MS 4516, "the Small Mazes" (figs. 19, 20 & 21) – an oblong tablet with two columns, each holding four small square mazes, for a total of eight. The tablet is badly damaged – so much so that reconstruction of at least half the mazes is speculative – as are Friberg's diagrams of them, even before reconstruction. After cleaning, however, it is reasonably clear that each maze was intended to be a simple closed path (or in some cases an outside and an inside path) with four-fold 90-degree rotational symmetry, much like the Greek key pattern (fig. 2) found later on some Cretan coins [Kern 40, 44–46, 49]. Friberg's plate of the tablet before cleaning is too small for details of the paths to be clearly visible, but PHI gives photos of four of the eight, and CDLI gives a high-resolution photo of the entire tablet and a composite at even higher resolution showing each of the eight individual mazes.

Right: Figure 2: Rotationally symmetric closed path from Cretan coins



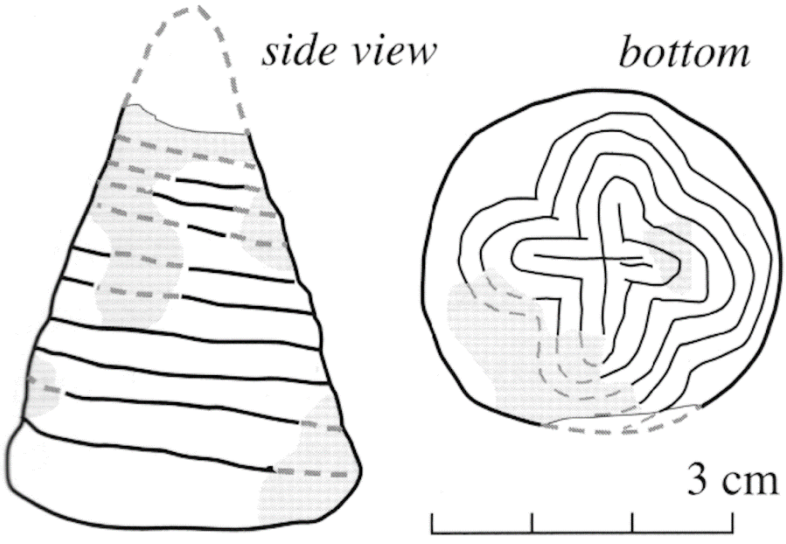


Figure 3: MS 3195, after Friberg

Friberg also discusses another Schøyen item, MS 3195, as a possible labyrinth precursor. This is a clay cone with two paths spiralling together up the sides (fig. 3). On the circular base of the cone the two paths spiral around each other in a cruciform pattern and meet in one of the angles of the cross. The tip of the cone is missing.

The Problem of Provenance

The source, date, and context of many of the Schøyen tablets is unclear. Friberg says (p. 142) that "the great majority of the mathematical cuneiform texts in the Schøyen Collection are new additions to the corpus, probably emanating from relatively recent excavations in Iraq." The barely hidden subtext is that these recent excavations were undoubtedly informal and unofficial, and likely carried out by dark of night [Stanford CHR].

The looting of archaeological sites to meet the ready market for antiquities is an ever-present problem. With the fall of the Iraqi regime, for example, the previously productive site of Tell Jokha (the ancient Sumerian city of Umma) has been nearly destroyed; recent aerial photos show the site crisscrossed by looters' trenches. Countries with rich archaeological heritage naturally resent the expatriation of cultural material, but looting poses a graver problem; the sites do not receive proper archaeological attention; the items lose their proper archaeological context; and questionable origin often forces them into secrecy, so that whatever archaeological value they do retain remains hidden from the rest of the world.

This is not a new problem. Even from the period of the first excavations in the mid-1800s, local diggers discovered that archaeologists would pay good money for apparently worthless objects, and surreptitious finds began to hit the market. Every major museum in the world – including those in the Middle East – holds material whose precise provenance is unknown, whether because the objects were purchased in the local bazaar or were obtained through exporters whose *bona fides* turns out to be suspect. But placing archaeological expeditions under the nominal auspices of local museums (to keep items under local control) is not fool-proof either, as the recent destruction of the Museums of Kabul and Baghdad demonstrates all too well. And more recently, the city of Aleppo, where one of Syria's premier archaeological museums is located, has been heavily shelled. The problem of preserving the common archaeological heritage of humankind is, unfortunately, an intractable one with no ideal solution.

Even without proper archaeological provenance, however, cuneiform texts can generally be dated to within a few centuries. Cuneiform writing was used over a period of nearly three thousand years, but it evolved constantly during that period, so that the language of the text, the choice of the signs used, and the way they were written give a good indication of the age of the text. Although many of the Schøyen mathematical tablets come without precise provenance, the cuneiform writing itself indicates that most come from the Old Babylonian period, dating roughly (depending on your preferred chronology) to 2000–1700 BCE (as in Friberg) or 1900–1600 BCE (per CDLI).

The three labyrinth tablets, however, bear no inscription, so the presumption that they also come from this same period depends largely on their recent acquisition with the other mathematical tablets. This presumptive association has become, as it were, their provenance. As Friberg puts it (p. 219), "There is no way of dating those clay tablets, but since the overwhelmingly great majority of the mathematical clay tablets in the Schøyen Collection are unmistakably Old Babylonian, it is quite likely that the labyrinth texts, too, are Old Babylonian, hence from the first half of the second millennium BC." This has not quite the force of syllogism; but it reinforces the likelihood that the Babylonian labyrinths predate Pylos by a few hundred years.

The "Babylonian Paradigm"

Several tablets from earlier excavations have also been called labyrinths. The best known is probably the "Berlin Labyrinth" (Kern 2), one of the first such designs found (fig. 4). This round clay tablet is numbered VAT 744 in the Near-East Museum (Vorderasiatisches Museum) of Berlin (see note 1), and exhibits a double path that coils into the centre. The paths turn back on themselves before reaching the centre, and finally join to form a single pathway that leads from the outside to the centre on one track and then back out along the "parallel" track. Although Kern characterizes the design as a "double spiral," the doubling back renders the actual path somewhat more complex than two simple parallel spirals.

Figure 4: The Berlin Labyrinth, VAT 744, Kern 2

Several other tablets show an essentially similar pattern: a double path, both leading from the outside in a more or less parallel fashion through a coiled shape to meet in the center. The relatively unknown "Leiden Labyrinth" (fig. 5), purchased by Franz Böhl in the antiquities trade in Baghdad in 1932 [Böhl 1935], shows an even more regular double spiral, but adds a fork at one end and a peculiar nodule that seems to sit astride the two paths. In other examples, one path or the other may have some extra kinks or bends, but the pathway is always double: one in, the other out. If these were in fact meant as labyrinths, they follow a slightly different paradigm than the usual Western notion of a single path ending at the centre, as in the Classical labyrinth.

Figure 5: The Leiden Labyrinth, after Böhl

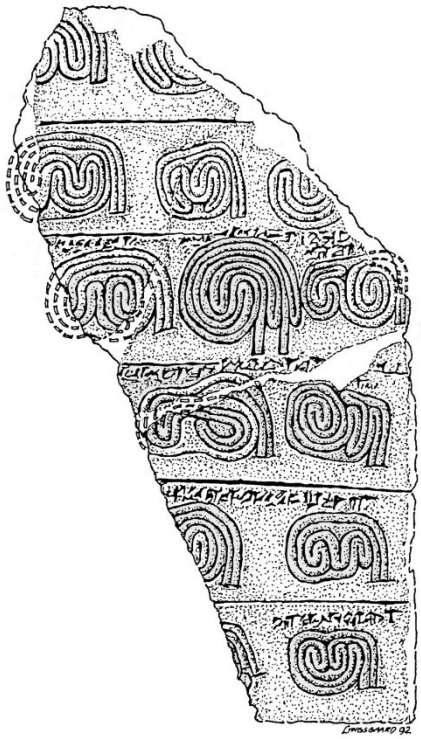
Significantly, Friberg (p. 223) interprets VAT 744 as a pair of roughly spiral paths that *do not connect* to form a single path. This is a fair reading of the tablet, as the ends of the two paths in the centre are capped by a piece of clay that can be taken as a barrier. Given the evidence of the other examples, however, I think the cap was meant to *join* the paths rather than to separate them. This is an argument that we will revisit below.

Not long after VAT 744 was found, another tablet (VAT 984) turned up with several such designs, all somewhat different from one another, but all following the same idea of leading from the outside through a coiled arrangement back to the outside again. In some cases the two paths no longer closely parallel each other. VAT 984 has in addition some text (unlike VAT 744), which, it was hoped, might clear up what these coils represent; but the text proved too indistinct and fragmentary to be legible.

Figure 6: Multiple diagram tablets

6a (right): VA Bab 2343 (Lyngsgård 1992)

6b: Aleppo E 3384, recto (left) and verso (right), Tell Barri, Syria (Salvini 2004)



The key was provided by another multiple specimen, VA Bab 2343, found by Robert Koldewey's expedition to Babylon in the early 20th century. This crucial tablet is illustrated by Lyngsgård [Lyngsgård 1992] and shown here, figure 6a; a similar tablet found in 2001 at the excavation of Tell Barri (ancient Kahat) in Syria (Salvini 2004) is shown in figure 6b. The inscriptions on these tablets make clear that the designs portray the intestines of sacrificial animals [Weidner 1916]. These tablets with multiple diagrams are, in effect, handbooks for diviners, describing how the various configurations should be interpreted for oracular purposes. The labyrinths, in short, represent sheep's guts – which explains why they have separate ends for entry and exit.

This ancient practice of extispicy – the examination of viscera to read the will of the gods – was practiced widely in Mesopotamia over a long period of time. Neighbouring peoples learned it as well, including the Etruscans, the Greeks, and the Romans. Examination of the liver (haruspicy) was often the method of choice, but the intestines were also used, as many textual tablets on divination already had made clear before the connection with the "labyrinth" diagrams was understood. So these were not just sheep's guts; they were signs from the gods – the gods speaking to us – and in consequence the symbolism of the coiled intestines acquired a deeply sacred significance, representing in some sense a reminder of the gods' influence over our destiny. And at some point, the double path began to find a life of its own, transcending the literal depiction of entrails.

There is a fine example of this. The demon Huwawa (or "Humbaba" in later Babylonian texts) was a servant of the sky-god Enlil, who set him to guard the divine forest (identified in later texts with the cedars of Lebanon). He is routinely described as a towering figure, with a loud, piercing voice and penetrating glance. He left many surviving images that typically include several signature features: a fearsome visage presented face-on, with hair rising vertically, lips drawn back in rictus, sometimes in a rigid grin, baring a double row of teeth, often framed by tufts of hair hanging down in a short curled beard, and eyes staring straight out at the viewer with a stern fixed gaze. A representative example can be seen in MS 4573/1 from the Schøyen collection (fig. 7).

Figure 7: Schøyen item MS 4573/1: Mask of Huwawa

His image is so common (MS 4573/1 for example comes from a casting form that was used for mass production) that we suspect it was used routinely for apotropaic effect – to turn away demons, curses, and other forms of bad luck. Indeed, Clark Hopkins argues [Hopkins 1934] that this common good luck charm from the Near East provided the inspiration for a new and remarkably similar style of representing the Gorgon Medusa that began to appear on Greek pottery around 700 BCE, during a period when we know that contact with the Assyrians led to significant influence in Greek art. (And it is worth remembering that Medusa's head ended up on the shield of Athena as a gruesome "charm" to intimidate her enemies.)

Humbaba appears famously in the Epic of Gilgamesh, where Gilgamesh and Enkidu encounter him in their raid on the cedars of Lebanon. They overcome Humbaba, who pleads with Gilgamesh for his life; but Enkidu insists that Humbaba must die, and this, in part, leads the gods to decree that Enkidu himself must die. Even in death, Humbaba's baleful influence, in effect, contributes to the death of Enkidu – and reminds Gilgamesh, at this turning point of the epic, of his own mortality.

Figure 8: British Museum item ME 116624: Mask of Huwawa

And so we come to the stunning mask of Huwawa in the British Museum (fig. 8). Like the Schøyen labyrinths, this comes from the Old Babylonian period. The cuneiform inscription on the back attributes the mask to the diviner Warad-Marduk, who warns us that entrails in the form of the face of Huwawa would signify (as we are not surprised to learn) an ominous portent – it means Revolution, a reversal of fortune. The mask does indeed maintain the metaphor of entrails: the face is constructed from one long path that begins and ends on the reverse; the two strands emerge from the back to the front near the left ear and proceed to fill in details of the face before meeting near the nose. But the mask remains a metaphor – a work of art; it is not a realistic record of actual entrails. Its symmetry is too precise, and it incorporates several of the easily-recognized conventional features of Huwawa's face: the vertical hair, the rictus around the lips (which in this case rather snarl than grin), the bared teeth, and perhaps a suggestion of the short beard. It is a powerful piece that makes effective use of the symbolism of the double path. This is no good luck charm – it is a chilling reminder aimed directly at *you*, the observer – and you can fairly feel the cold wind at the back of your neck.

It is impossible to say whether these ideas extend to the two Schøyen labyrinths. Since they have no clear parallels and bear no writing, we can't tell whether they bore any similar philosophical or religious intent. They could represent something else entirely, or nothing at all. But even if they were intended merely as designs, we should not be surprised that the path does not end in the centre; for Mesopotamia thought of labyrinthine paths as leading not *to* a centre, but *through* it.

The Rectangular Labyrinth

MS 3194 (fig. 9) with its striking pattern is the best preserved of the Schøyen labyrinth tablets. It is roughly 10 x 12 cm, and the pattern fills most of it. I have followed the Schøyen website in orienting the tablet so that the broken edge is at the bottom; Friberg's plate and diagrams place that edge at the top.

The maze has two entrances, which appear in the middle of the two longer sides. The two paths spiral around the tablet in a complex pattern, filling up all the space within the rectangular boundary, and finally engage each other in a square double spiral in the centre of the tablet, where the paths meet. The paths are laid out in vertical and horizontal segments of approximately equal width, but the whole has a characteristic twist to accommodate alternating areas of wider and narrower segments, and this makes it hard to regularize the pattern onto a true rectilinear grid.

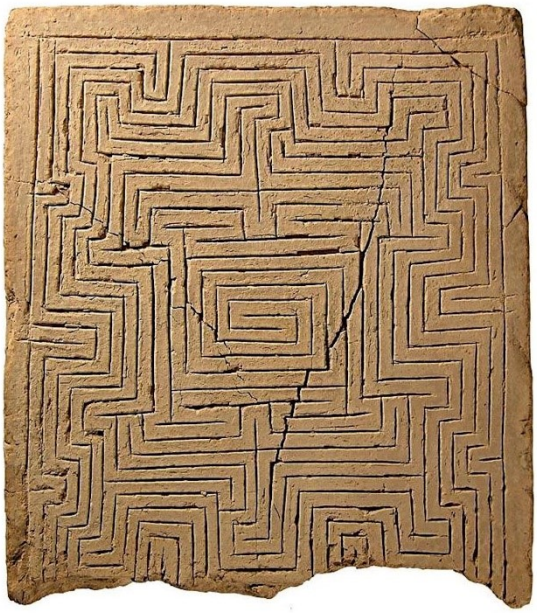


Figure 9: The Rectangular Labyrinth tablet, MS 3194 (Schøyen Collection)

Much of the complexity of the layout stems from short barriers jutting in from the perimeter, which the paths either double back upon or jog around – and these jogs ripple inward as the path spirals in to fill the internal space. Friberg likens the design to a city with gates; the entrances are open gates, the barriers are closed gates. Given the urban metaphor commonly found among labyrinths, this may well have been the inspiring idea, though there's no hard evidence for that.

But the detail you should not miss is the nearly symmetric construction: each path reflects what the other is doing, and a 180-degree rotation of the tablet comes close to mapping one path into the other (fig. 10). This symmetry lends confidence in reconstructing the small bit that is missing where the tablet is broken off. The only significant deviation from the symmetry appears where one of the four double-backs in the corners (fig. 11) is missing a jog. Curiously, this one little asymmetry is almost entirely responsible for the need to give the pattern its over-all twist to finagle the widths of the paths. If a symmetric jog is added (fig. 12), the pattern fits the available space much more comfortably, and becomes easier to render on a rectilinear grid.

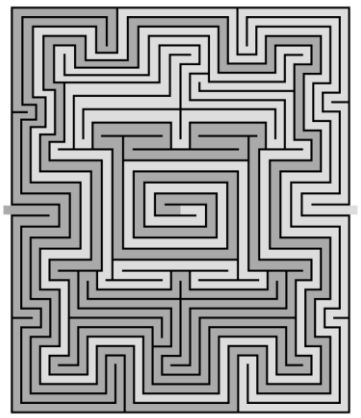


Figure 10: The paths of the Rectangular Labyrinth

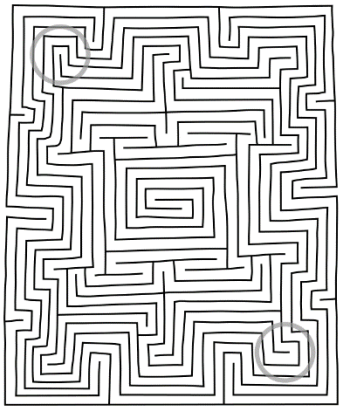


Figure 11: Asymmetric feature in MS 3194

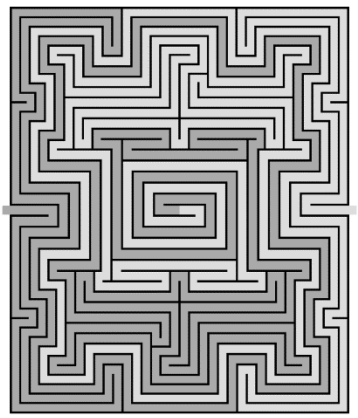


Figure 12: Symmetric version of MS 3194

It is clear from the photo on the Schøyen website that the two paths do meet in the centre. Friberg, by contrast, describes the pattern as having two paths of which only one leads to the centre (a characterization repeated on the Schøyen website). His diagram indeed shows a line across the common path at one end of the central segment, so that one path crosses over the centre before dead-ending at the line, and the other dead-ends there before reaching the centre. But the photo is quite clear: there is no such dead-end. The two paths join to form one continuous path from one entrance through the centre to the opposite entrance. Since Friberg's plate for this tablet is of such poor quality, it may be that he did not have a good photo to work from; but I suspect, as I discuss below, that he was influenced by the notion that labyrinths should have a final goal and should stop at the centre. As I have argued above, however, this is probably not the Babylonian way.

The Square Labyrinth

MS 4515 is a slightly smaller tablet (fig. 13a), roughly 10 cm square, with a less ambitious design. Again, Friberg's drawings present the tablet rotated 180 degrees from the photos (including his own plate). My diagram (fig. 13b) follows the orientation of the photos rather than Friberg's drawings.

Figure 13a: The Square Labyrinth tablet, MS 4515 (Schøyen Collection)

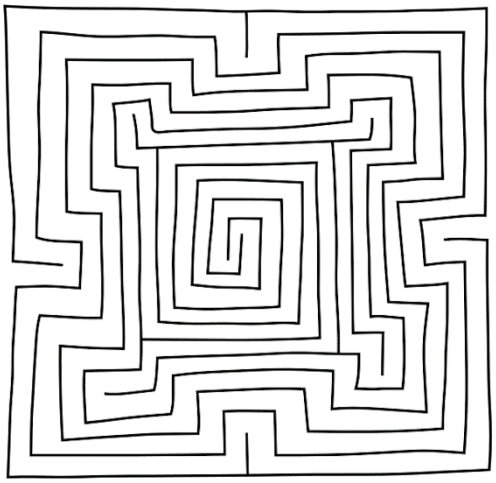


Figure 13b: The Square Labyrinth (reconstructed design)

This tablet is not as well preserved as MS 3194: there are more cracks, and several bits of the clay path between the incised walls have fallen out. The final cleaning seems to have been a harsh process for this tablet, for comparison of Friberg's plate and the later CDLI photo shows that many places that were intact in the former are missing in the latter. Fortunately, the general design is still easy to make out.

This labyrinth gives an impression similar to the Rectangular Labyrinth, though the hand seems less practiced, and the paths vary more in evenness and width. There are again two entrances (open doors) at the middle of the side walls, and this time only two barriers (closed doors), at the middle of the other two sides. The two paths follow a similar pattern of spiralling into the centre in a symmetric fashion, culminating in a square double spiral. Again there is a pronounced twist to accommodate the changing density of the lanes of the path – and for essentially the same reason: one path (the one entering on the right) diverges from symmetry to make an extra pass down and up the right-hand side of the central spiral, and then makes a vertical jog instead of a horizontal one in the upper right. This makes the paths on the right narrower than on the left, and introduces a disruption that ripples across the pattern. Curiously, this more extensive asymmetry is easier to accommodate on a grid (fig. 14) – though I can attest that the self-interlocking nature of the pattern makes finding a good solution a non-trivial proposition!

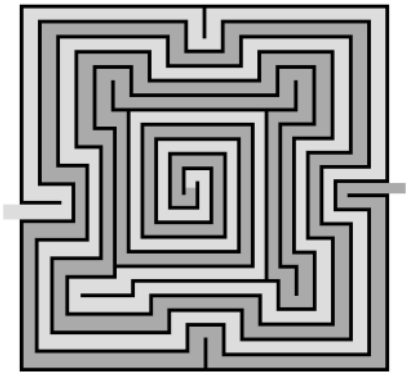


Figure 14: Paths in the Square Labyrinth

Here again Friberg describes the paths as separate, with one reaching the centre and the other not (and PHI repeats this description). This time he shows the two paths dead-ending in two different places, and he posits these breaks at locations where path pieces have fallen out of the tablet – so at first blush it is harder to argue (as I do with MS 3194 above) that the breaks simply are not there. But by cutting off one of the paths so far from the centre, Friberg assumes that the other path must spiral tightly *with itself* to reach the centre; and this requires ignoring two walls (that could perhaps be read as extraneous cracks) and extending another wall through a space where there clearly is no wall. So, again, I think the photographic evidence is more consistent with two paths that spiral around each other all the way to the centre (see note 2).

At this point we should be wondering *why* Friberg describes the paths in these labyrinths as separate and not meeting. The answer, I think, is that he wants at least to suggest that the Babylonian labyrinths might be forerunners of the Classical labyrinth in general, and of Pylos in particular. He devotes a long discussion to detailing how the Square Labyrinth is built up from the entrances by extending the paths in succession around the barriers that jut in from the sides, and another discussion to describing the Classical seed pattern and how it determines the layout of the Classical labyrinth; and he suggests explicitly an analogy between these construction techniques.

But the analogy is specious. There is no similarity in the *mechanism* of the two constructions: in one case you are connecting loose ends of the seed pattern, in the other merely avoiding barriers and walls previously added to the construction. While the barriers *influence* the Babylonian pattern, they do not *determine* it in the same way that the Classical seed pattern determines the Classical labyrinth: there are still choices involved – choices about whether to double back at a barrier or to jump over it, or when and how to leave the perimeter and branch into the centre, or how to arrange the paths in the centre. The construction technique that Friberg suggests explains how the scribe could maintain the symmetry of the two paths, but does not explain the details of their layout. The deviations from symmetry I mention above make good counter-examples: they significantly alter the connections of the walls, but are not determined by the starting barriers.

Ironically, Friberg opens his book with a cogent and useful discussion of how to avoid anachronistic readings of the mathematical tablets – and he diligently translates the Sumerian and Akkadian of the verbal tablets into language that scrupulously avoids modern mathematical terms. Yet in discussing the labyrinths he proceeds to introduce anachronistic notions of how mazes and labyrinths *should* behave – by explicit analogy with the Classical pattern, which on his account is a later development. I think it far more likely that the Babylonians elaborated their labyrinths following their own motif of paired paths that intertwine and join; and that no direct link connects these mazes with the Classical labyrinth that stops at the centre.

The "Babylonian Origin" of the Labyrinth?

In fairness, Friberg is by no means the first to suggest that the "Aegean" labyrinth that we find in Greece and Italy came originally from Mesopotamia. From the break-through moment in 1872 when George Smith discovered that tablets from ancient Nineveh contain an early version of the story of the Flood, we have come to recognize an enormous debt to the land of Sumer and Akkad for much of what we take for granted as civilization.

Already in the early 20th century, Ernst Weidner suggested that the labyrinthine oracular tablets foreshadow the Classical labyrinth. His article *On the ritual Babylonian examination of entrails* [Weidner 1916] describes how the labyrinthine tablets came to be understood as representations of extispicy – but he adds the telling subtitle "and likewise a contribution to the history of the labyrinth." At the end of the article he is eager to share a drawing (fig. 15) of a tablet that seems to point toward the Classical labyrinth: for (uniquely among the Near Eastern labyrinth patterns) the path shown on one side of the tablet ends in the centre.

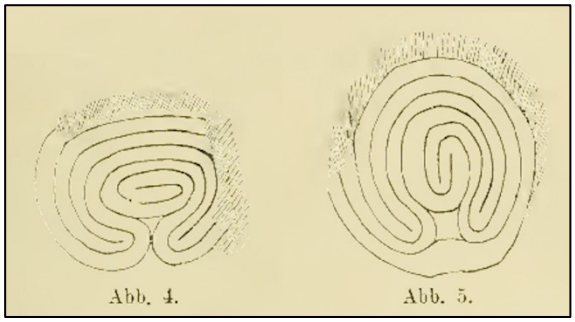


Figure 15: Weidner's drawing of the "Mystery Tablet" (VAT 9560)

Beyond this drawing, Weidner gives us no details about the tablet, except that it has an unspecified inscription, from which (presumably) the tablet can be classified as Neo-Assyrian. Two decades later, Fritz Böhl [Böhl 1935] is still anxiously awaiting its publication; but I have found essentially no further information about it. I began to think of it as "Weidner's Mystery Tablet", though Julia Buckenauer of the Vorderasiatisches Museum was able to identify it for me as VAT 9560.

There are several observations to make here. The first is simply to wonder – without trying to prejudice the matter – why the tablet seems not to be discussed anywhere despite its obvious interest. The second is to note that its labyrinth is not, after all, the Classical labyrinth. It could be described as a 3-course labyrinth with an approach on the outside and a spiral on the inside. If genuine, it indicates familiarity with labyrinths that end in the centre – but it would be a late witness for that: the Neo-Assyrian period (911–612 BCE) is significantly later than the much more competently drafted tablet from Pylos. Weidner, of course, would not have known of the Pylos tablet, as it was only discovered in 1957. So the Mystery Tablet is not a clear witness: in this period of known contact between Greece and Assyria, it may signify simply that the idea of ending in the centre had finally arrived from the West.

Böhl's article from 1935 advances more explicitly "the Babylonian origin of the labyrinth". Our increasing knowledge, however, has outpaced many of his arguments. On the one hand, the Pylos tablet (still unknown, of course, in 1935) gives clear evidence for the early presence of the Classical design in the West; and beyond the Mystery Tablet, there is no evidence for anything similar in the East. Indeed Böhl's paper makes no case that the Classical design itself arose in the East; he argues instead that the *idea* of the labyrinth – and several themes associated with it – come from the East.

Böhl points out that the Akkadian term typically used in the tablets for sacrificial entrails is *êkal tírâni* "palace (or fortress or city) of the entrails", and from this he conjectures the body as a metaphor: the liver and womb surrounded and protected by the ribs and entrails become the acropolis and inner sanctum of the ziggurat surrounded by the seven-fold walls of the labyrinth. The labyrinth thus forms a protective way guarding the sacred source of life. Bolstered by early modern conjectures linking the word *labyrinth* with rock or stone, Böhl then associates this source of life with underground passages and caverns (the reader should think of the caverns of Gortyna in Crete) signifying the underworld and death, transforming the metaphor into one signifying the endless cycle of death and rebirth.

Böhl also adduces a close parallel between the legends of Theseus and Gilgamesh: Gilgamesh is guided by Ishtar to the Land of the Dead (Lebanon), where Humbaba, a spirit of the underworld, guards its famous cedars. Gilgamesh struggles across seven mountain ranges (at least in the early Sumerian version) and through a labyrinthine forest to the centre, where he finds and slays Humbaba. He fells the cedars and returns, only to spurn Ishtar's advances, much as Theseus abandons Ariadne.

There are some intriguing ideas in this welter of free association. The notion of the labyrinthine entrails as a palace or city is well-attested in the oracular texts, and these oracular practices and their terminology were well known throughout the Near East. It is certainly possible that the idea of "labyrinth as sacred walled city" started here. Cities were often described conventionally as having seven gates or seven walls, and most of the cities later associated with labyrinths are in fact in the East. Böhl even speculates (without much evidence) that some linguistic variant of *tírâni* may have ended up via folk etymology as *Troia*.

The rest I find completely unconvincing. A cycle of death and rebirth does not describe what any of these early civilizations believed: for the Mesopotamians the path through life was a one-way street. Near Eastern legends describe the Land of the Dead as a dry and dusty place from which there is no return, and this is echoed in the Sheol of the Old Testament and the Underworld of Homer. Without outside help even demons and gods like Humbaba and Ishtar could be trapped forever in the underworld; and no human ever comes back to life. This is indeed the essential message of Gilgamesh, which was probably the most widely circulated work of the time.

The parallels between Theseus and Gilgamesh also fall apart as we find more archaeological sources for the epic. The two tales bear some resemblance, of course, as tales of heroes from all over the globe fall into common psychological patterns that by now are well-known. But the details don't mesh well. It is hard, for example, to imagine the West borrowing Gilgamesh without getting Enkidu as well. As new tablets fill in more

lines, we find that it is the sun god Shamash, not Ishtar, who guides Gilgamesh to Humbaba, so the comparison with Ariadne is not particularly apt. The number seven should not sway us either, for in Gilgamesh things routinely happen by sevens – and the number shows up in many other tales as well. Böhl counts seven turns in the Berlin and the Leiden Labyrinths, but that depends on how you count – and on knowing the answer ahead of time. Other diagrams in the tablets clearly do not have seven turns; indeed, the differing number of windings in the entrails is an important aspect for the proper reading of the omens.

Most importantly, the land of the cedars is not the Land of the Dead. It is instead a land of wonders, burgeoning with life; and the earlier Sumerian version of the Gilgamesh poems calls it "The Land of the Living" (see note 3). This is where Enkidu the Wild Man was created and where he ran freely with the wild beasts. It represents wilderness, the "other" – like Faëry or Tír-na-nÓg ("The Land of the Young") – a mythological space distinct from the human space of civilization. Enkidu is brought from there to become civilized, and after Enkidu's death, Gilgamesh returns there from civilization to search for life.

Nor is Humbaba a spirit of the underworld – until he is killed by Gilgamesh and Enkidu. Once dead, he too must go to the Land of the Dead, and must remain there. His native power gives him high status there, and the living pray to him as a power of the underworld to ward off evil. But before killing him, Gilgamesh seeks him in the Land of the Living.

More generally, there is no real evidence for reading the Land of the Living as a labyrinth. It is difficult terrain to traverse – but that is what every Hero finds. There is a monster within – but that is what every Hero seeks. The attempt to tie it to the Land of the Dead (and therefore, dubiously, to the labyrinth) has no textual warrant. In short, these associations are not in the text; they are read into the text by someone familiar with the later story of Theseus and the Labyrinth of Crete.

The Alternative View

Against Böhl's thesis, I would push back with the following points from the evidence. First, I grant the association of the word *labyrinth* with subterranean caverns: the Minoan word borrowed by the Mycenaeans evidently signified caverns like those at Gortyna [Sarullo 2008]. It appears to have nothing to do with stone or palaces or double axes, despite many early suggestions that fix upon chance resemblance to words in other languages. The meaning one finds in all of the Classical Greek texts is confusion, not unicursality. Verbal descriptions of the Minotaur's prison and the original depictions of the labyrinth on Cretan coins (*cf.* Kern 43) suggest confusing multicursal mazes where Ariadne's clew would be useful, and Pliny uses the word to describe confusing subterranean multicursal constructions. Absent further evidence, this should be taken as the original and primary meaning of the term.

Second, the Classical design appears early in the West, not at all in the East. Pylos indicates that the design was already known in Mycenaean Greece, and old rock carvings are still being discovered in Spain and Portugal. The carvings are hard to date, but archaeological consensus is growing that the dense cluster in Galicia probably dates to the late Neolithic. This may well be where the design originated, and the tin trade in the early Bronze Age may account for its dissemination (see note 4).

Third, we have little early evidence for what the Classical design meant originally. In particular, there is no evidence for its association with the word *labyrinth* or with the Theseus legend until it suddenly appears on Cretan coins around 400 BCE. This is why Kerényi's argument [Kerényi 1976] that both the word and the associated house of Daedalus were originally understood as unicursal is unconvincing. Kerényi cites a passage from Plato's *Euthydemus*, where Socrates likens the convoluted discussion of the dialogue to a path through a labyrinth that ends back at the starting point rather than reaching the desired goal. In the first place this does not imply unicursality, quite the opposite, but in addition, Plato's passage represents evidence from a time *after* the association of diagram and labyrinth had already been made on Cretan coins – so Kerényi's conclusion concerning the *original* understanding of the term begs the question entirely. Similarly, Böhl's argument that themes from Theseus (much less Gilgamesh) can shed light on the *origin* of the design ignores the fact that the design arose long before Theseus pulled it into his orbit.

Finally, of the other ideas that later became associated with the Classical labyrinth – the dancing floor of Ariadne, the Crane dance, the walls of Troy, the close circular manoeuvres on horseback – none is attested in the company of the Classical design until centuries after the Pylos tablet. The earliest example is the 7th century BCE Etruscan *oenochoe* of Tragliatella (Kern 110–112), whose meaning is completely unclear and hotly debated: does it refer to Troy? to Theseus? to a wedding? to a sacrifice? to military games? to none of the above? Virtually all discussion of this item prejudges the issue through assumptions about what is being shown: that the soldiers are "dancing," for example, or that the riders "emerge" from the labyrinth design. The design is clearly being associated with *something*, but with what we cannot be sure. It is only with the design's appearance on the Cretan coins that it is firmly drawn into association with Theseus and with the other ideas that came to adhere to his legend. These associations appear to be relatively late, and none, with the possible exception of the urban metaphor, has any analogue in the East.

This should not detract from our appreciation of the Babylonian labyrinths – they are striking developments – but the case for their influence on the West is not a strong one.

Meanders

Meanders, on the other hand, are a different matter entirely. Meandering patterns were common throughout Eastern Mediterranean lands from an early date. The so-called "Hyksos scarab seals," for example – small stone artefacts whose tops are carved in imitation of a scarab and whose bottoms typically serve as seals incorporating meandering patterns (fig. 16) – are found in Egypt and the Levant from the Middle Kingdom to the Hyksos period (*i.e.*, roughly the same time as the Old Babylonian period in Mesopotamia). They appear with such frequency that Böhl characterizes them as "index fossils" for this period.

Figure 16: Scarab seal, Walters Art Museum, Baltimore

The walls of the meanders on the seals typically don't connect from one meander to the next, and "open" meanders of exactly this type appear in Minoan frescos and pottery (see note 5). So, there is no question that the Greeks were familiar with such patterns from Mycenaean times – and essentially the same open "Greek key" pattern (now typically squared off) appears on vases in Classical times, as in the first two examples in figure 17. If you interpret them as walls enclosing a path, the path is not unicursal, but has several branches that cross the meander from one side to the other.

These exist side by side with "closed" meanders, whose path can be seen as one continuous enclosed thread from one end of the meander to the other – or (reversing the sense of background and foreground) as walls enclosing multiple dead-ends that do not cross the meander. The artists probably thought of either kind of meander primarily as stock decorative motifs, rather than as paths (and they often drew them inconsistently without care to delineate a path of one type or the other). But the last design in figure 17 is a meander-like pattern that appears in Kern 3, a 5th century *kylix*, specifically to represent the House of Daedalus. Clearly here a path *is* intended, and the meander is neither open nor closed. It represents a pathway that is not unicursal, whether you take the white or the black to represent the path. Nevertheless, the pattern clearly comes from the meander tradition – right down to the checker-board figure, which was commonly interpolated in decorative meanders.

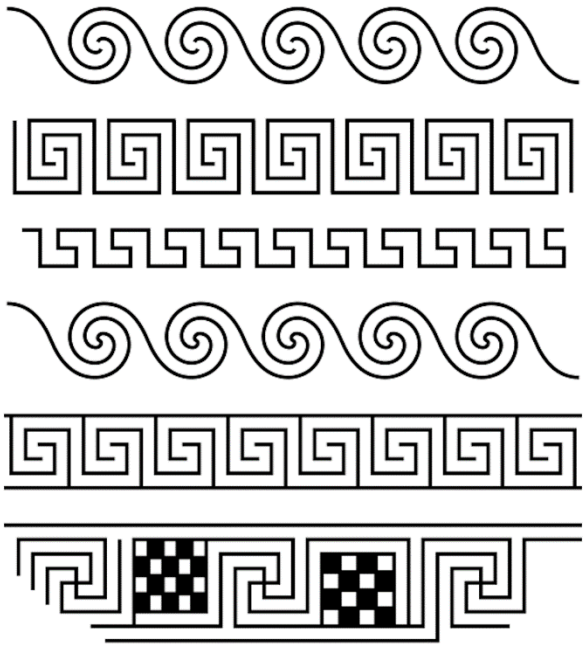


Figure 17: Meanders on Greek pottery, 7th – 4th century BCE

So the question arises: how did meanders come to suggest the House of Daedalus? It is in this context that the small closed rotationally symmetric meanders of the Small Mazes from Babylonia start to get our attention, for it is just such a meander (fig. 2) that appears on Cretan coins to represent the labyrinth immediately before the Classical labyrinth design is pressed into service. This meander, like the Classical design, is already unicursal, and therefore the process had already departed from a strict reading of the legend that required Ariadne's clew. A natural first step in that process may well have been the open meander: a common decorative motif that suggests twists and turns without being unicursal. If open meanders came to represent the labyrinth, then the virtually interchangeable closed variants might have acquired the same connotation – and the association could also have extended naturally to the closed rotationally symmetric meander. Athenian pottery painters, clearly influenced by Assyrian designs, were already experimenting with rotationally symmetric patterns; so the similarity of figures 2 and 21 suggests that these meanders might be the *true* Babylonian contribution to the process that led to the advent of the Classical labyrinth as *the* labyrinth.

The case is not clear, however. Before they turn up on Cretan coins, there are few examples of closed meanders precisely like figure 2, and with so few examples, there is little evidence for transmission of such designs from Assyria. Patterns like figure 2 might have arisen independently from well-known figures like the swastika. The fascinating vase IV 1622 from the Kunsthistorisches Museum in Vienna [Boardman 1996] is covered with decorations that clearly aim for rotational symmetry, and some of the elaborated swastikas there are in fact symmetric – but others (fig. 18) fall somewhat short.

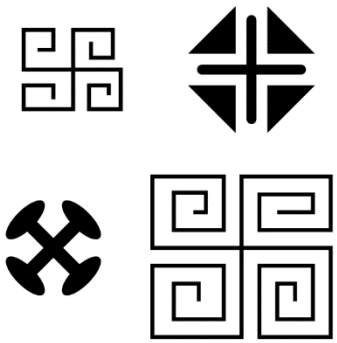


Figure 18: Rotational patterns on Greek pottery: from the vase IV 1622, Kunsthistorisches Museum, Vienna

The Small Mazes

Schøyen's MS 4516 is frustrating to analyze, for some parts are very clear and others almost totally obliterated (fig. 19). My general impression is that this tablet is an exercise in generating small mazes, some laid out on a 10 x 10 array of squares, some on a 12 x 12 array; and that each was intended to consist of one or two rotationally symmetric closed paths that together cover all the squares of the array. I say "exercise" because the stylus here is not as practiced as the one that executed either of the larger labyrinths: there are many guide marks, both along the perimeters of the mazes and in their interiors, and the pathways are not as evenly drawn. Moreover, I believe some of the patterns were trials that did not work out as the scribe expected, and that some were abandoned without being completed.

Figure 19: The Small Mazes tablet, MS 4516 (Schøyen Collection; photo CDLI)

Even where the path of the maze is intact, the interpretation is not always straightforward. Sometimes a score mark may be simply a guide mark, rather than a barrier in the path. In other places, separate pieces of clay butt up against each other with a visible join between them that may be a barrier between two separate lanes or a join that links two lanes together. My inclination leads me to see continuity where there would otherwise be a dead-end, but I try to confirm such joins with other examples at the corresponding spots in the rotational symmetry.

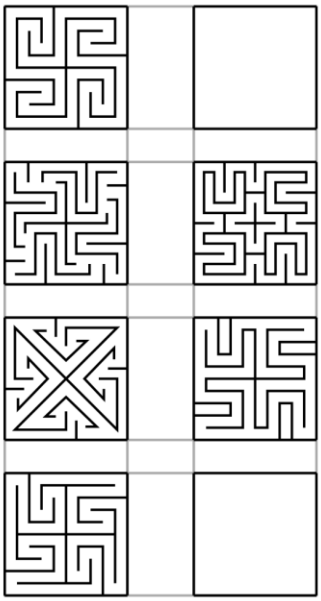


Figure 20: Mazes of MS 4516 Friberg reconstruction

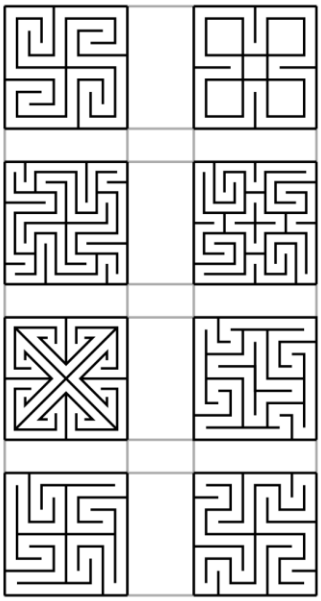


Figure 21: Mazes of MS 4516 Shelton reconstruction

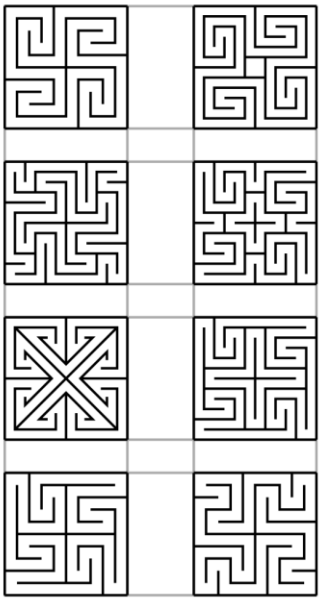


Figure 22: Mazes of MS 4516 Shelton speculation

Although there are some random jagged cracks across the tablet, there are places where the damage is not entirely random. The score marks that separate adjacent lanes can encourage deeper cracks to develop along the same lines, which can extend into adjacent areas; this can make it appear that two lanes are separated though they were not so originally. In several places the tablet seems to have been constructed (or possibly corrected) by placing clay over existing deep scores, and many of these overlays have fallen out, again making divisions appear that probably were not intended in the original. One must be careful here. On the one hand, it is tempting to claim damage wherever you want a path to cross a crack; but on the other, there are several places where no sense can be made of the pattern unless you can make a reasonable case that a break really is unintended damage. To follow my arguments closely, you will need to refer to the photos on the CDLI and PHI websites.

Friberg's drawing and plate show this tablet in the same orientation that I have adopted from the CDLI photo, so I can without confusion label the eight mazes by column (left or right) and by number from top to bottom (1 to 4): L1 through L4 on the left and R1 through R4 on the right. The four photos on the PHI website show L2, R1, R2, and R3. I refer to individual quadrants within a maze by compass point: NE, SE, SW, or NW, assuming North at the top. Friberg gives both an unreconstructed drawing of the tablet and a set of reconstructed patterns that attempt to divine what the scribe had in mind. I give Friberg's reconstruction as figure 20 and my own as figures 21 & 22. All three are speculative to some degree and not entirely consistent with the lines found on the tablet. For this tablet in particular, the final cleaning made a big difference. The structure of several of the mazes is much clearer in the CDLI photo than in Friberg's plate, and as a consequence Friberg's drawings and reconstructions are now largely obsolete.

Friberg attempts reconstructions for six of the eight mazes: all except R1 (which is probably incomplete) and R4 (which is heavily damaged). All of his reconstructions assume 4-fold rotational symmetry, which is also my default assumption, for this is evidently the common theme of the tablet. Friberg accepts branching and dead-ends more readily than I do, but the cleaning makes it fairly clear that the mazes were intended to be non-

branching continuous closed paths. Of the eight, I believe four (L1, L2, L4, and R2) can be recreated quite confidently; two (L3 and R4) have reasonable if not conclusive solutions; and two (R1 and R3) can be reconstructed only through significant speculation.

The easy mazes: L1, L2, L4, and R2

There is no problem at all with L1: it is a simple four-fold key design on a 10 by 10 array, and it sets the theme for the entire tablet. The pattern is clearly drawn and almost completely undamaged. Even here, though, there are occasional guide marks across the path that might be taken for barriers had the design been less clear. Another clue worth noting is that guide marks along the perimeter mark some of the places where the path turns inward from the perimeter. Here, as elsewhere in the tablet, a guide mark generally corresponds with the intersection of the perimeter with the wall that forces the path to jog inward, though guide marks are occasionally paired, with one on each side of the segment turning inward.

L2, laid out on a 12 by 12 array, is almost as easy. Despite a couple of path bits that have fallen out, and a diagonal-trending transverse crack that mostly follows the score marks, the pattern is easy to reconstruct as I have done in figure 21. Friberg mostly agrees; but there is a clay smudge in one spot in the SE quadrant that obscures one of the walls, making the path appear to branch there, and Friberg has chosen to replicate this in the rotation pattern. But the corresponding spot in the NE quadrant is visibly unicursal in Friberg's plate (though it has fallen out in the CDLI photo), and the corresponding spot in the NW quadrant in the CDLI photo of the cleaned tablet is also clearly unicursal. Again, there are several guide marks along the perimeter marking places where the path turns inward.

Although about half of L4 has fallen out, enough remains of this 10 by 10 array to suggest that it was rotationally symmetric. There is, moreover, only one way to complete it as a rotationally symmetric pattern, and Friberg and I agree in doing so.

R2 is laid out on a 12 by 12 array, and although it has sustained more damage than L2, it is still easy to read as two continuous paths, one inside the other, as I have drawn in figure 21. Friberg reads it almost the same way, but he makes two small alterations in the quadrant pattern that he rotates into the four quadrants. Those small changes turn the outer path into one continuous piece and four isolated U-shaped segments. In the CDLI photo, however, the continuous nature of the path is quite clear. Moreover, Friberg's reconstruction makes the outer path jog from the perimeter into the centre of each U-shaped segment, and the path on the clay simply does not do that – nor are there correspondingly placed guide marks along the perimeter to suggest it.

A diagonal exercise: L3

L3 is an outlier. It alone among the eight is not laid out exclusively on horizontal and vertical lines, but incorporates bold diagonals. From the CDLI photo I think it is reasonably clear that the scribe had in mind something like my admittedly free reconstruction in figure 21 – but his execution was not up the challenge. The flanges along the sides of the "arrowheads", for example, are inconsistently placed – only the NE arrowhead survives intact, but all of the surviving areas that should have flange marks display them inconsistently.

But more seriously, the scribe has made a fatal error in the path: he has drawn only one path in from the perimeter on the right, not two as a continuous path would require. He has, in effect, conflated one of the flanges of the NE arrowhead with the wall separating the NE and SE quadrants, with the result that in this arrowhead the path is boxed in (fig. 23). Having realized that something has gone awry, the scribe appears to have abandoned this maze before finishing it. Friberg's drawing of L3 is closer to what is visible in his plate, but the final cleaning makes clear that the pattern actually on the clay is not as regular as he shows it; and any warrant for a branching path evaporates.

Figure 23: The scribe's error (dotted lines) in maze L3

A failed analogue: R1

R1 hardly appears to be a maze at all: it has large squares centred in the quadrants with only a minimal path surrounding them and jogging between them toward the centre (at points marked by guides on the perimeter). Friberg's unreconstructed drawing is a fair statement of what is more or less clear on the tablet, and I show a similar pattern in my reconstruction in figure 21. But it is also clear that this is not a finished state, for the scribe did begin a foray into the interior of the SE quadrant before stopping altogether. He didn't get very far, and Friberg is quite justified in offering no reconstruction.

But it is worth asking why the scribe stopped. This maze, like the neighbouring L1, is set out on a 10 by 10 grid, as guide marks and the width of the existing paths indicate. What remains of the tentative path in the SE quadrant is shown in dark grey in figure 24. It is impossible to be certain, but it looks like the scribe may have attempted an analogue of L1, with a spiral in each quadrant, but in this case connecting the spirals along the *inside* of the maze instead the outside: the tentative connecting lane appears to cross the quadrant boundary at the centre instead of along the perimeter.

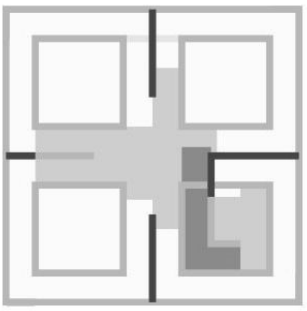


Figure 24: Early development of maze R1

Unfortunately, as the scribe must have realized fairly early if this was in fact his goal, this doesn't work on a 10 by 10 array; it requires a 12 by 12 array to get both into and out of the spirals without getting boxed in. This would also leave a 2 by 2 hole at the centre of the maze, which the scribe may not have counted on. I show this tentative reconstruction of the scribe's intent in figure 21. This possibility is particularly striking as it is essentially the same as the closed meander pattern found on Cretan coins (fig. 2).

(In the reconstruction diagrams of figures 23–27, I generally use light grey for the eventual rotationally symmetric wall pattern; but in the case of R1 it is not clear what the scribe was aiming for. In this case I have left the squares in grey, though the finished pattern would undoubtedly have crossed the square boundaries. I have also de-emphasized in very light grey two heavy score marks across the path at the top, since these are not reflected in the other rotational positions.)

The puzzle: R3

I admit that trying to make sense of R3 gave me fits. Some measure of the difficulty can be seen in that Friberg had trouble with it too: and in this case I disagree not only with his reconstruction, but even with his drawing of the unreconstructed maze, which shows spacing that differs materially from the detailed CDLI photo.

The difficulty stems from the fact that, while the maze is badly damaged, enough remains to make clear that the pattern in the clay simply does not have four-fold rotational symmetry. I have attempted a reconstruction of the actual clay path in figure 25, which shows in white the parts of the remaining path that are reasonably clear. Unfortunately a critical surface piece is missing in the SW quadrant, and the deeper score marks underneath make it hard to know how to reconstruct the connections along the left perimeter here (and for once there is a *surfeit* of guide marks: the path simply cannot turn in at every one of them!). At the corresponding spot in the NE quadrant, cracks have extended along the score marks, which again make it unclear how the paths were originally connected.

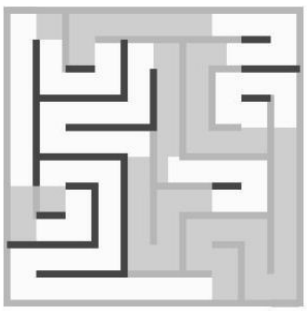


Figure 25: Surviving paths in maze R3

But the real difficulty is that the two longest and clearest parts of the path – the outline of an arm of a cross in the NW quadrant and the "2"-shaped piece in the SW quadrant – cannot both co-exist in a four-fold rotationally symmetric whole, as their rotated copies would overlap. Two-fold symmetry can still be salvaged, and this is what I have assumed to complete figure 25. This shows a lopsided central cross as one path and an outer path that winds around it; and this is consistent with the surviving clay.

I don't find this solution convincing, however; it's out of character with the rest of the tablet. My guess is that the scribe settled for this as the best he could salvage from another 10 versus 12 mix-up. I think he intended R3 as an analogue of R2: with a central cross as in R2 but with longer arms, and with similar symmetric eddies in the external corners. His mistake was trying to develop this as a 10 by 10 pattern, for it needs the 12 by 12 array of R2 to work. I have given the lopsided version of R3 in figure 20, but I offer also in figure 21 my suspicion of what the scribe really had in mind. This more symmetric second version is precisely what you get if you push the arms of the central cross of R2 out by two steps. It is possible that L4 represents an attempt to rework the lopsided version of R3 into a more symmetric shape, for the details of L4 strongly resemble the lopsided version of R3.

A design *ex nihilo*: R4

The last maze, R4, is so damaged that Friberg does not attempt a reconstruction, and indeed gives no lines even in his unreconstructed drawing. But the final cleaning helped, and if you will grant me a few assumptions, I can produce a reasonable (if speculative) solution even for this one. I illustrate the process in figure 26, where the surviving path is shown in white, and the clear breaks between path segments in black.

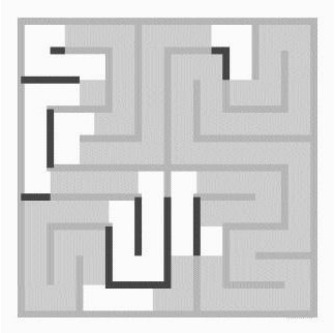


Figure 26: Surviving paths in maze R4

The first assumption is easy to grant: that the maze is a 10 by 10 pattern. This is fairly clear from the guide marks along the perimeter and from the width of the surviving path segments in the NW quadrant.

The second assumption is at least a natural one: that the maze, like most of the others on the tablet, is meant to have four-fold rotational symmetry. There is some internal evidence for this. The surviving paths in the NW and NE quadrants seem to be rotations of each other, and guide marks along the left and bottom perimeter suggest that the long path segments along those two edges have the same length and lie in corresponding positions.

The clinching third assumption requires a bit of hand-waving. In the bottom half, straddling the border between the SE and SW quadrants, there is what looks like a continuous S-shaped path. (In this orientation the S is lying on its back facing North.) My suggestion is that it is not in fact continuous, for two reasons. First, there is a long but very fine surface line along the right-hand segment (the bottom of the S) that appears to separate it from the other two segments. Such fine lines paralleling the length of various segments can be seen in several of the other mazes, and may be an artefact of the tool used to make the designs. Second, if this path fragment were in fact continuous, the S could not be replicated symmetrically without overlapping itself, thereby destroying the putative four-fold symmetry. The boundary between the centre segment and the right-hand segment must therefore go all the way to the centre of the maze.

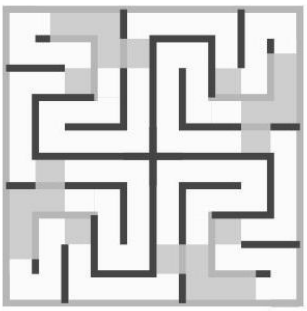


Figure 27: Applying the assumptions to maze R4

Once we have assumed this much, the surviving pattern can now be replicated around the rotations (fig. 27); and without using dead-ends or very small loops, the result can be completed in only one way, which I posit as my reconstruction in figure 21.

Richard Myers Shelton, Roseville, MN, USA; October 2012
updated January 2020

Appendix

This is a brief and incomplete catalogue of tablets with divinatory diagrams representing intestines. Other such tablets exist and there are undoubtedly museum holdings I have not referenced, as well as items in private collections – e.g.: Jeff Saward saw two single-diagram tablets in the stock of an antiquities dealer in London in 2002, one is illustrated below. I know of no comprehensive catalogue, and I have no clear notion how many more such tablets there might be. See note 1 below for standard abbreviations.

Tablets and Locations

Vorderasiatische Museum, Berlin

- VAT 744 = VAN 61: The Berlin Labyrinth = Kern 2.
  Illustrated: Figure 4 above; [Kern 2000]; [Weidner 1916]; [Böhl 1935].
- VAT 984: First tablet with multiple diagrams (Neo-Babylonian).
  Illustrated: [Weidner 1916]; [Böhl 1935].
- VAT 8687: Multiple diagrams (Aššur, Neo-Assyrian) = KAR 431.
  Illustrated: [CDLI] item number P369391.
- VA Bab 2341: Multiple interconnected spirals (Babylon, Middle Babylonian).
  Illustrated: "Beyond the Horizon" Exhibition, Berlin, 2012 - www.jenseits-des-horizonts.de/item/204/
- VA Bab 2343 = VAN 9447: Multiple diagrams (Babylon, Middle Babylonian).
  Illustrated: Figure 6a above; [Lyngsgård 2002]; [Weidner 1916]; [Böhl 1935].
- VAT 9560: Weidner's Mystery Tablet (Neo-Assyrian).
  Illustrated: Figure 15 above; [Weidner 1916].

Rijksmuseum van Oudheden, Leyden

- (Catalog ID unknown): The Leiden Labyrinth.
  Illustrated: Figure 5 above; [Böhl 1935].

Musée du Louvre, Paris

- AO 6033: Single diagram with inscription (Umma, Old Babylonian).
  Illustrated below; [CDLI] item number P386355.
- AO 3073: Double diagram with inscription.

Yale Babylonian Collection, New Haven, Connecticut

- MLC 1716: Fragment of a multiple diagram tablet.
  Illustrated: [Goetze 1947] Plate 133.
- YBC 2166: Round tablet with a single maze-like diagram in the shape of a figure 8.
  Illustrated: [Van Buren 1930] Plate 56 (Van Buren incorrectly calls this YBC 2168.)
- YBC 2167: Multiple diagrams: 9 coils all interconnected.
  Illustrated: [Van Buren 1930] Plate 56.
- YBC 2168: Round tablet with one diagram per side.
  Illustrated: [Goetze 1947] Plate 133 (Van Buren incorrectly calls this YBC 2166.)
- YBC 3000: Small domed double spiral diagram (Neo-Babylonian).
  Illustrated: [Goetz 1947] (side view); [Van Buren 1930] (top view).

University of Pennsylvania Museum, Philadelphia

- CBS 6742: Single diagram tablet (Nippur).
  Illustrated: [Legrain 1925] Plate 59.

National Museum of Aleppo, Syria

- E 3384: Multiple diagram tablet (Tell Barri = ancient Kahat, Syria)
  Illustrated: Figure 6b above; [Salvini 2004].

According to Böhl, the provenance and dates of the Berlin and Leiden Labyrinths are unknown. Weidner describes the Berlin Labyrinth as "probably Neo-Babylonian." Böhl purchased the Leiden Labyrinth in the antiquities trade in Baghdad in 1932. Although Koldewey's VA Bab 2343 is sometimes described as Neo-Babylonian, Weidner assigns it instead to the end of the Middle Babylonian period (as the Vorderasiatisches Museum does currently as well).

For the other items I have not found the location or date except as noted. AO 3073 in the Louvre has an inscription, so is presumably datable, but I have seen no information or illustration for this tablet. Likewise, the tablet from ancient Kahat (Tell Barri) is presumably datable, but the preliminary expedition report [Salvini 2004] gives no date.

Van Buren gives the suspiciously constant date 1600 BCE for several of these (VAT 744, VAT 984, CBS 6742, AO 3073, AO 6033, YBC 2166, YBC 2167, YBC 2168). I have not been able to corroborate that, and other sources disagree for some of them.

Historical Periods

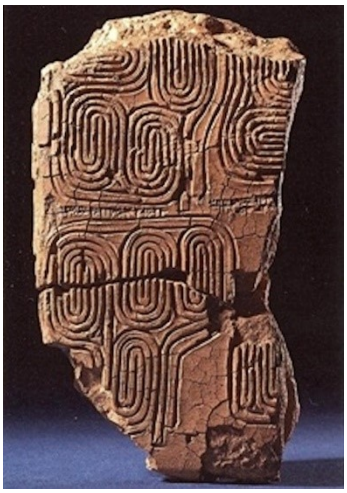
Old Babylonian: ca 1900 to 1600 BCE
Middle Babylonian: ca 1400 to 1100 BCE
Neo-Assyrian: ca. 911 to 612 BCE
Neo-Babylonian: ca. 626 to 539 BCE

Additional Tablets

Tablet AO 6033
Photo courtesy of the Louvre

Tablet MLC 1716
Goetze, plate 133

Tablet seen in London 2002
Photo: Jeff Saward



Tablet VA Bab 2341

Tablet YBC 2166
Van Buren, plate 56

Tablet YBC 2167
Van Buren, plate 56

Tablet YBC 2168
Goetze, plate 133

Notes

1. VAT = Vorderasiatisches Tontafel (Near East Museum clay tablet)
   VAN = Vorderasiatisches Negativ (Near East Museum photographic negative)
   VA Bab = Vorderasiatisches Babylonian collection
   KAR refers to Ebeling's illustrated catalog [Ebeling 1924].
   AO = Antiquités Orientales du Musée du Louvre, Paris
   MLC = Morgan Library Collection (mostly housed at Yale University in New Haven)
   YBC = Yale Babylonian Collection (at Yale University in New Haven)
   CBS = Catalogue of the Babylonian Section, University of Pennsylvania Museum, Philadelphia

   I am deeply grateful to Dr. Joachim Marzahn and Julia Buckenauer of the Vorderasiatisches Museum in Berlin for information relating to the museum's holdings.

2. My argument is based on the CDLI image, but the continuous nature of the path is even clearer in Friberg's earlier plate; the walls that Friberg ignores in order to form the tight spiral are more clearly deliberate walls and not cracks.

3. Most translators agree in translating the titular phrase as "The Land of the Living", or "The Land (or Mountain) of the Living One," and it is clear in the text that "the land" is the place toward which Gilgamesh leads his expedition. The Sumerian word for "land" is *kur*, whose literal meaning is "mountain." It is also used specifically for the Land of the Dead – which is why it is modified here to make it clear that this is not the intended meaning.

4. I learned of the recent archaeological developments in Spain and Portugal from Jeff Saward. The articles by Campos (Campos 2008) and Soreto (Soreto 2008) in *Caerdroia* 38 cover small parts of this growing awareness of the old Iberian tradition of labyrinths, and I expect to see a more comprehensive synthesis in future issues.

5. See, for example, the "Dolphin Fresco" at Knossos, whose border has an open meander on the left. Several pottery pieces in the Heraklion museum display open meanders – good photos are available at Wikipedia Commons in the category "Minoan pottery":
   http://commons.wikimedia.org/wiki/Category:Minoan_pottery

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https://research.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=388863&partId=1&searchText=huwawa&page=1

CDLI: website of the Cuneiform Digital Library Initiative, UCLA.
Homepage: https://cdli.ucla.edu/
In the quick search box field "CDLI no." enter any of the following:
P274587 (for Schøyen MS 3194), P274588 (for MS 3195), P253616 (for MS 4515), P253617 (for MS 4516); P369391 (for VAT 8687), P386355 (for AO 6033).

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Available at the Internet Archive:
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MS 3194: https://www.schoyencollection.com/24-smaller-collections/architecture/labyrinth-ms-3194
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Stanford CHR: website of the Stanford Cultural Heritage Resource.
Discussion touching on the Schøyen collection:
https://web.archive.org/web/20131025103855/https://www.stanford.edu/group/chr/drupal/ref/aramaic-incantation-bowls
See also: "Buying, selling, owning the past": https://news.stanford.edu/news/multi/features/heritage/

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The Hommel Festschrift is available online from the Open Library at the University of Toronto:
http://archive.org/details/orientalistische0102hommuoft