



KEYWORDS: *Merels game board – Circle and square – Christian magic*

## FROM CIRCLE AND SQUARE TO THE IMAGE OF THE WORLD: A POSSIBLE INTERPRETATION FOR SOME PETROGLYPHS OF MERELS BOARDS

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**Abstract.** The game board for 'nine men's morris' (merels) is found incised on horizontal rock surfaces at many places of the world. It was also used in inclined or vertical positions as a motif for petroglyphs on rocks and historic buildings. The possible meaning of such depictions is examined. After an investigation into merels games and game boards, the route of circle and square motifs from Eurasian and Egyptian symbolism into Christianity is reviewed. It seems that the Christian meaning of the square was transferred to the merels board and, together with other elements, was used in folk art for Christian magic. Some merels boards can be explained this way, the meaning of others remains speculative. This interpretation is restricted to the Christian domain, in other parts of the world, for example in the case of a tombstone from Pend•ikent (Tad•ikistan), the meaning remains nebulous.

### Introduction

An interesting motif in petroglyphs on rocks and on historic buildings in Europe is the game board for 'nine men's morris' (Figure 1). It is to be found not only in horizontal positions, but also on inclined and vertical rock and wall faces where no game can be played on it. The game board is called *merels board* here.

There may be various reasons why merels boards are found in vertical positions. In the case of the throne of Charlemagne in the cathedral in Aix-la-Chapelle (Germany), for example, Roman marble slabs were re-used in its construction. On a side slab, traces of a merels board are visible. Other merels boards on vertical walls may simply be doodles or, as Mandl (1994a: 63) suggests, symbols for game boards. Another reason for drawing such designs may be just aesthetic pleasure, if the sides of the squares are set in the ratio of small numbers like 1:2:3 or 1:3:5 or 2:3:4. The modern examples in window grilles, in railings and in the designs of cabinetmakers and art metalworkers certainly fall under that category.

In the past the diagonal of the square was used for construction purposes in architecture. If the side of the square equals a unit of length, the diagonal represents the square root of two. Resulting from this application a set of concentric squares with the side ratio  $1:\sqrt{2}$  represents the stone-mason sign from Strassburg, France (Figure 2). Ribakov (1949, 1957) demonstrates how, with the help of three concentric squares and alternatively with three concentric rectangles with the side ratio  $1:\sqrt{2}$ , the square roots of 2, 3, 5, 6 and the golden section can be constructed (Figure 3). This geometric procedure is certainly correct, however, the small and irregular examples of Ribakov were not suitable for that practical purpose (Korzukhina 1963; Poljakova and Fekhner 1973).

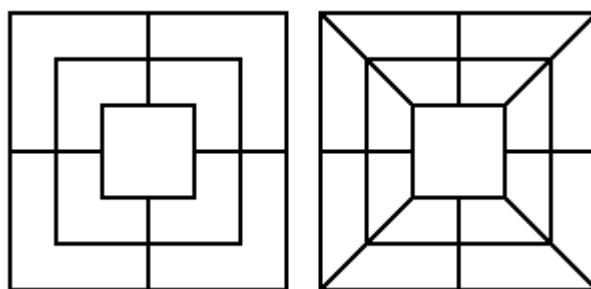


Figure 1. Types of large merels game boards.

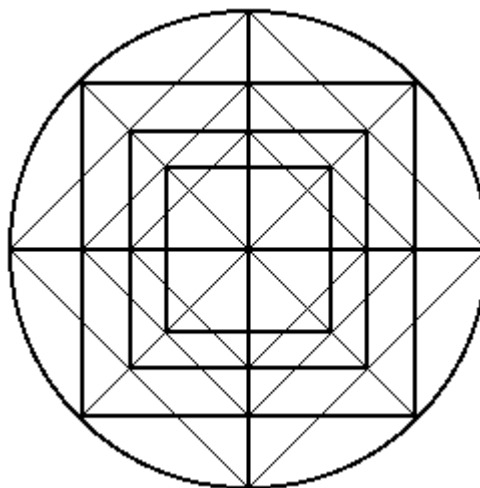
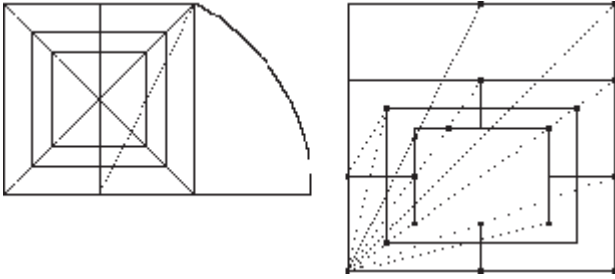


Figure 2. Stone mason sign from Strassburg; after Weber (1954: Fig. 23).

### Examples of merels boards with a possible symbolic meaning

The use of symbols for the game board, aesthetic feelings and circumstances of construction may explain some merels boards in vertical positions, but not all. In order to



**Figure 3.** Merels board as basis for architecture; after Ribakov (1949: Fig. 23b, 1957: Fig. 14–15).

demonstrate a possible alternative symbolism some examples are presented.

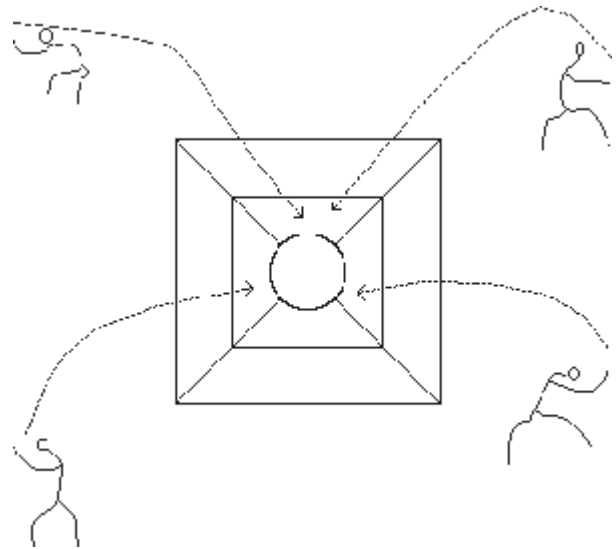
The first example is a merels board in the external decoration of a half-timbered house in Goslar, Lower Saxony, Germany. The decoration is on a band of timber that runs over its whole length at the base of the first floor (Borchers and Weigel 1935; Weigel 1942; Berger 1996). At the bottom of the band there is an inscription reading:

‘SOLI DEO GLORIA § ANNO DOMINI 1•5•7•5 NISI DOMINUS EDIFICAVERIT DOMUM FRUSTRA LABORANT QUI EDIFICANT EAM § NISI DOMINUS CUSTODIERIT: DICIT PSA...126.’ (Translation by the author: ‘Only to God the glory; Anno Domini 1575, if the Lord will not have built the house those who build it work in vain; if the Lord will not protect (it): (so) says Psalm 126’). The text is from the Vulgata, the original Hebrew and the modern counting is Psalm 127,1 (— 1950).

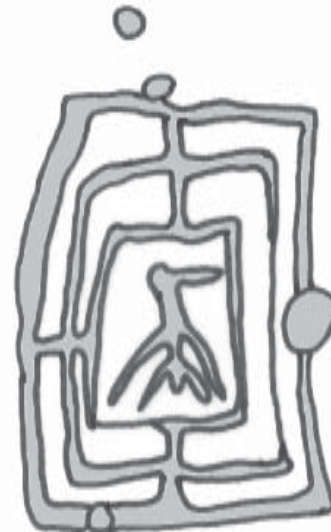
Above this verse the band consists of semicircles alternating with small rectangles. Most of the semicircles represent sun roses, i.e. they have radial elements. The other semicircles and the rectangles are filled with various geometric motifs. These include stars with six points, circles or hexagons with six radii, lozenges, tree and twig, diagonal crosses, one pentagram and one merels board. All the geometric motifs seem to have a symbolic meaning for protection and fending off the evil. In the Germanic mythology the sun has beneficial power and destroys bad magic (de Vries 1956: 279–80). The pentagram was introduced from the Mediterranean. In the combination with the verse from the Bible, with sun roses and all the other protective symbols, the merels board seems to be a protective symbol, too.

The second example is from a rock platform in the Tannicht forest at Görkau/Jirkov near Chomutov, Czech Republic. In the oral tradition of the German population, who lived here prior to the ethnic cleansing in 1945, the design of Figure 4 was used for a divine judgment in the past. The accused and his witness as well as the plaintiff and his witness each had to throw a stone over the shoulder to try to hit the circle in the centre. The group who hit the centre was considered to say the truth (Wollenik 1991: 11–20; Wollenik and Paulus 1995).

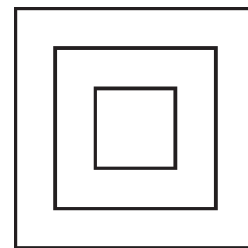
Another example is from Medeglia, Ticino, Switzerland. A board in N-S orientation has an anthropomorph (?) in the centre, Figure 5. Besides it there is a board without the intersections as in Figure 6. The last example, Figure 7,



**Figure 4.** Board for divine judgement, Görkau/Jirkov, Czechia; redrawn after Wollenik (1991: 120).



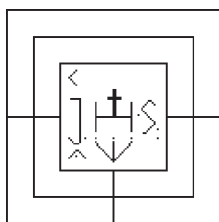
**Figure 5.** Merels board from Mediglia, Ticino, Switzerland, with an anthropomorph (?) in the centre; redrawn after Schwegler (1992: 85, 227).



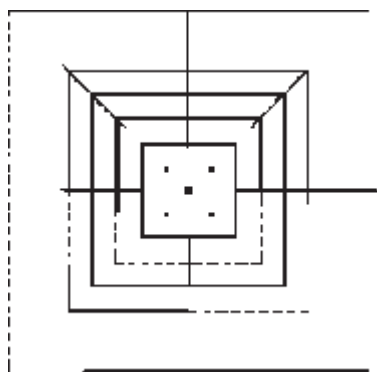
**Figure 6.** Merels board without intersecting lines.

is at a building in Verbiana which is located at the Lago Maggiore, Italy.

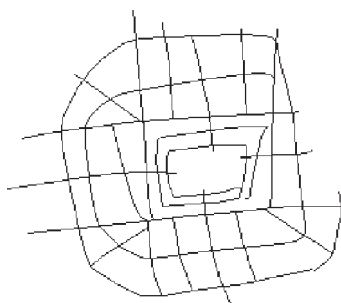
These examples demonstrate that the merels board here has meanings other than that of a game board and it is not used for aesthetic or construction considerations. What is the meaning or are the meanings of the merels board in these cases?



**Figure 7.** Merels board with inscription in the centre, from a building in Verbiana at Lago Maggiore, Italy; schematically redrawn after Gavazzi and Gavazzi (1997: No. 102).



**Figure 8.** Board from Funtensee, near Berchtesgaden, Bavaria, Germany; idealised schematic drawing after photograph of Wollenik (1982: Pl. 31) and sketch of Mandl (1994a: 62).



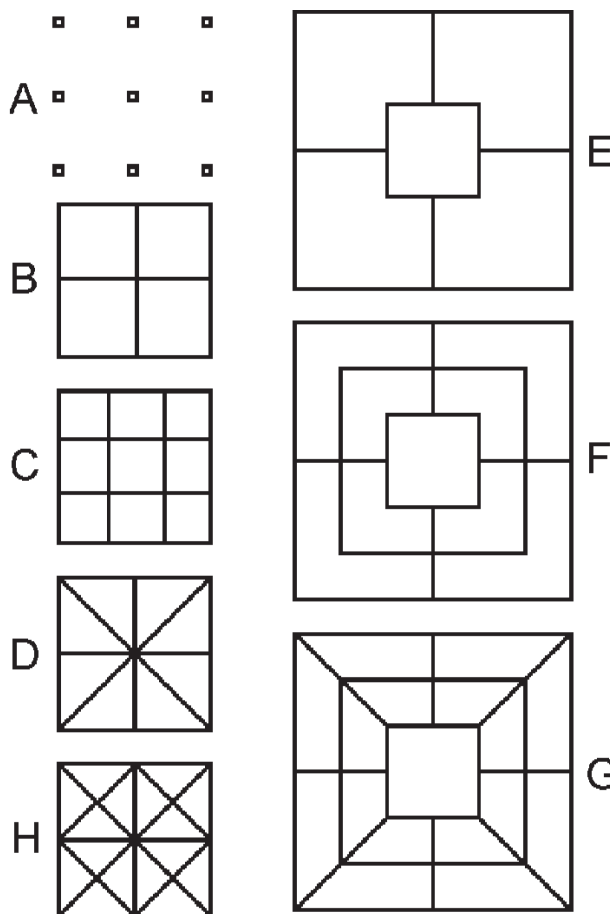
**Figure 9.** Board from Montonneau, Fontainebleau Massif, France; redrawn after Benard (1997: Fig. 2), schematic.



**Figure 10.** 'Spider-web'-type merels board from Sarkel at the river Don, Russia; redrawn after Nakhapetjan (1994: Fig. 3).

Occasionally merels boards have additional attributes, internal or external, which are not necessary for the game, for example a central cupule or a N-S orientation. There may be more than three concentric squares (Figure 8). In other cases parts of the board may be missing, down to the extreme of the bare squares (Figure 6). Some designs look like spider webs (Figures 9, 10) and are not suitable for the game.

In order to determine these meanings the game 'nine men's morris' and the history and geographical distribution of the game board were studied as a first step, seeking meanings beyond the simple game.



**Figure 11.** Merels boards after Murray (1978: 38).

### Three-in-a-line games

'Nine men's morris' is one of the 'three-in-a-line' games. 'Three-in-a-line' games are played on a variety of game boards. Murray (1978: 37-50) compiled several examples (Figure 11) and collected names for the games. Besides others, the Romans played a three-in-a-line game on a circular board with radial lines (Figure 12). In north Africa, 'three-in-a-line' is played on a board with 5 ' 6 or 6 ' 6 or 42 cells, an example being given in Figure 13. The boards of Figures 12 and 13 are, however, unimportant for the present investigation.

The simplest game is called 'noughts and crosses'. It is played on board type C of Murray without the four outer lines. The board is made afresh for each new game. One player makes an 'O' and the other an 'X' in alternating

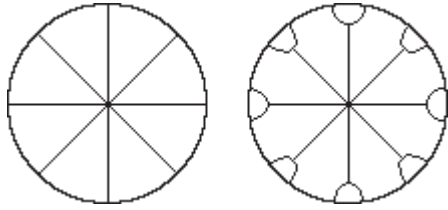


Figure 12. Circular Roman merels boards; redrawn after Rieche (1986: 89).



Figure 13. A 6 × 6 game board on a tile in the ruins of the castle of Ain Farah, Northern Darfur, Sudan (photograph by the author).

turns. Both players try to score three identical signs in a line, in any direction. 'Nine holes' is played on boards A, B, and C. Each of the two players enters one 'man' or token at a time in alternating turns. The player who forms an orthogonal line of three wins. After all men are placed on the board they are moved, one at a time, to any vacant point or cell. The 'small merels' or 'three men's morris' is played on board D, 'five (or six) men's morris' is played on board E, 'nine men's morris' on board F and 'eleven or twelve men's morris' on board G of Figure 11. The games on boards F and G are also called 'large merels'. The rules are similar, each player enters one 'man' at a time in alternating turns. If a player forms a line of three he removes one of his opponent's men, but normally not from a line of three. After all men are placed on the board they are moved, one at a time, one step on the lines to the next neighbouring empty place. If the number of men is reduced to three, the men may leap into an empty position. The game is over if the men of one player are blocked or if one player has only two pieces left. On board G, men may move on the diagonal lines, but they cannot make a 'line-of-three' there (Murray 1978: 46). Bell (1969, I: 91–5, II: 55–7) reports

more or less the same games. Murray (1978: 50) and Bell (1969, II: 57) mention a game of 'five men's morris' for board H in Figure 11, but both have doubts whether this game was really played.

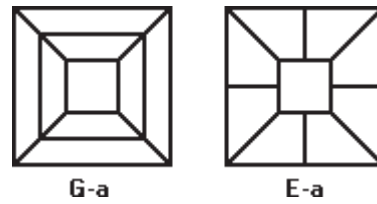


Figure 14. Merels boards after Pinon (1968: Figs 24, 27).

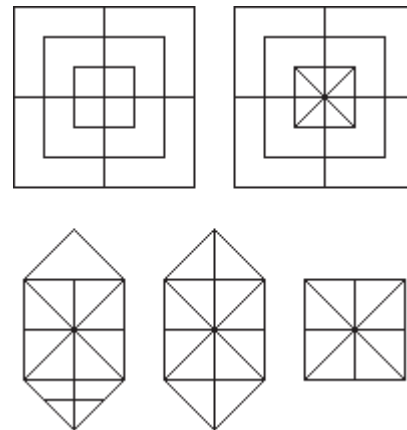


Figure 15. Merels boards from Riga, Latvia; redrawn after Caune (1993: Fig. 3A), schematic.

Murray's arrangement of game boards in Figure 11 gives the impression that the boards follow a clear system. This is not really correct. Pinon, for example, reports two variants for types E and G (1968: Figs 24, 27), see Figure 14. In Riga, Latvia, Caune (1993: Fig. 3A) found several game boards on wooden planks from the 12th/13th century, see Figure 15. Also, the rules vary on a regional basis. In China 2 × 12 pieces are used for board type G. If one player gets three in a line he puts one of his pieces on top of a piece of his opponent to declare it 'dead'. After all pieces are set, the 'dead' pieces are removed and the game continues as usual (Culin 1991: 102). In New England, U.S.A., a player can have his men leap if he is reduced to four instead of three (Murray 1978: 46). In Morocco (Topper 1996, 1997) the game is played with twelve men. The players may move their men before all are on the board. The last three pieces are not allowed to leap. Alternating between setting new pieces and moving them is also permitted in parts of India (Murray 1978: 47). In Khartoum, Sudan, a board with extensions to the centre is used (Figure 16). Each player has twelve men and four men have to build a line (Ramadan 1996).

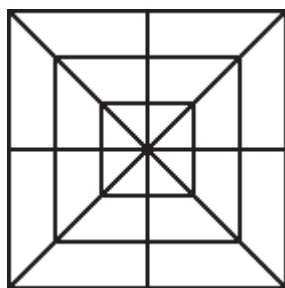
**Geographical distribution and history of large merels boards**

Wagneur and other members of GERSAR (Groupe d'Études, de Recherches et de Sauvegarde de l'Art

Rupestre) began to collect an inventory of merels boards in archaeological and historical context, starting in the forest of Fontainebleau and expanding to the rest of France and the whole world. A preliminary report was drafted (Wagneur 1995). By 1997 over one thousand boards had been documented, but the project was terminated without final report. On the basis of the available data a geographical review (Berger 2003: 16–27) reveals that no large merels board is documented from pre-conquest America and pre-contact Australia. In the rock art of Mexico, for example, concentric squares/rectangles are reported from the state Sonora (Ballereau 1990: 335, 416, 417, 419–22). In the province San Luis of Argentina several examples of concentric squares were found in the rock art (Consens 1997, II: 42, 54). In the art of native Australians, for example, four sets of concentric rectangles are called ‘Two Women Dreaming’ (Ronnie Tjampitjina 1990; in Caruana 1996: Fig. 95). No example with the intersecting lines was found there so far. That implies that the design of the large merels boards was invented in the Old World.

Murray (1978: 44) and Bell (1969, I: 93) mention a merels board from Stone Age and Bronze Age of Ireland. This dating is doubtful. The reports from the excavation in 1879 were lost and cannot be checked (Sterckz 1971). The game boards on the roofing slabs of the temple of Kurna (Qurna), Egypt, are normally assigned to the time of the construction of the temple at approximately 1400 – 1350 B.C. (Murray 1978: 18–19; Bell 1969, I: 93). Wagneur (1995) has reviewed the original literature (Parker, H. 1909, *Ancient Ceylon*) where a total of 34 geometric figures are reported from Kurna. Murray presented only the seven game boards of them. Many of the other figures are Coptic crosses, one is inside the merels board (Murray 1978: Fig. 7F). This leads Wagneur to the conclusion that the figures are Coptic. Certainly they cannot be dated.

Two boards on steps up the hill at Mihintali and on a rock near the Lankarama dagabe, both Sri Lanka, are said to be not later than the first century A.D. (Murray 1978: 44) or carved during the reign of Mahadathika Maha-Naga, A.D. 9 – 21 (Bell 1969, I: 93). Reference is again made to Parker’s *Ancient Ceylon*, but a source for this timing is not given. Perhaps readers from that area have better information.



**Figure 16.** Merels board from Khartoum, Sudan.

The next in age are Roman game boards. One of the oldest merels boards is on a tile from the last level of occupation, about 100 B.C. – A.D. 40, of the Oppidum of Enserune (Nissan-lez-Enserune, France; Wagneur 1995)

Another one was incised on a tile before firing. It carries the stamp of the Roman Legion XXX from Xanten, Germany (Hanel 1997). Because of this stamp it is dated after A.D. 196. Two mobile boards are reported from Munigua (now Mulva or Mulba) near Sevilla, Spain (Fernández Gómez 1997). They have a merels board on one side and a board for draughts on the reverse. These Roman boards are of type F, without diagonals. In Bosra, Syria, there are several merels boards of both types, F and G, and other game boards incised in horizontal position on the upper ranks of the theatre and on the wall of the cistern built by the Romans from local basalt (Berger 1999). As these locations have been easily accessible since then the game boards cannot be dated. Krüger (1999) found an additional merels board of type F in a vertical position on the wall of a garden built from re-used basalt stones. This find introduces a possibility that all these boards were made by the Romans between A.D. 106 and 634. Alternatively Arabs could have made them. A board on a slab from a Hellenistic building was found in a Christian burial of the third to fourth century in Toprakli, near Van, Turkey (Dallemulle 1970). There are many more merels boards on buildings from Roman times, but they cannot be dated as they may have been drawn later. The Romans did not leave a name of the game, only a short comment on the rules by Ovid. Ovid (43 B.C. – A.D. 18) explained the rules for the small merels game vaguely in his *Ars Amatoria* (III, 365-8) and recommended that a girl should know this and other games in order to entertain a young man (Rieche 1986: 44).

The Romans may have received the game from Sri Lanka via Egypt. On the sea route the port Berenike, Egypt, played an important role in the trade across the Red Sea and the Indian Ocean. In Ptolemaic times (305 – 30 B.C.) elephants were imported here, initially from Asia, later from southern Africa. They were trained by Indian mahouts (Gautier et al. 1994: 13; Sidebotham and Wendrich 2002: 41). During Roman times Indians from the Tamil south were living in Berenike and the neighbourhood. The trade route from Berenike led to Apollinopolis Magna (Edfu) and to Coptos (Qift) at the river Nile. Indians were living also in Alexandria and other places on the Mediterranean (Sidebotham and Wendrich 2002: 24–5, 29, 41, 42). Thus the Romans may have obtained the large merels board from Sri Lanka, but there is no proof for such a hypothesis. Kurna (better Qurna), opposite Luxor / Thebes in the Nile valley, is located between Edfu and Qift. The collection of game boards from Qurna includes the small and the large merels board and the circular board. So their origin may be Roman.

Thus the merels game was probably well known by the Romans, with several versions of game boards. It is not known whether the Romans invented the game themselves or received it from somewhere else. There is, however, no indication that the Romans interpreted the merels board as a symbol of any kind. All information and utilisation points to its use as a game board only.

Several names for the game can be referred back to the Romans, i.e. to Latin. The various versions of ‘merels’, ‘marelle’, ‘mélles’ etc. in French and English go back to

'*marellus*', the diminutive of Latin '*mas, maris*' = man, game piece; '*miles*', in Latin the foot-soldier or the game piece, was used as '*mīle*' around 1215 for the game in German (Bumke 1986: 304, 803). This term merged with the German word '*Mühle*' and then probably was translated to '*m<sup>3</sup>ynek*' (Polish), '*malom jatek*' (Hungarian), '*melnitsa*' (iâëüíèöà, Russian), '*kvarn*' (Swedish) and is used in 'to close a mill' in English and '*jeu du moulin*' in French.

Type G, the merels board with diagonals, is first reported in Arabic sources. Murray makes reference to Abu'l-Faraj (1969: 194). Abu'l-Faraj reports in his *Kitab al-Aghani* (compiled A.D. 918 – 967) that a certain 'Abdelhakam ben 'Amr ben 'Abdallah ben Safwan al-Hujami possessed a house in Mecca where he kept sets of chess, nard and *qirq* for his guests to play with. '*Qirq*' is the old Arabic name for the merels game. Murray (1978: 37) mentions that the word '*qirq*' is included in many Arabic dictionaries, for example in the one of Qamus (before A.D. 1414) it is accompanied by a drawing of the board. Khan (1995) gives another reference from al-Lissan al-Arab al-Muhayyet, Vol. 3, p. 69:

Abu Issaq al-Harbi mentioned 'Al-Qirq' with reference to Abu Hurayrah (one of Prophet Mohammad's companions) that it was a game played in Hejaz and was called 'Al-Qirq'. It consisted of a large square and another square inside it and another square inside and the lines of each side of the squares were cut by a straight line and each angle of the square was joined by a line so that twenty-four line (crossings) were created in the game.

There is no information about the source of the game '*qirq*' nor about the origin of the word '*qirq*' itself. Besides the game boards in Bosra, Syria, there was a board of type G incised in the floor of a building in Samarra, Iraq (Museum für Islamische Kunst, Berlin, Inv. Nr. Sam 721). It is dated to the 9th/10th century, the time when Samarra was the capital of the Abbasids.

The name '*qirq*' or '*qriq*' was retained by the Berber of the High Atlas in Morocco until today (Topper 1998). It was the source for the old Spanish name '*alquerque*' (Diez Mateo 1958: 35). King Alfonso el Sabio (reign 1252 – 1282) described three games under that name (1941: 362–70). They are '*alquerque de tres*' for board D and '*alquerque de nueue*' for board F. The latter is played alternatively with dice and without dice. The third game is '*alquerque de doze*' (*doze* = twelve), which is not a three-in-a-line game. In Spanish '*alquerque*' is also the press bed in olive oil mills. Alfonso does not mention the Arabic board type G. That means that between the Arab conquest of Spain in 711 and 1282 the meaning of '*al qirq*' = '*alquerque*' had expanded and, on the other hand, had perhaps lost board G. The modern Spanish name for the game is '*tres en raya*'. The modern Arabic name is '*dris*' or '*idris*' which may be a loan word from Spanish (*tres*) or Italian (*tris, tria*) or Greek (*treis, tria*). Italian is the only European language with separate names, '*tris*' or '*tria*' for the small and '*filetto*' for the large merels (Gaggia and Gagliardi 1986: 104).

In conclusion, the origins and the sources for game boards F and G are not known. It is not known whether there was one common source or there were two separate sources. It is also not known how board type G entered

Europe. Board type F and similar boards are more common in Europe, for example only six per cent of all recorded large merels boards in France have full diagonals like type G (Wagneur 1995). Neither the rules for the games nor their names provide any indication for a symbolic meaning of the boards.

#### Some comments on the small merels board

Murray (1978: 36, 42) reports that the Chinese game '*yih*' mentioned by Confucius (551 – 479 B.C.) and Mencius (372 – 289 B.C.) was the smaller merels, type D. This board is part of the modern Chinese and Korean chess-board and is incorporated in the middle of the outer three lines on both sides (Chinese and Korean chess are played on the lines). It is called '*kyu-kung*' (= nine castle or palace, camp, fort) there. In the Korean chess the king starts from the centre of 'nine castle' and he is restricted to that area. All the other game pieces can use the diagonal lines within this area (Culin 1991: 83–4; Murray 1969: 124, 135). It seems that the name 'nine castle', i.e. the place of the king in chess was transmitted to India-Persia. Murray (1978: 41) mentions a Persian name '*hujura*' for the small merels board. His source is Hyde (1694). In a modern Hindi dictionary (Sharma and Vermeer 1987: 1626) the word '*hujur*' is found with the meaning of, inter alia, 'kings court'. The syllable '*ju*' has a diacritical point expressing '*zu*' from Arabic/Persian loan words. The original word is '*hudûr*' in Arabic and '*hozûr*' in Persian (the same in Arabic writing, but with different pronunciations) with the meaning 'presence, attention, visit'. A related word '*hadra*' with the plural '*hadarat*' is used as an address like 'your honourable', similar to '*hazrat*' in Persian (Krotkoff et al. 1981: 152; Junker and Alavi 1965: 250). These names for the small merels board may express that a high value was assigned to this design.

In Sri Lanka the games on boards A, B, C, D, F and G are called '*nerenchi keliya*' or '*niranchi*' (Murray 1978: 39, 47). This is probably to be interpreted as 'god's game, divine game' (*niranjana* = perfect, elevated over, standing above [adj.], god [subst.]; *khel* = game). The merels board is also used as a charm in Sri Lanka (1978: 6).

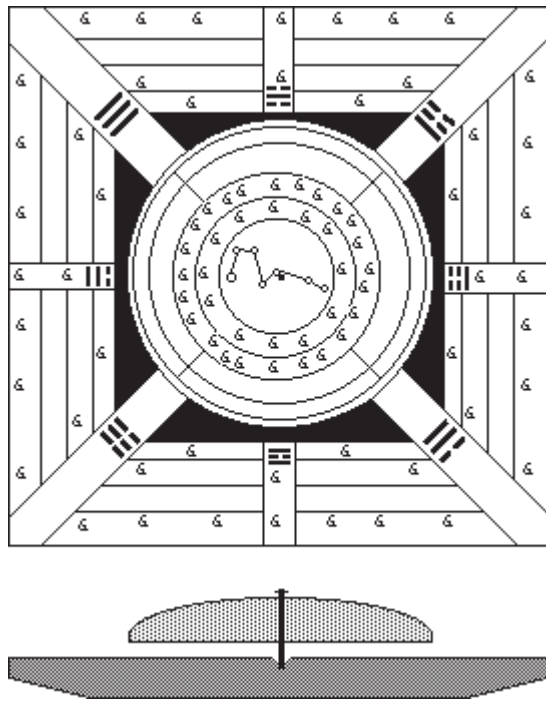
Whether there is a connection to the names 'real' (royal) and 'castro' (castle) in Castilian Spanish for the large merels board (Murray 1978: 45) is not clear.

As many game boards, especially the smaller boards, were and are just drawn on the ground in many parts of the world, as the rules are so simple that three-in-a-line games may have been invented independently at different places, also by people without a writing system, it would be futile to look for a single source or origin of the small merels game and the game board.

Thus we have about 2000 years of tradition in merels games and boards, but it does not tell us anything about the background of the symbolism of Figures 4, 5 and 7.

#### Other designs with concentric squares, other interpretations

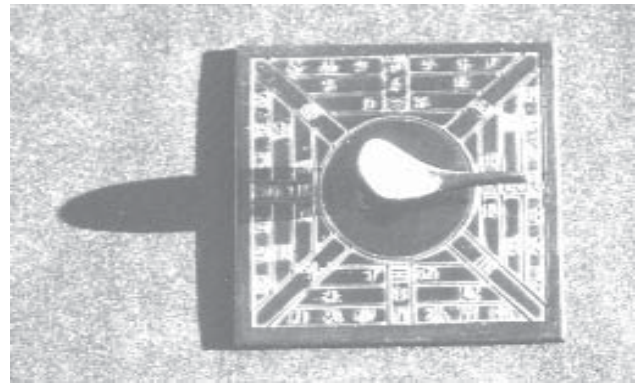
Sets of concentric squares with intersecting lines or bands were also used for other purposes. One application



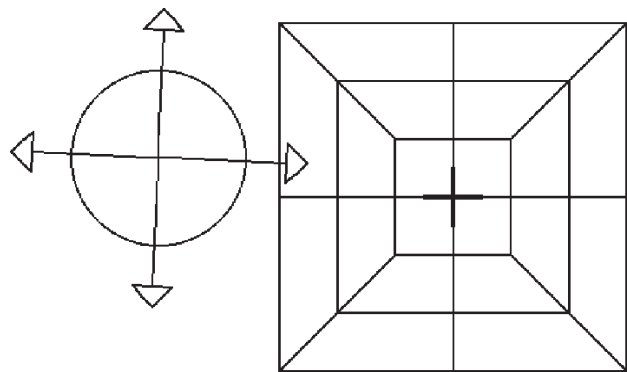
**Figure 17.** Diviner's board from the tomb of Wang Hsü (A.D. 69), Lo-lang, Korea, as reconstructed; redrawn after Loewe (1979: Fig. 12) and Ronan (1981: Fig. 133), schematic. The '&' symbols represent inscriptions.

is in the Chinese diviner's board (Figure 17). The diviner's board consists of two discs, a square bottom disc and a circular upper disc that can rotate over the former. The square disc has diagonal paths between the corners and a horizontal and a vertical path between the central points of the sides. The circular disc and the square disc have several bands. The bands and the paths themselves have a cosmological meaning. The bands show characters with astronomical and mythical meanings. In the centre of the circular disc there is the constellation of the Dipper or Plough (Loewe 1979: 75–80, 204–8; Ronan 1981: Fig. 133). In the process of divination the square disc, representing earth, was aligned to the cardinal directions. The circular disc, representing heaven, was turned so that a specific symbol on it pointed to the position of the sun. The result of the divination was then given by the handle of the Dipper, pointing to one of the animals on the disc. The Chinese compass has a similar layout (Figure 18), except that it is a single quadratic disc with a circle in the centre. It was made from bronze. The magnetic 'needle' consisted of a piece of loadstone (magnetite) in the form of a spoon (the 'handle' of the Dipper in Chinese is 'piao' = spoon). This spoon was set on the plate and it turned with the handle to south. The oldest known divination tool is from the time of the Western Han (206 B.C. – A.D. 9). According to information by the Museum of the Chinese History in Beijing (— ? 1997) the Chinese compass goes back to the time of the Warring States (480 – 221 B.C.).

In rock art the two discs of the Chinese diviner's tool are represented together on the 'stone of judgement' (*la pietra del giudizio*) near Biácis in the Val de Natisone, NE



**Figure 18.** Chinese compass, replica (photograph by the author).

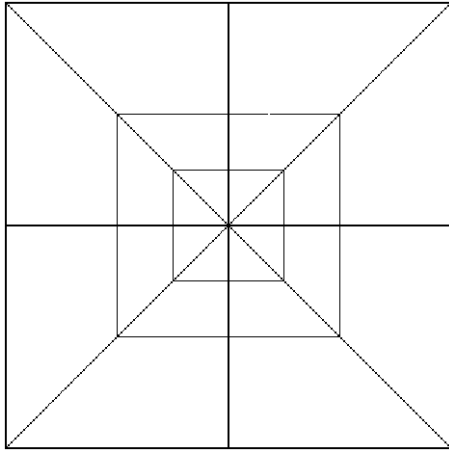


**Figure 19.** Board from Biácis, Val de Natisone, Venezia, Italy; redrawn after Caracci (1968: Fig. 4), extract.

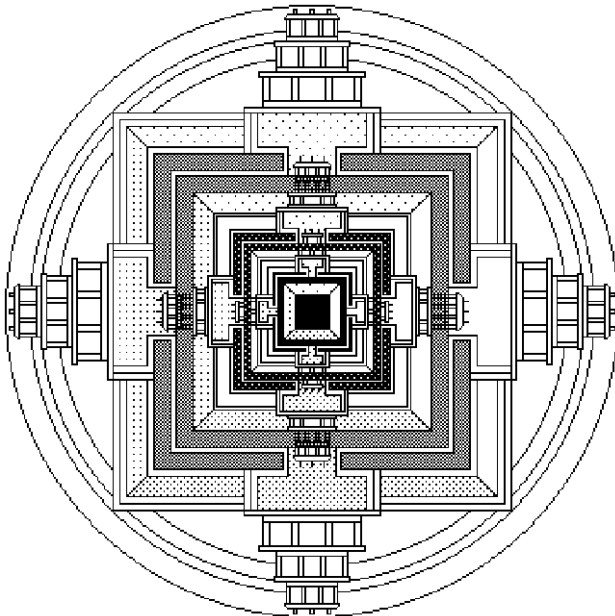
of Udine, Venezia, Italy (Caracci 1968: 21–6), see Figure 19. The tradition tells that the elders met around this table to administer justice. Caracci does not mention the merels board in his report, he shows a photograph and a sketch only. This example and the layout of Figure 4 as well as the N-S orientation of several merels boards could indicate a connection with the Chinese tools. But as specimens of the divination tool and of the Chinese compass are only known from China and Korea and none has been found outside so far, a direct connection is unlikely.

Concentric squares are also used for the construction of certain mandalas (Figures 20 and 21). These types of mandalas seem to be a relatively recent development. The oldest depiction of a mandala is in a cave at Dunhuang in NW China from the 9th/10th century (Cammann 1950: 111; Nowotny 1970: 91; Brauen 1997: 14). It does not have concentric squares.

Haller (1989: 32) called the square a symbol of the cosmos and, in a set of squares, he sees in the central one an image of the sun. He provides no explanation for his interpretation. Nakhapetjan (1994) suggests that the merels board is a combination of two images of the world. The first image is the set of squares. The intersecting lines are explained as a second image, representing a tree seen from above. In the Eurasian mythology the tree is an image of the world, but if Nakhapetjan were right, any star-like picture would be an image of a tree. König (1980: 196–8) demonstrated that a pointer can be set into the central cupule of a specific N-S oriented merels board and she sug-



**Figure 20.** Merels board as one element for the construction of a mandala.



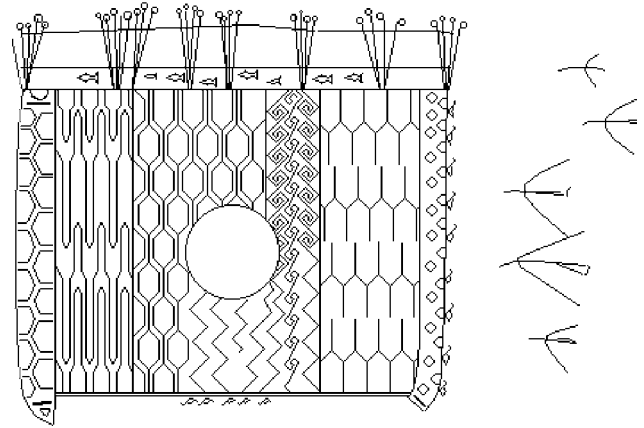
**Figure 21.** Drawing of a mandala; after Brauen (1997: Fig. 52).

gests that it was used as a sundial. In most other cases the central cupule is not deep enough to hold a pointer, and such a pointer would only indicate noon, solstices and equinoxes correctly.

### Circle and square

As no direct explanation for the symbolism of the merels board has been found yet, we should go back to the simpler forms of circle and square and to the cardinal directions. The circular disc as the symbol for the heaven, the square as the symbol for the earth and the cardinal directions were already mentioned in connection with the Chinese tools. In the early pictograms of Sumer the square means 'enclosure' (Jensen 1969: 78–9). This meaning can also be suggested for the quadratic 'fences' in rock art, e.g. at Mogoy, northern Mongolia (Okladnikov 1981: Tab. 21/4), in the Pamir mountains, central Asia (Jasiewicz and Rozwadowski 2001) and in India (Chakravarty and Bedna-

rik 1997: Fig. 62). A circle with a central point represents the sun in the Egyptian hieroglyphs (Betrò 1996: 151) as well as in the original Chinese writing system (Haarmann 1990: 173). The cardinal directions are used for classification systems by many peoples. The four segments of tribes are assigned to the directions, similarly the winds, certain colours, animals, the human body fluids and many other things. In such a way the whole world can be described and summarised and thus the cardinal directions, i.e. the orthogonal cross, can symbolise the world.



**Figure 22.** Rock painting from Jaora, Bhopal region, India, showing the cosmos (?); redrawn after Neumayer (1993: Fig. 120), schematic.

Circle and square together combine heaven and earth, this represents the 'total world'. One of the earliest examples may be shown in Figure 22. Neumayer (1993: 66) interprets this rock painting from Jaora, Bhopal region, India, in the style of the early hunters and gatherers as a representation of the cosmos. This painting shows a 'square' (actually a rectangle), divided into several stripes decorated with a variety of design patterns. An empty circle is in the centre. On the upper periphery of the square, 'fish' are shown between 'reeds' or 'lotus stems'. Along two other sides are 'water birds', besides the rectangle are five 'flying birds'. The geometric design within the rectangle does not seem to represent fields of agriculturists because this kind of design is also applied to animal bodies and is used independently. Neumayer assigns the rock art of this style to the Mesolithic period as only activities of hunters and gatherers are shown in contrast to pictures of other rock art styles (1993: 31–5, 43).

The symbolism of circle and square was and is widespread in Eurasia. For example it was used in architecture. A cult centre at Dashly in Afghanistan from the second millennium B.C. had a round fire temple in the centre, surrounded by circular living quarters within a quadratic outer wall. This can be compared with the circular hearth within the quadratic hall of Mycenaean noble men (Brentjes 1981: 15, 40). This symbolism was later lost in the Greek and Roman architecture, but it came back to western Europe with the immigration of new Germanic people, see for example Figure 23. As Figure 24 shows, the Germanic symbolism was adopted into Christianity. The seated man on



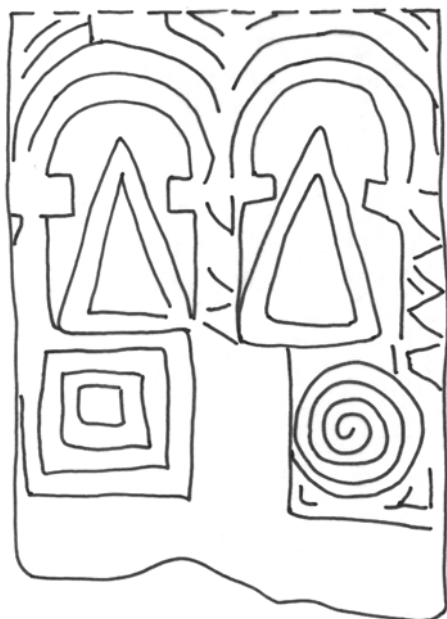


Figure 23. Visigothic stone from the museum of Nîmes, France; drawn after Büttner (1990: 37).

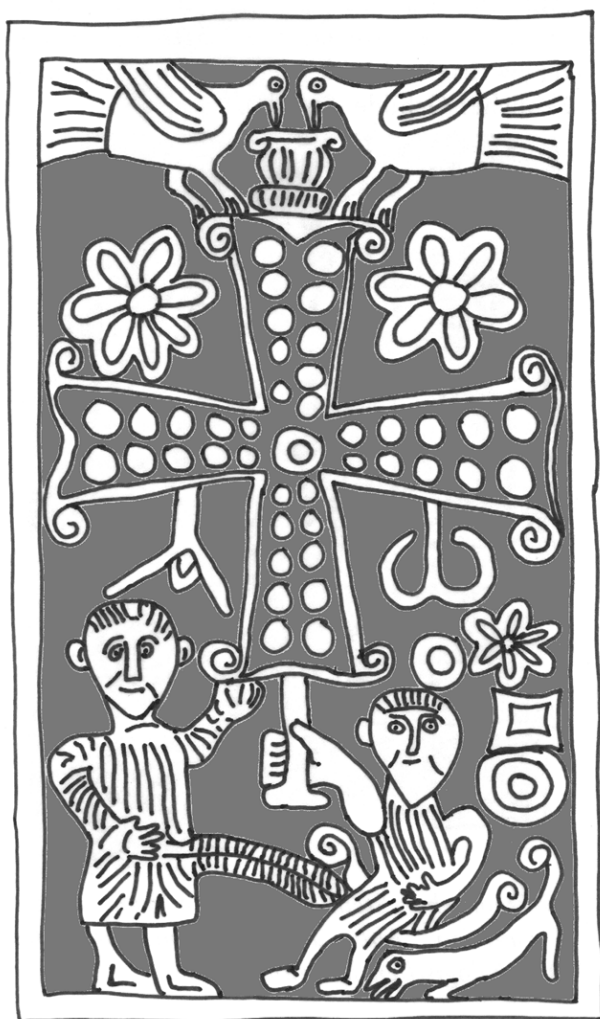


Figure 24. Relief plate from Église des Pèlerins, eighth century, Museum Lapidaire, Narbonne, France; drawn after Baum (1937: Fig. 191).

this plate is interpreted as a priest. He holds the cross. The standing man touches the cross. Because of his dress he is thought to be a Frank (Wennig 1982: 18–19). To the right and above the seated man there are sets of concentric circles and squares.

In Christianity, square and circle find their culmination in the ‘*Maiestas Domini*’ (majesty of the Lord). In early pictures from the fifth and sixth century Christ is sometimes shown sitting or standing on a circle/sphere (Ladner 1996: 46, 48, 67). Later the ‘*Maiestas Domini*’ is the image of God or of Jesus on the throne surrounded by a circle and a square/rectangle or by a mandorla and a rectangle/square. The mandorla is the shape of the almond. The ‘*Maiestas Domini*’ expresses God’s reign over earth and heaven (Figure 25). Normally reviewers use the enthroned position of God or Jesus to explain the ‘*maiestas*’, but in my opinion it is the circle and the square which symbolise God’s majesty over heaven and world. This view is supported by an example from Islam. Islam adheres more strictly to the commandment not to make an image of God. In Figure 26 the ‘*Maiestas Domini*’ is expressed fourfold in writing (Al-Mulku Lillahi), redrawn from the palace Ak-Sarai of Timur (1380) and the Gök Gumbas Mosque (1436), both in Shar-e Sabs, Uzbekistan. The inscription forms a square, a circle (octagon) and incorporates the eight directions. It symbolises Sura 1,2 of the Qur-an, ‘Praise be to God, the Lord of the Worlds’ (— 1938).

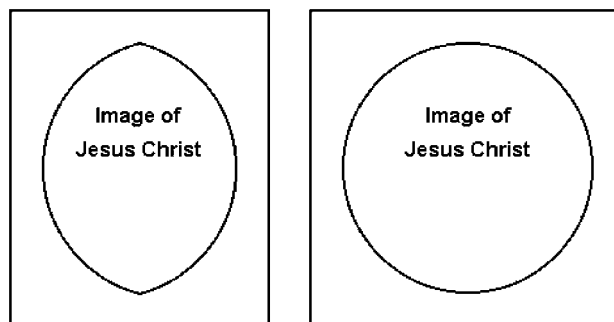


Figure 25. ‘*Maiestas Domini*’ in Christian iconography, schematic.

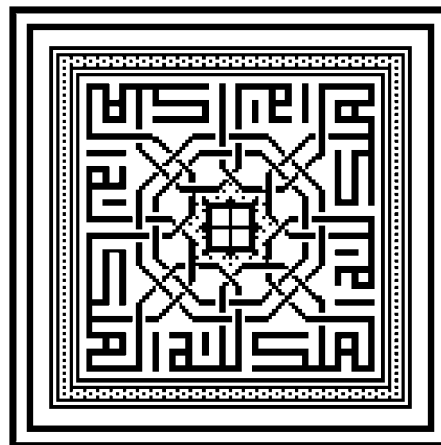


Figure 26. ‘The reign of God’; redrawn from Ak-Sarai (1380), Shar-e Sabs, Uzbekistan.