Board-games and divination in global cultural history

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a theoretical, comparative and historical perspective on mankala and geomancy in Africa and Asia

Wim van Binsbergen

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Acknowledgments

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large included in Black Athena Ten Years AFter]

1. Introduction

The scholarly literature on board-games continues to be dominated by Murray's (1913, 1952) classic works *History of chess* and *History of board-games other than chess*. In the wake of these studies, also subsequent work on board-games has tended to keep aloof of any consideration of the relation between board-games and divination.[1] This is all the more remarkable since around the turn of the nineteenth century the pioneering ludological works by the American museum anthropologist Culin (1991, 1893-1896, 1898) had claimed that divination was the origin of board-games:

> 'There are two principal questions involved in the study of games: that of their origin, and that of their distribution. (...) The consideration of the question of origin naturally precedes that of distribution.'
>
> 'Upon comparing the games of civilized people with those of primitive society many points of resemblance are seen to exist, with the principal difference that games occur as amusements or pastimes among civilized men, while among savage and barbarous people they are largely sacred and divinatory. This naturally suggests a sacred and divinatory origin for modern games, a theory, indeed, which finds confirmation in their traditional associations, such as the use of cards in telling fortunes.' (...)
>
> 'Games, I hold, must be regarded not as conscious inventions, but as survivals from primitive conditions, under which they originated in magical rites, and chiefly as a means of divination. Based upon certain fundamental conceptions of the universe, they are characterised by a certain sameness, if not identity, throughout the world.' (Culin 1991: **[add pages]**)

Admittedly, a healthy scepticism concerning the relation between divination and board-games is to be preferred to the propensity towards the esoteric – exemplified in Pennick's (1992) recent book *Secret games of the Gods* – which sees behind every board-game the revelation of a millennia-old, universal and unchanging ritual and cosmology. But given board-games' historical inertia, to which I shall have occasion to refer several times in the course of my argument, there is much of value even in Pennick's popular approach.

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[1] Thus, for instance, in the voluminous literature on mankala, there are only a few passing references to its relation with divination: Pankhurst 1971; Nsimbi 1968.

It is the intention of the present paper to explore the relationship between divination and board-games both from a theoretical perspective and by reference to specific games and forms of divination. After discussing Murray's empiricist views of the matter, an extensive theoretical exploration of conceptualisations of time space will offer us some of the analytical tools with which to illuminate the relation between divination and board-games, and to situate both in global cultural history. I shall explore the imagery and social, economic and cosmological referents, and trace the historical trajectory, of two prominent genres of cultural production widely attested across the African continent since the sixteenth century CE, and featuring in many constructions[2] of Africa as a continental cultural unit:

Figure 1. A West African mancala board

(after Murray 1952: 162).

- *Mankala* board-games (where a fixed number of identical pieces, e.g. pebbles, grains, shells or seeds are repeatedly redistributed – and duly captured – over a number of holes placed in 2 to 4 rows); this genre is with some justification claimed by Culin (1896) to constitute 'Africa's national game' – a claim since repeated many times and still upheld by some major authors in this field;[3] and
- *Geomantic divination*,[4] based on the systematic production and

[2] Cf. Kassibo 1992; Traoré 1979; Abimbola 1976.

[3] Townshend 1976-1977, 1979a, 1979b, 1982; Russ 1984.

[4] The literature, both scholarly and practical, on geomantic divination is voluminous, and much of it is of excellent standards. For a recent review, by the author of one of the most original contributions in this field, cf. Jaulin 1991; and on the West African material, cf.

distinction of 2^n combinations of lines, seeds, pebbles, or wooden or ivory tablets: a ubiquitous and dominant family of divination systems, including such famous members as *Ifa*, '*Sixteen Cowries*' (Nigeria and West Africa in general), *Sikidy* (Madagascar and Comoro Isl.), *Hakata* (Southern Africa), *ᶜIlm al-raml* (North Africa), *Ramalaśastra*[5] (India).

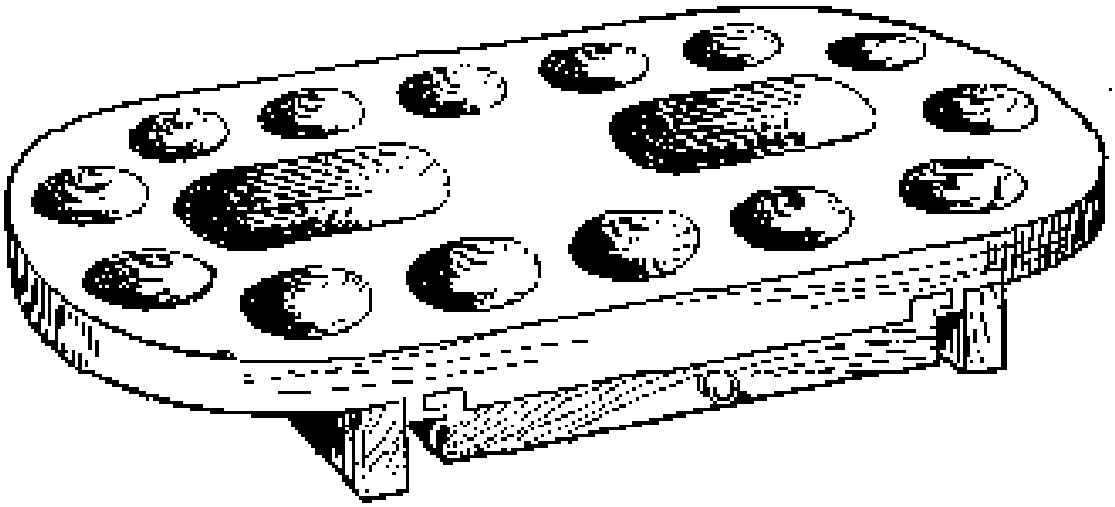

Figure 2. A mancala board from Sri Lanka

(after Murray 1952: 171).

These two cultural systems, although occurring all over the world, are part and parcel of African life, cutting across the many cultural and linguistic boundaries which that continent exhibits. Do they have an African origin? Are they perhaps merely extensively localised forms, on the soil of the land mass we have chosen to call Africa, of cultural production which have a much wider distribution in the world, and which essentially originated outside that land mass? Does their Africanness lie

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Kassibo 1992. For a more popular overview, also dealing with the spread of geomancy to late medieval Europe, where it became a standard and increasingly popularised form of divination as from Renaissance times, cf. Skinner 1980, which however should be used with caution when it comes to the early history of geomancy. On geomancy (*Sikidy*) on Madagascar in relation to the general African material, cf. Trautmann 1939-1940; Hébert 1961. Only for the sake of brevity, may I further refer to my own recent writings (van Binsbergen 1994, 1995, 1996, and in preparation) for extensive references on geomancy in Africa, the Islamic world, Asia and Europe.

[5] Culin 1890-1891; Pingree 1978, i: 38; Pugh 1988: 295.

in this localisation? Is that the reason why they are so dominant and ubiquitous in Africa? Or is the very concept of Africa as a viable unit of cultural analysis, misleading, and must we look for better units of analysis?

My review of the geographical distribution and history of mankala and geomancy will yield new suggestions as to their related origin: not as authentic and untainted all-African inventions, but as transformations of the most ancient funerary ritual, taking on hunting symbolism and later further redefined in the course of fundamental changes in production in the Neolithic, with finally, more recently, a major role played by religious and commercial long-distance connections in the context of kingship and particularly of Islam.

2. Exploring the relation between board-games and divination

2.1. MURRAY: FROM FLAT DISMISSAL TO RELUCTANT ACCEPTANCE

Although Murray was far from a theoretician, the fact that throughout his long and productive life he struggled with the descriptive evidence, bibliography and classification of board-games, producing what nearly half a century after his death still stands out as the best work in this field, lends considerable weight to what he has to say on the subject of the relation between board-games and divination. His apparently overall negative attitude on this point (but see below!) is certainly not based on uninformed prejudice, but on a careful sorting out of the evidence against the background of what he – a layman in that department – thought was sound anthropological thinking.

In the first place, he is aware of the fact that a problem of demarcation arises; how can we tell that a particular cultural form involving a random generator (e.g. dice of some sort) is a board-game and not a divination system or a simple form of gambling?

> 'Implements of chance by themselves establish nothing, since they have been used from the earliest times for divination or simple gambling.' (Murray 1952: 2)

Having established the boundary, Murray wants to keep as much as he possibly can outside the divinatory domain; in tacit acknowledgement of Culin's (1975) superb work on the subject, he concedes:

> 'There is a good deal of evidence to suggest that the native American games were originally divinatory, and some are still used for divination. But there is none that the Asiatic games were divinatory in origin.' (Murray 1952: 232)

No review of evidence whatsoever supports this lapidary statement neither in this passage nor anywhere else in Murray's book, whose index lists only very few page references under the entry 'divination'.

Meanwhile it is interesting that he makes no pronouncement as to the

possible divinatory origin of board-games outside America and Asia: in Africa, Europe and Oceania (Australia and Antarctica are out anyway, the former because Murray rightly considers it to be without board-games – a point to which we shall return – , the latter because it has no human population).

Leaving Europe and Oceania aside, let us concentrate for a moment on Africa. Of the five families of board-games into which Murray classifies all known historic types, Africa is claimed to exhibit only one, for which he employs the generic, Arabic name of *mankāla*, referring to capture and execution. This type of game was first attested (Murray 1952: 165) in the *Kitāb al-Aghāni* by the Arab author *Abū'l Faradj* (897-967 CE). In the African context, looking for the possibly divinatory origin of board-games thus means exploring the relation between mankala and divination, and that will be the red thread throughout this study.

Murray complains that information on North African board-games in the Maghreb and Libya is almost entirely lacking. However, he has overlooked important sources;[6] to which, since his time of writing, several other studies may be added.[7] Murray's single, furtive reference to mankala being played by N.W. African Bedouins thus considerably under-represents the available evidence. The case is not without implications, for – as we shall see towards the end of this study – Townshend cites the alleged absence of mankala from North Africa as a reason to doubt that Islam was a vehicle for the spread of mankala.

While mankala is found all over sub-Saharan Africa this game at the same time appears to have been that continent's *only* board-game outside clearly Arabianized or Europeanized contexts. Townshend (1979b) claims one exception to this rule: a sub-family of games which he considers to be indigenous African, and which he situates (see below Figure 18) in desert fringes in both West and Southern Africa. To this type of game he gives the generic name of *dara*; he considers it similar to checkers. This would make it a war-game in Murray's five-pronged classification; Murray however (1952: 49f) classifies it in a different

6 Like Doutté (n.d.: 326f), where under the name of *zig* an unmistakable form of mankala is being described) and Tajan & Maupin 1907.

7 Including Barakat 1974; Rosenthal 1975; and Pâques 1964 (which only by implication refers to the Maghreb, as part of the circum-Saharan region sharing the culture of the 'arbre cosmique'; but here, on p. 91, again a description of *zig* mankala.

category, the one of 'games of alinement and configuration'. The latter author's listing include the Tuareg *al-karhat* game (cf. Rodd 1926), of which he reluctantly admits that it is being used for divination. The context of many other, similar games (Murray 1952: 48f) with a very wide geographical distribution, the Arabic name at least of the Tuareg version, the conspicuous Arab role in the diffusion of such major games as chess and mankala, and the African distribution pattern of *dara* in areas *all* of which have substantial Arab influence – and this includes the isolated Southern African attestation, cf. van Binsbergen 1996) – all seem to argue against Townshend's claim that *dara* is an indigenous African game.

Murray developed his views on divination most clearly when, towards the end of his book, he reviews authors on the origin of board-games:

> 'So it is generally accepted that all the ancient athletic games are secularised and degenerate survivals of magical or religious practices, although there are differences of opinion as to the exact nature of these practices, Haddon [1896] specifically excluding practices related to divination, while Culin[8] confines them to those that were divinatory. It is often assumed that this must also be true of board-games. There is, however, a gap between the athletic games that were played by large groups of men and the sedentary games that are confined to a few players, which I find it difficult to bridge. *It is difficult to see how the private operations of the magician could be adopted by the secular members of a tribe. I think that we must look elsewhere for the origin of most board-games*.' (Murray 1952: 233f; my italics)

This line of reasoning reminds us of Durkheim's (1912) theory of religion as set out in his *Les formes élémentaires de la vie religieuse* – introduced to British anthropology by Radcliffe-Brown, and an enormous influence on the next generation of anthropologists (that of Evans-Pritchard, Forde, Fortes and Gluckman). The argument can be summarised as follows. The collective cult, even though its symbols are entirely arbitrary and lack intrinsic qualities suggesting any particularly sacred nature, transforms a mere set of individuals into a moral community and thus creates society; in fact the cult's object of worship is society itself, and the cult produces, as a crucial category of thought and action, the social. The social can gain moral authority over the individual

[8] Murray does not here refer to a specific work by this author; cf. Culin 1893-96, 1896, 1898, 1991, 1975.

because the notion of the sacred by which it is underpinned, defines itself merely by its being absolutely different from the profane. Magic, including divination, is by contrast considered to be a private cult totally devoid of these redeeming qualities, and therefore imprisoned in a state of being anti-social from which it cannot be released.

There is no indication that Murray had much knowledge or appreciation of actual divination practices outside Europe; even in his time (he was in his late eighties when his book on board-games other than chess was completed) a perusal of the available anthropological literature (Evans-Pritchard 1937, e.g. 1965) would have shown that Durkheim's rigid distinctions were exaggerated, very far from universal, and in fact amounted to ethnocentric projections onto other societies of the features of West European Victorian variety as seen through Durkheim's own eyes: those of a dropout Rabbinical student influenced by de Bonald's idealist philosophy. In many societies, the clients of divinatory specialists are ordinary people, who may not attain a working knowledge of the specialist's divinatory system (sometimes they do), but whose role in divinatory and therapeutic sessions is yet essential for the divinatory system's performance, and who therefore usually have plenty of opportunity of seeing the divinatory apparatus in action. In many societies therefore the distinction between specialist and layman is not so absolute, and the same holds for the distinction between sacred and profane, between ritual and jest, between piety and agnostic cynicism. In many cultures it does not disqualify a ritual nor its participants, if the proceedings are punctuated by occasional mirth and irony. Imitation of sacred acts and paraphernalia may often be an admissible form of familiarising oneself with the sacred without giving offence. Let me give one example out of a myriad possible. In northwestern Tunisia right up to the 1970s the supreme form of the veneration of local saints, especially for adult men, was to engage as *faḳīr* (plural: *fūḳra*) in the ecstatic dance, which was loosely controlled by a local branch of the Ḳadirīyya brotherhood. Politically and economically ambitious men did not qualify. They frequently resigned themselves to the second best, a playful imitation of the sacred dances during the musical evenings that used to be the common pastime. These were also the people who, without offence being taken, could make merry of the *fūḳra* both during and outside

ecstatic sessions (cf. van Binsbergen, forthcoming (b)).

The conceptual boundaries which early anthropology created around divination were largely artificial, did not necessarily exist in the societies under study, and therefore the transformation from divination system into board-game was in principle a possibility.

Murray has more arrows on his bow when stating the case against a divinatory origin of board-games. He reviews (Murray 1952: 234), with obvious and understandable disbelief although no explicit verdict, Culin's (1991) theory that board-games sprang from the necessity to ascertain, through divination, the correct classification of the many phenomena in the visible world which could not self-evidently be subsumed under one of the fundamental cosmological categories (e.g. the four or five cardinal directions). With the same lack of specific argument, Murray rejects Groos's (1901) theory on the oracular origin of board-games, although – with rare intuition – he does accept as valid Groos's view on board-games are originating from early, illiterate scribblings in the sand:

> 'The primitive races, who find it difficult to convey their thoughts in speech naturally *take to marking on the sand, and hence the figures (i.e. game-boards) might arise*. If the leader of one of the more intelligent peoples wished to instruct them concerning some part or future combat, it would be a simple method of illustrating his meaning to draw an outline on the ground and represent the position of the hostile forces by small stones or similar objects, whose movements would symbolise the manoeuvres of the forces or the advance of knights for single combat. This would no doubt, be exceedingly interesting to those conducting it, and also to the spectators and might easily be repeated for the sake of the amusement afforded until some inventive genius turned it into a veritable play with board and men.' (Groos 1901, as quoted in Murray 1952: 234f; italics added).

The cogency of this general idea will become clear to us when below we shall review the link between the mankala family of board-games (the vast majority of which are played in villages in African and Asia, using not formal boards but merely series of shallow holes in the ground) and the geomantic family of divination systems, whose first[9] and most widespread attestation in documentary sources is that in the form of the Arabic *khaṭṭ al-raml*, which literally means (Fahd 1966, 1978): 'the art of drawing lines in the sand'...!

Meanwhile Murray cannot quite bring his argument to a conclusion.

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[9] With *Ibn al-Arābī i*n the early 9th century CE (cf. Fahd 1966: 197f); a single early mention also in the famous book by *al-DJāhīz* (c. 776-868/ 9 CE), *Kitāb al-ḥayawān.*

He simply asserts (again without citing the evidence, and again leaving out mankala from his summing-up):

> 'In the Old World, all the leading board-games, chess, draughts, wei-k'i, fox and geese, and the game of goose, were invented solely for the purposes of recreation. They are essentially pastimes.' (Murray 1952: 235)

Yet even so he has no choice but to admit that a minority of board-games (which we shall review shortly) must have to do with festivals, calendars, funerals, and particularly with divination.

But already he plays his greatest trump: board-games, he claims, must have originated in the relative security of food and shelter, the relative absence of burdening daily chores, such as would characterise the beginnings of civilisation. Our more recent insights in the nature of 'Stone Age economics' (e.g. Sahlins 1972) have exploded this point: hunter-gatherers turn out to spend on the average only about 20% of their time on productive activities, and they are now recognised to live in a world of relative plenty. If they did not have board-games, it is not because they had no time to spare, but because board-games had not been invented – and that again was because the structure of their life world did not call for such inventions.

In the light of his earlier emphatic dismissal, we hardly believe our eyes when Murray (1952: 236f) in the end virtually endorses the theory of the divinatory origin of board-games! For what does newly-civilised man do with all that hard-earned, and in fact largely imaginary leisure time? He playfully finds new meaning and new uses for familiar objects by which he has already been surrounded.

Repeatedly, in *The history of board-games other than chess*, has Murray stated the principle that game-boards are unlikely to be created out of the blue and specifically for gaming purposes, assuming as a leading hypothesis that the board's basic lay-out must have been available for other purposes before it was appropriated and redefined as a board-game. Thus, for instance, he has offered the following ingenious but totally unconvincing hypothesis with regard to the origin of the mankala board:

> '...the mancala games form a special class of board-games and (...) they do not exemplify any of the more ordinary activities of early man [below, when interpreting the imagery of mancala, we shall see that this is largely incorrect] . I find it difficult to believe that

> the mancala games can have been invented in vacuo and we seem to be driven back to the hypothesis that mancala arose out of experimentation with an already existing board. But what purpose the mancala board may have served is not easy to see when no use is made of it anywhere, now, except for a game [we shall see that this is equally incorrect, some varieties of mancala being used for divination, as Murray himself repeated admits] . *It may be significant that the earliest boards all occur in the neighbourhood of building operations. May the board have been used for the calculation of the wages to be paid to workmen, and the board be originally a primitive kind of abacus*?' (Murray 1952: 164; italics added)

When Murray wrote, the oldest examples in the way of mankala boards (or what was then recognised as such) came from Ancient Egypt: a few rows of cup-marks in inaccessible or vertical (i.e. prohibitive for playing a board-game) parts of monumental architecture, and one detached stone slab looking like a mankala board.[10] In the light of my subsequent discussion in the present paper that material will take on a different aspect. Meanwhile, far-fetched as the builders' pay-day hint may be, Murray's general hypothesis of *game-boards as re-interpreted pre-existing non-ludic material* is utterly sound. And without admitting this in so many words, it is the ritual sphere, and even more specifically the divinatory sphere, which he then identifies as likely origin for the game-boards:

> 'Among these objects may have been the lined boards that are still used in Ceylon as charms and defences against evil spirits and have provided the boards for games of alinement. (...) All this points to the conclusion that fashioned lots formed part of the cherished possessions of man in the early stages of civilisation [he specifically adduces references to cleromantic practices – i.e. the casting of lots – in Vedic India and to Tacitus's *Germania*], and that the handling of these possessions in leisure hours resulted in their use for games.' (Murray 1952: 236f)

His sound intuition, fed by an enormous erudition, has finally taken the upper-hand over his mistaken, Durkheimian theoretical position. In accordance with ethnographic findings from many (but by no means all) societies all over the world, the distance between ritual and game, specialist and layman, cultic object and game-board, turns out to be surmountable as soon as the ritual, 'proto-ludic' apparatus found itself in

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[10] E.g. Petrie 1927: 55, plate 47; Parker 1981: 587f; Bell 1960: 112f. Perhaps more Egyptian mankala-like material is available than we realise. E.g. in February 1996 the Leiden Museum voor Oudheden had on display a Ancient Egyptian boat model inside whose central passenger deck was furnished, at the correct scale, with what unmistakably *looked like* a 2x4 mankala board. **[check exhibit's number and historical period]**

more or less general public access and circulation.

2.2. FROM DIVINATORY NON-LUDIC TO LUDIC, THROUGH FAMILIAR OBJECTS: AFRICAN EXAMPLES

One could easily find African ethnographic parallels to match Murray's examples exemplifying the possible transition from non-ludic familiar objects (notably in the ritual, and especially the cleromantic domain) to board-games.

A first example that comes to mind are the *abbia* gambling pieces – half nutshells embellished which nice figurative representations – , which among the Cameroonian Beti find themselves in the possession of most adults even although not all adults know how to carve these themselves (Siegel 1940; Quinn 1971). The enormous iconographic repertoire of these representations encompasses the entire range of objects from everyday life: bellows, slit drums, stools, utensils, etc. Not surprisingly in the light of our discussions, below, of geomantic divination, the concrete descriptions of the *abbia* game itself as furnished by these authors stress pairs and foursomes, and come close to patterns of binary arithmetic opposition underlying all geomantic practice however much its surface practices vary.

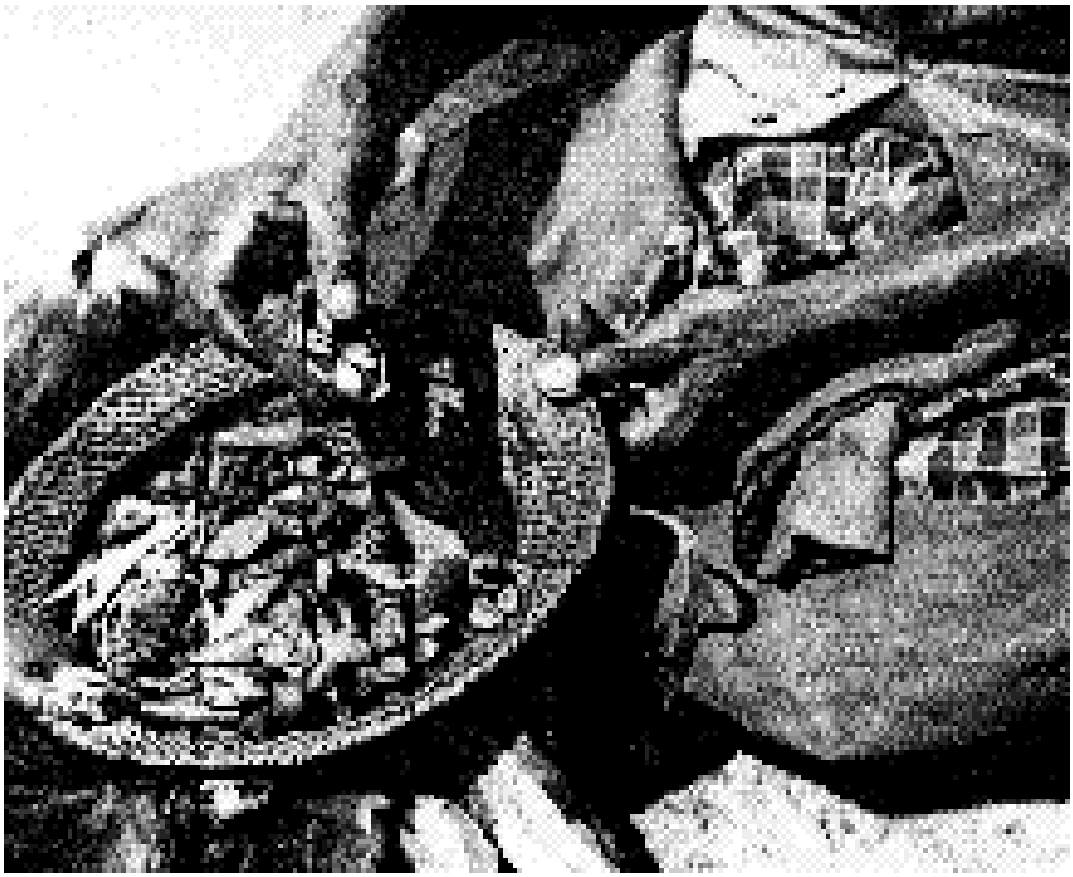

Figure 3. Chokwe divination basket

(after Bastin 9).

Another beautiful African illustration of Murray's suggestion, but now on the divination side, is offered by the *basket oracle* as found in South Central Africa among the people identifying as Chokwe, Luvale, Lunda, Ndembu etc. Here the culture's favourite divinatory instrument (but surrounded by many rival techniques, most of them of far lesser complexity) is an open basket containing scores of small elements, which are shuffled by the diviner and made to present themselves near the rim of the basket in answer to the client's questions and predicament. Outstanding among a very rich literature including for instance some of Victor Turner's most intriguing writings (Turner 1961, 1967, 1975), is Rodriquez de Areia's (1985) monumental standard work on the topic. Here the exhaustive symbolic and iconographic description makes it very

clear that the divinatory pieces, mostly fashioned out of wood (with additions in other vegetal material, bone, ivory, metal and products of modern industrial manufacture) among other items contain a fair catalogue of objects of everyday and ritual use as found in the village: a drum, a pestle, a fire-place, a fire-bore, a head-rest, a knife, etc. A set published by Delachaux (1946: 70 pl. viii no. 22) even features a miniature 2x6 mankala board. To these objects symbolic meanings attach which, when produced serially and interpreted creatively and selectively in the course of a divination session, reveal both general social and moral principles, and the latter's application in the form of pronouncements which directly address the client's past, present and future.

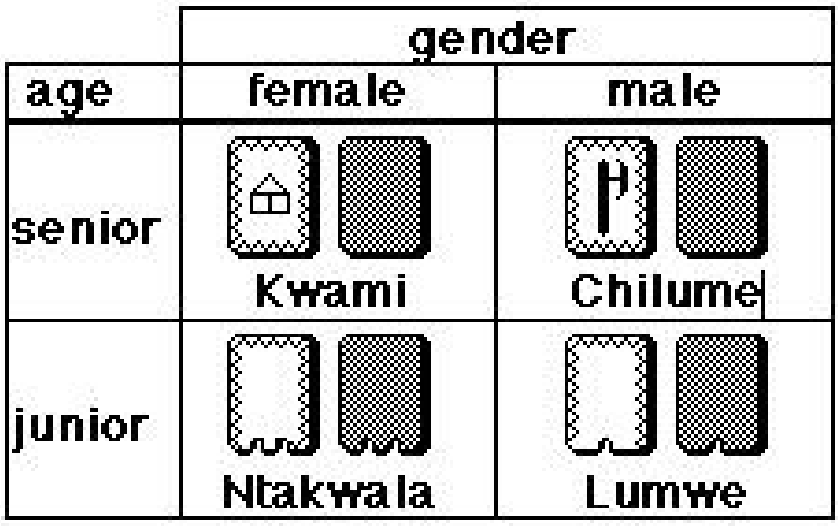

Figure 4. A four-tablet divinatory set from Southern Africa.

shaded symbols: reverse side

Or take (cf. figure 4) the *four rectangular or triangular tablets* (largest dimension about 10 cm) which, fashioned out of wood, bone, ivory or (among the San populations) leather, form the dominant material apparatus by means of which throughout Southern Africa the local variety of *geomantic divination* is carried out. All four tablets are different from each other (in terms of shape, notches at the basis, and markings

distinguishing between the front and the back of each tablet); each tablet has a distinct name and is identified as male or female, and as senior or junior. Thus when the tablets, in the course of a divinatory session, are cast from the cupped hands of the diviner or the client, sixteen different configurations can form.[11] Each configuration is named and interpreted according to a memorised yet highly conventionalised interpretative catalogue of meanings which turns out (van Binsbergen 1996) to be a local adaptation of the general geomantic catalogue as found all over the world of Islam and, extending beyond its periphery, all over the Indian Ocean region including India and East Africa, in West Africa, and (as a result of forced migration in the context of the trans-Atlantic slave trade) around the Caribbean and on the Latin American west coast.

Here again we can see an example of Murray's idea of a playful reinterpretation of cherished familiar objects. In Southern Africa the specialist use of these tablets' as part of a gainful divinatory and therapeutic practice is restricted to certified traditional doctors with several years of training and usually a formal graduation (i.e. initiation) behind them. A standard divinatory session consists of the dialogue between diviner and patient, in which questions, answers and interpretations evolve around the diviner's creative and empathic, verbal interpretation of throw after throw, in a sequence which may comprise as many as forty throws. *But it is not only specialist diviners who own and use these tablets.* This is already indicated by their ready availability at the medical sections of regional markets. Many adults (especially men), having acquired a rudimentary knowledge of these tablets' operation, use them for private divinatory self-help. And, like among the ancient Aryans and Germans, also these Southern African 'fashioned lots' are described, in an abundant older literature which Murray may be simply echoing, as the local people's 'most cherished possessions' to which they take frequently recourse.[12]

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[11] The general formula is $C = n^k$, where
C = the number of possible different configurations
n = the number of different values each tablet can assume (in this case 'front up' or 'front down', which means that n= 2), and
k = number of tablets (here: k = 4)
In this case, $C = 2^4 = 16$.

[12] E.g. Bent 1969; Bleek 1928; Brown 1926; Coertze 1931; Eiselen 1932; Giesekke 1930; Junod 1927; Laydevant 1933; Stayt 1931.

We have already begun to narrow down the scope of our argument to, specifically, mankala board-games and geomantic divination. In this respect it is interesting to note that the few cases of board-games where Murray admitted to a possible ritual, including divinatory origin, often remind us of either mankala, or geomantic divination, or both:

> '...a few minor games suggest a different origin. Some are associated with festivals of various kinds. Thus, the Kanakura tribe of northern Nigeria, plays canonical games at their annual festival at the end of the first millet harvest, September or October.[13] Three games are played on a board represented by holes made in sand, with four pieces (red and white seeds). Seven elders of the town, five representing the chief and two, the commoners, take part. Meek [1931] calls the game backgammon, but it may be mancala, as other observers have called mancala 'backgammon'. *Chaturaji*, the Indian four-handed dice-chess, was played in the eighteenth century at the festival of the New Moon, when worshippers kept vigil all through the night (...). Women in Ceylon play *olinda* (mancala) at the New Year (...). More often, board-games are played during wakes and funeral ceremonies, *galat-jang* (...) in Celebes, mancala by Negroes in Dutch Guiana, which Herskovits suggests is a custom brought by slaves from West Africa (...) Mancala boards form part of the furniture of Egbo houses in Calabar (...), and the mancala board which K. C. Murray saw at the shrine of Odudua in the village of lloru, Abeokuta Pr., Nigeria may have been used for divination, as the Tuaregs of the Sahara play *alkarhat*[14] (...) for this purpose, and the priests in Madagascar played fanorona (...) during the siege of the capital by the French for guidance and success in its defence. Since, however, fanorona was only invented about 1680, this can only carry weight if it perpetuated a similar [i.e. divinatory] use of the parent game, *alquerque* (...). There is no evidence that this game, which is widely played in Asia, was ever played except as a pastime. (...) When we turn to the New World, there is more evidence that the race-games of the American Indian tribes had a religious aspect.' (Murray 1952: 234f).

Unexpectedly encouraging as all this may be, these disconnected and context-less ethnographic examples remain suspended in the air as long as we do not have a more systematic theory to tell us why, of the myriad possible manifestations of human culture, divination and board-games should be so similar in deep structure that to postulate a generic relationship between the two could ever become more than just wishful thinking.

For this I propose a number of steps:

- first, a more formal description of the structure of geomantic

[13] Cf. Meek 1931: ii 314; Murray's original reference.

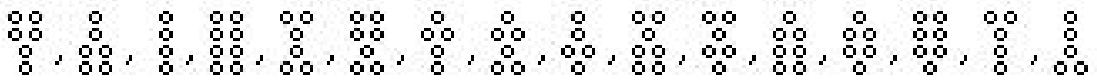
[14] A variant of what Townshend (1979) was to call *dara*; Murray (1952: 49), games category (3.6.5).

divination; followed by, secondly,

- a theoretical exposé on the nature of both divination systems and board-games as formal systems, or as we shall see, ‘as space-shrinking time machines’;
- thirdly, an examination of the imagery attending geomancy and mankala; and finally
- a reconstruction of the earliest forms from which both seem to descend.

3. Geomancy: basic features

In all these **[anders]** different regions where geomantic divination is practised, the material apparatus is very different, ranging from divination chains (cf. figure 6):[15] or shells cast in a square, rimmed wooded board covered with sand in West-Africa, or four tablets in Southern Africa, to piles of grain or pebbles in the Indian Ocean area (e.g. cf. Hébert 1961), and the forceful 'hitting of the sand' (*ḍarb al-raml*) with a stick, in the North and North East Africa. With the exception of the Southern African variant (where the tablets' fall is interpreted directly, i.e. without the construction of a standard geomantic symbol) the result produced by the apparatus is interpreted, through a process of transformation and elimination, as contributing one line, of one or two dots, to a four-line geomantic symbol, of which there are of course sixteen:



or, in the Arabian notation:

More complex procedures may raise this number to any higher power of 2. A written or memorised key (the catalogue) provides the interpretation of each geomantic symbol, and of their combinations.

[15] Their essential feature (see Figure 6) is a string along which, or at whose end, a number (k, often k=8) elements (cowries or coins) are attached, in such a way that each element can pivot independently around its point of attachment; since each element has an identifiable upper side and lower side and thus can take 2 different values, the total number of possible configurations is $C=n^k$, e.g. $2^8 = 256$; Bascom 1969, a book of many hundreds of pages all reflecting the memorised knowledge of one Ifa diviner, lists all possible combinations with the elaborate praises – of divinatory meaning – that belong to each; also cf. Abimbola 1976.

Figure 5. A Ndebele diviner-herbalist throwing his bones as a form of geomantic divination in Francistown, Botswana, 1989.

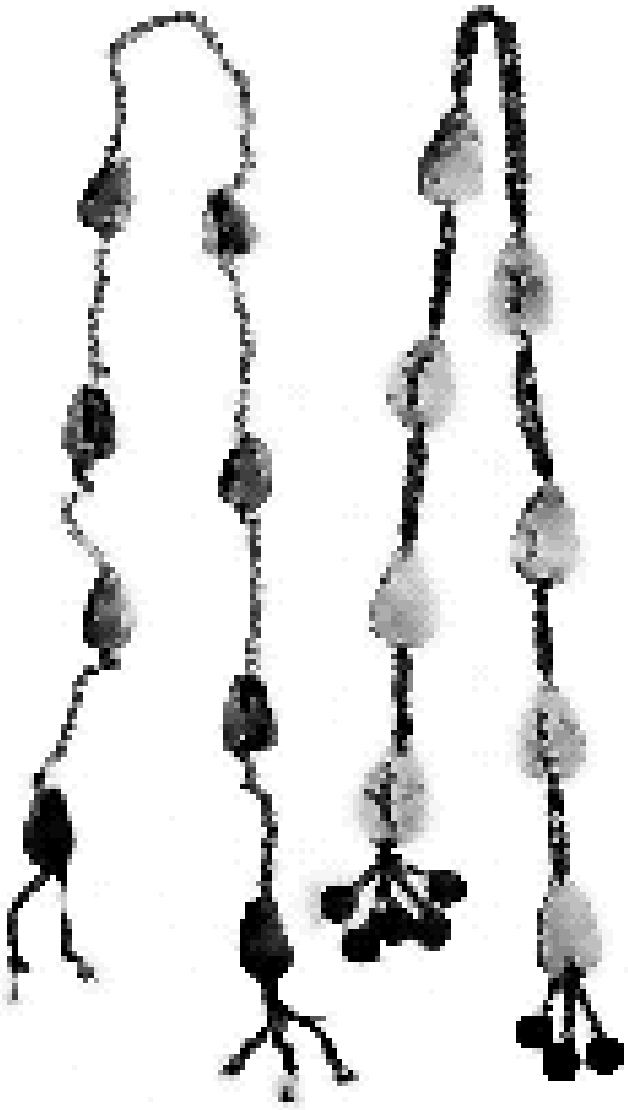


Figure 6. Two divination chains, displaying two specific geomantic configurations, from West Africa

(after Skinner 1980: plate 3).

Thus geomantic divination can be said to consist of three interrelated features:

- a *physical apparat*us serving as a random generator

  e.g. the diviner strikes four times with his walking stick on the ground in a sideways, bouncing movement, thus producing four

separate sets of a fair number – say, 23, 17, 32, 12 – of distinct indentures on the soil.

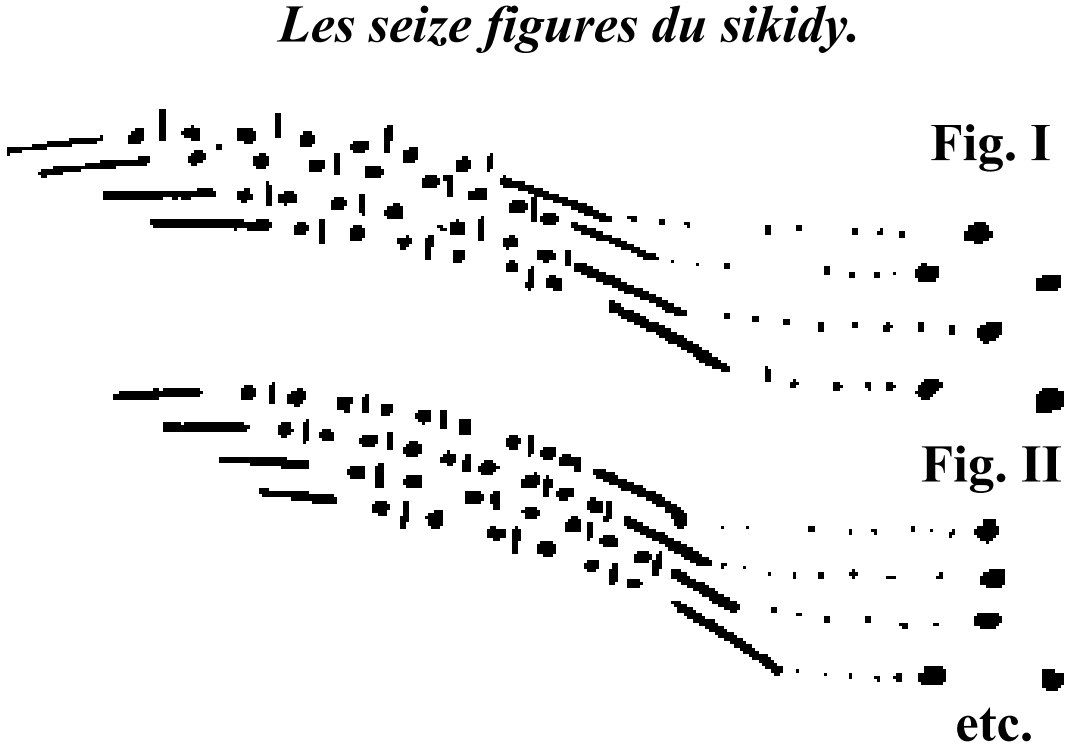


Figure 7. Striking the soil in order to form a geomantic figure

(after Ferrand 1891-1902: i 76).

Note. The bold dots incorporated in the curved lines are the ones produced by 'hitting the ground'. The horizontal series of small dots merely connects each curved line with the corresponding single dot (in case of an uneven number of bold dots) or double dot (in case of an even number of bold dots). The latter is the value which the hitting produces on one of the four geomantic lines. The confusing thing about this figure is that the number of horizontal connecting dots, for no apparent reason, is consistently one below the number of bold dots.

- a *set of rules which allow for the translation, i.e. coding*, of the numerical outcome of the random generator in terms of culturally agreed specific values with a divinatory meaning

in the same example, the totals of 23, 17, 31 and 12 yield, for

bottom to top, distinct scores for the our lines out of which the geomantic figure is to be composed: two dots or a horizontal line for even, one dot for uneven, so: y or y; in the most elaborate, standard variants of geomancy four independent figures are produced initially (out of sixteen runs of the random generator, here: sixteen times striking the soil), and through simple algorithms twelve dependent figures are calculated out of these four; the fifteenth and sixteenth figure are then decisive for the overall interpretation, while the first twelve figures provide additional shades of interpretation in the light of the widely-held conventional meaning of the twelve astrological houses,[16] the imaginary aspects (meaningful angles) to be constructed between the various figures, etc.

- an *interpretative catalogue* listing such divinatory meanings and accessing them through the assigned codes

  (in our example,  or  is named (*al-Zanātī* 1923) 'Inside Threshold' (*al-ᶜataba al-dāḫila*) or 'Flag of Joy' (*rāyat farah*), a name inspired by the formal, strictly graphic characteristics of the geomantic figure (cf.  or  , *al-Tarīḳ*, 'Path'; in cf.  or the upper horizontal line then becomes the threshold – i.e. where the road ends – or a flag, in the latter case the three lower dots a flagpole), underneath which lurks the astrological concept of the Dragon's Head (*al-Rās al-Tinnīn*, Latin: *Caput Draconis*, ).[17] The interpretation varies considerably but is often positive, exulting, regal, subject to qualifications and refinements depending on a more elaborate astrological reading of the figures in

[16] E.g. House I: bodily, psychological and intellectual constitution; House II: finance, mobile property; House III: siblings; House IV: parents, heredity; etc.

[17] The northernmost extension of the imaginary line marking the intersection between the ecliptic (the plane shared by earth and sun), and the plane in which the moon revolves around the earth; with its counterpart, the Dragon's Tail marking the southernmost extension, this imaginary point moves along the zodiac. Both received, in Indian, Arabian and medieval and later European astrology, the connotations of additional planets, and as such were marked on horoscopes, were involved in the calculation of aspects i.e. meaningful angles between planets, etc.

combination.

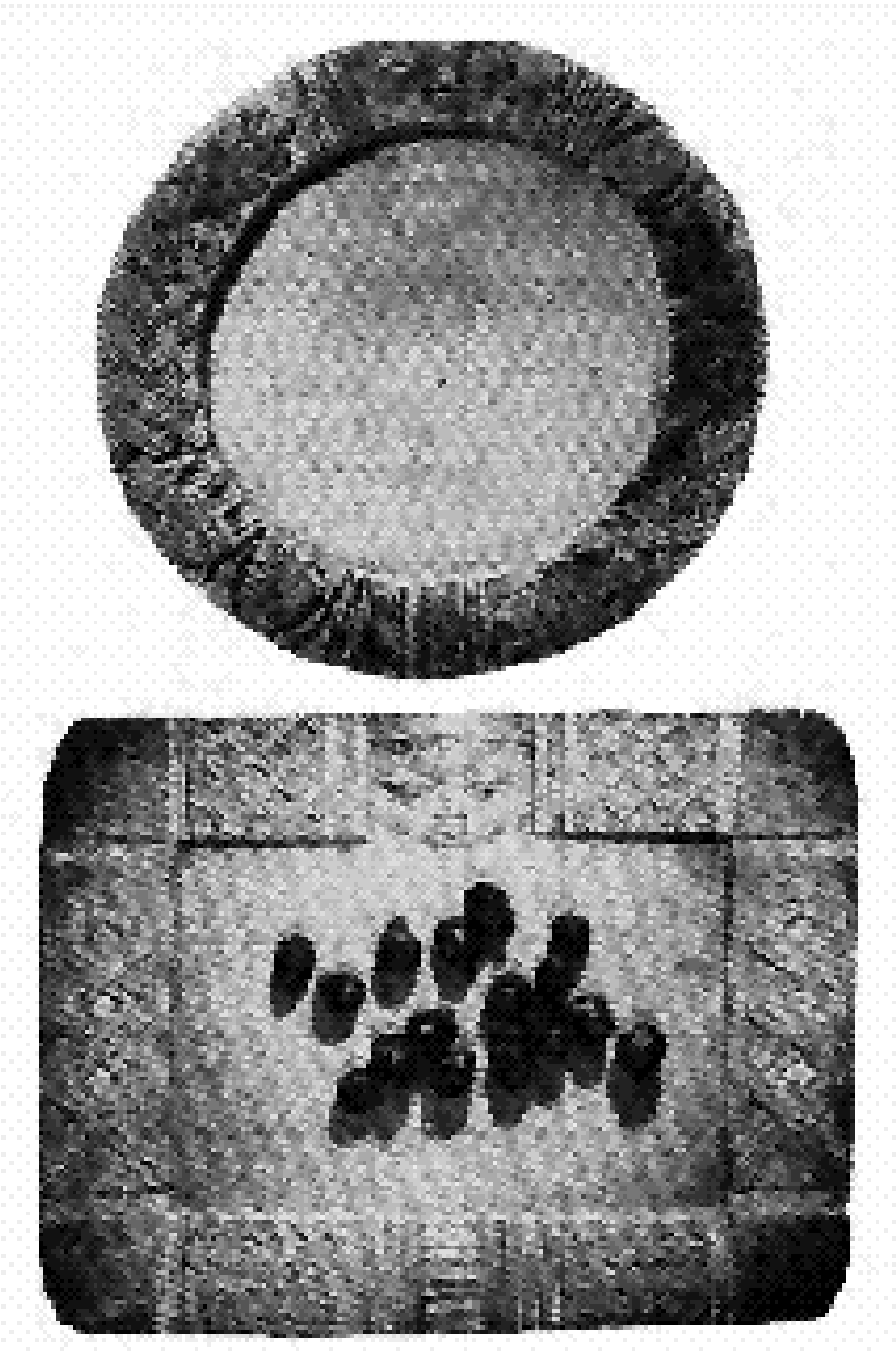


Figure. 7. Two divination boards from West Africa

(after Skinner 1980: plate

In geomancy, the second and third features tend to considerable standardisation, which is mainly enforced by the literate Arabian context within which the geomantic system has spread all over the world: diviners' specialisation, interregional trade, conquest and the spread of Islam. Whatever the specific forms and internal mechanics of the random generator used in a particular time and place, the divinatory process stands out as geomantic in so far as its numerical outcome tends to be translated into the conventional geomantic figures like t or t; and in so far these figures then tend to be interpreted according to literate or memorised catalogues in which these geomantic figures continue to carry an association, however remote and distorted, with (in the case of these three examples) the astrological concept of the 'Dragon's Head'. By contrast, the first feature, the material apparatus serving as a random generator, shows enormous variation as well as a tendency towards localisation: the numerical outcomes needed for geomantic interpretation, can be elaborate or simple, involving dice, wooded or ivory tablets, stones, pebbles, grains, palm kernels, marks on the ground or on a rimmed board covered with sand, dots on paper, etc. These surface forms may differ so much, and so reflect the local culture's technology, style of decoration, and cosmological orientation, that it is often difficult to detect, underneath the visible random apparatus, the converging geomantic features of the encoding rules and of the interpretative catalogue. Indeed, in many peripheral, localised forms of geomantic divination the encoding rules have become eroded and simplified (like in many geomancies of the African interior), even the production of recognisable geomantic figures may have been dispensed with (like in the case of the Southern African hakata system), and besides a few isolated conceptual reminiscences of the original Arabian catalogue, it is merely the catalogue's 2n-based mathematical structure which reminds us that we are still dealing with geomancy.

It is at the level of the physical apparatus, of the manipulation of numerous identical elements using 2^n-based combinatorial mathematics, that the links between geomantic divination and a board-game like mankala are particularly conspicuous. A characteristic move in mankala consists of going around the various adjacent cup-holes, seeding one

game element in each successive hole, and emptying the hole opposite the one in which this seeding sequence ends, provided the latter is found empty. A comparable exercise of elimination is typical of geomancy: in most local forms one begins with one large and unstructured mass of elements (dots, pebbles, marks etc.) which have been randomly produced, after which an often intricate procedure of elimination allows one to reduce the mass to merely one or two remaining elements – so that the mass can be scored, as the random generator's outcome, as 'even' or 'uneven', one dot or two in any of the four superimposed lines which constitute the geomantic figure. The closeness between mankala and geomancy is also suggested at the level of the physical apparatus, for instance in Zambia, where mankala (cf. Chaplin 1956) is played with mungongo seeds (*Ricinodendron rautanenii*), which throughout Southern Africa are also used for geomantic divination along the lines of the hakata system.

I have described the structure of one divination system; let us try to define an overall structure for both board-games and divination, thus accounting for their similarities.

4. The theoretical convergence of divination and board-games

So far we have proceeded as if our main operative terms have a self-evident meaning which does not need to be spelled out. However, if our ambitious and (in the light of the existing literature) controversial historical exercise is to inspire confidence, we should at least strengthen it by an attempt at definitional rigour. Therefore:

4.1. WHAT IS DIVINATION?

First we should narrow down the enormous scope of 'divination' (a virtual universal of culture). Let us agree to designate by this term:

a. *procedures of knowledge production* which meet the following criteria:
b. they are *institutionalised* within a particular historical culture, i.e. they are repetitive, socially shared, and show a tendency to persist over time;
c. actors – as should be clear from their explicit speech acts as well as, more implicitly, from demonstrable analogies with other forms or religious behaviour in their society – see these procedures as *involving forces beyond human control*;
d. through these procedures the actors seek to obtain *information which is not available by direct sensory perception*;
e. these procedures involve the use of a *specific material apparatus* (hence 'material' or 'inductive' divination – as distinct from incubation, trance etc.); often a random generator (e.g. a die, or multiple elements such as pebbles or sticks falling in an uncontrolled fashion, or an insect moving in an unpredictable way) is at the heart of the apparatus.
f. *coding procedures* through which outcomes of the random

generator access the interpretational catalogue

g. construction and operation are subject to *rules* which may often be highly formalised.
h. the various values (C) which the apparatus can produce ($C \geq 2$) are interpreted by reference to a *catalogue* of divinatory meanings which may be memorised or written out.

4.2. BOARD-GAMES

Of board-games, as a category of formalised human activity, Murray (1952: 1) offers a useful descriptive definition:

> 'Games, which resemble chess, draughts, and backgammon in being played on a specially arranged surface with pieces or 'men', whose powers of move and capture are defined by the rules of each game, are designated as 'board-games', German *Brettspiele*.'

Breaking up this definition into its constituent elements, it claims board-games to be

- *games* (for the essential question as to what constitute games and how they are forms of human play, Murray refers us to the fundamental philosophical works by Huizinga (1952), Groos (1901) etc.)
- consisting of a *coherent series of consecutive movements* ('moves') of
- *physical pointers* ('pieces', 'counters', 'men')
- along co-ordinates defined in a *space* ('board') which, for that specific purpose, is set apart, i.e. bounded, and internally transformed and restructured
- in such a way that formal and explicit *rules* define the movement of individual pointers as well as their interaction
- and by implication, in the context of this interaction the players are defined as opponents in a struggle.

4.3. BOARD-GAMES AND DIVINATION COMPARED

It is stimulating to compare the definitional characteristics of divination with those of board-games. Of course, board-games involve a material apparatus (e)[18] however rudimentary (for many games the entire apparatus can be summed up as a few pips or pebbles, and a few lines drawn on the ground); they also involve formal rules (g). But the parallelism far from ends here. Little as we may realise this, board-games, too, are devices for the production of knowledge (a) not otherwise attainable (d). This knowledge is of considerable complexity: it includes the identity of winner and loser; the extent of gains and losses; information on the participants' differential skills, integrity and stress resistance; on a more generalised plane, insights in the differential merits of such strategies as the rules allow for, the tacit or explicit rehearsal of these rules, and the detection of possible omissions, contradictions and borderline cases in the rules. With the exception of the interpretative catalogue (h) (which however might be considered analogous to the gaming rules), the one remaining item which does not seem to take part in the parallelism is (c) the actors' notion of involving forces beyond human control. However, many board-games (even some early variants of chess, for instance) offset the players' conscious or semi-conscious strategies against the outcome of random generators (especially dice), in cultural contexts where these random generators are held to be controlled not by any blind impersonal forces of immanent nature, but by transcendent, supernatural entities – like those which allegedly determine the outcome of the divinatory apparatus' stochastic features. In general games tend to involve two or more visible, human opponents, while divination is culturally constructed as the interaction between one or more humans and an invisible non-human agent. The advent of mechanical and electronic gaming machines including computers has blurred this distinction between human and divine interaction partners, which may be one reason why such games exert such fascination over the solitary humans playing them.

[18] The letters refers to the itemised list in section 4.1.

4.4. BOARD-GAMES AND DIVINATION AS FORMAL MODELS

The amazing parallelism which exists between divination and board-games cannot be found between board-games and most other items of culture. Both material divination systems, and board-games, are *formal systems*, which can be fairly abstractly defined in terms of constituent elements and rules *relatively* impervious to individual alteration. Both consist in a drastic modelling of reality, to the effect that the world of everyday experience is very highly condensed, in space and in time, in the game and the divination rite. The unit of both types of events is the *session*, rarely extending beyond a few hours, and tied not only to the restricted space where the apparatus (e.g. a game-board, a divining board or set of tablets) is used but, more importantly, to the narrowly defined spatial configuration of the apparatus itself. Yet both the board-game and the divination rite may refer to real-life situations the size of a battle field, a country, a kingdom or the world, and extending over much greater expanses of time (a day, a week, a year, a reign, a generation, a century, or much more) than the duration of the session. In ways which create ample room for the display of cosmological and mythical elements, divination and board-games constitute *a manageable miniature version of the world*, where space is *transformed space*: bounded, restricted, parcelled up, thoroughly regulated; and where time is no longer the computer scientist's 'real time' – as is clearest when divination makes pronouncements about the past and the future. *Utterly magical, board-games and divination systems are space-shrinking time-machines.*

A further crucial feature of this modelling (crucial, since without this feature divination and board-games had long gone extinct) is that is it *a two-way process*: while real life is modelled onto the divinatory or ludic session, the session and its outcome is subsequently *fed back into real life*, through information and skill gained, through prestige redistributed, personal balance and motivation restored, fears explicitly named and confronted, etc. Without such feedback (if only at the level of the person's individual consciousness) divination would be rather pointless, like an uninterpreted dream; in other words, divination is meaningful because it actively and explicitly reconstitutes the person in relation to the social and natural environment. And much as theoreticians of play would tend to emphasise the escapist or deliberately non-utilitarian, purpose-free

nature of play, in board-games too there is this element of reconstitution, of learning from vicarious experience which, if nothing else, conveys the message that basic configurations of man's confrontation with the natural and social environment (including competition and conflict) be represented, schematised, played out, and thus be rendered more transparent and manageable.

4.5. RELATION TO NARRATIVE LITERATURE

Divination and board-games far from constitute the only forms of modelling and representation, and a systematic comparison with these other forms (through narrative, song, image or dance) should help us to pinpoint the specific nature of the session as a representation of a particular kind. Clearly, both divination and board-game are model versions of reality in a rather more dynamic and time-framed form than a picture or a sculpture, or even a series of these, could ever be. They are formal systems not in an abstract steady state of idleness, but define for the participants roles as protagonists which are to be dynamically and dramatically acted out from a uniform beginning, via more or less familiar but always slightly novel steps, to an essentially unpredictable end. In this they come close to oral or written narratives including myths, and on the basis of kindred forms of modelling they share the narratives' recreational, exemplary and revelatory potential.[19]

Yet essential differences exist between the session and the narrative. In the session, the potential for identification between the human person and the representational forms is much greater than in the narrative; for in the session, the protagonists are represented not only verbally but materially, through the elements of the material apparatus, through the game pieces themselves – and these protagonists are not the narrative's named, imitable others, but are explicitly identified with the persons involved in the session; so much so, that in many games and many cultural contexts a player will describe a particular situation or move in terms of 'I' when referring to a piece that belongs to him. This seems to suggest that divination and board-games find themselves somewhere halfway on a

[19] Cf. Dundes (1964: 277): 'a game is, structurally speaking, a two-dimensional folk-tale'.

continuum stretching from external relative non-identification, as in the narrative, to internal relative identification, up to a point of literal incorporation, as in dance, trance and ecstasy – which have their own established place in the phenomenology and history of human religion.

In contrast with literature, the complex performances of the game-pieces and of the divinatory elements (cf. literary characters) within the modelled reality of the apparatus are not controlled by a narrator but by respective, self-conscious Egos and/or by stochastic devices explicitly considered to be beyond human control. And this produces, perhaps as the essence of the model situation and of the participants' experience of it (and in ways only remotely resembling an oral narrator's free variations within an established genre and story-line), *an abundance of parallel trajectories, with choices whose effects are rarely immediately clear and whose ultimate outcome only gets increasingly determined while the session is already on*.

This is what a major anthropologist of divination, Richard Werbner (1989), tried to capture by the apt term of *micro-dynamics*: the loose pieces out of which the apparatus consist, tell a complex story through their positioning and movement along an imaginary grid laid out on the ground, they perform a little drama in which the client can see himself or herself as protagonist.

One might say that the experiential (both recreational and revelatory) value of divination and board-games is that they create an unlimited variety of vicarious experiences, i.e. stories. Spinning relevant, even illuminating and redeeming stories out of the raw material which the fall of the apparatus in combination with the interpretative catalogue provides, is the essence of the diviner's skill and training; and in the same way board-games can be seen as machines to generate stories in which Ego plays the leading part, confronting nature and society.

4.6. THE STRUCTURE OF TIME IN BOARD-GAMES AND DIVINATION

If time is miniaturised and transformed within the divinatory session and the board-game, so that the reality outside the modelled session appears, to the client, as better understood and more easily confronted and

manipulated, we should proceed and try to define in what specific ways this feat is brought about. *What is the temporal structure of the session? And how does the session's time relate to the time of everyday life, in the many African cultures in which these formal systems occur?*

These two questions are fundamental to my argument. Before trying to offer even tentative answers, let me remind the reader that in this paper I have adopted an external position which abstracts rigorously from the specific cultural forms and signifying practices such as exist in each of the many local African cultures involved. I have done so in order to bring out such formal characteristics as board-games and divination systems have in common across the continent. I am cultivating a distance which contrasts awkwardly and even painfully with my first-hand and intensive involvement, in the course of several decades, in a limited number of narrowly localised African situations – my main inspiration as an anthropologist. Yet I feel justified in this stance because, as I have pointed out, the formalism of these systems demonstrably does not historically spring from contemporary local African cultures, and is transferred and largely retained across cultural and linguistic boundaries on the African continent. Thus as an analyst I am tempted here to formalise without much reference to specific cultural contents such as could be mediated by African actors in the course of discussions and interviews, as their explicit comments on ludic and divinatory sessions. Perhaps this approach will ultimately wreck the entire argument, for, whatever their formal characteristics, these systems can only function and acquire meaning in specific local cultural settings; at any rate, what remains is the necessity to go back to the African actors and submit the argument to them for comments and criticism.

Even at the formal level, can we try to be more specific as to the structure of time as presented in geomantic divination and board-games?

Much as the two formal systems may be historically related, on the surface they are rather different and should be approached separately. The temporal structural of the mankala game can be summarised as follows:

- There is a well-defined beginning and end.
- From an initial balance (where both players have the same number of counters) there is, through all the moves and counter-moves of the two

players (and a game typically involves 'many' such moves: a few score at least), the gradual development towards a decisive imbalance, where one player defeats the other by taking all the counters.

- While the game is on, players impose upon their next few moves the temporal organisation of short-term strategies, but at any one moment in the game except towards the end, the overall odds are only dimly perceived by all but the most expert players: the strategies are short-lived eddies of purpose in an encompassing flow of largely uncontrolled and unknown 'destiny'.
- To the extent to which time is measured by spatial pointers (and empirical manifestations of time are invariably in terms of spatial displacement, in African formal systems as well as in all other situations), the appearance of the game is strikingly repetitive: not only do the players meticulously take turns, also an ever-changing number of pointers keeps being redistributed, by simple acts of collecting in one's hand and dishing out one by one, among the same limited number of cups as arranged in two to four rows, so that the place of action keeps racing around and around the game-board.
- Both in time and in space the session as well as the physical game-board are framed within a far less structured, and unbounded, domain of events: 'everyday life'.

This description makes it clear that the temporal structure of the game is complex, ambiguous, dynamic, opaque. It cannot be readily reduced to only one of the three popular formulae of linearity, circularity and punctuality which have haunted the philosophical and anthropological literature on time and which are increasingly penetrating the African intellectual discourse on time.[20] In fact, all three forms of temporality occur at the same time, in an admixture which may well constitute one of the basic characteristics of the mankala family of games, as well as the main reason for their virtually ubiquitous distribution and appeal on the African continent. The game is not only a time machine, it is a time symphony, and it amounts to a practical philosophy of time.

A similar case could be made with regard to the divination session (cf. van Binsbergen 1994, 1995a). Against the diffuse and unbounded

[20] Cf. Mbiti 1990; Adjaye 1994; Wiredu 1995.

structure of everyday life is offset the session's structured temporal format, with a clear beginning and end, and with a sequential temporal structure where question-throw-verbal interpretation-question-throw etc. succeed each other up to about forty times. And while a suggestion of linearity is offered by the session's progress from initial distress and lack of insight towards final revelation, redress and remedy, this is accompanied by themes of circularity: the fusing of references to past, present and future persons and events, the dead's continued action in the world of the living, and their reincarnation there. Here again we have to recognise the fact that the temporal structure of the divinatory session consists in a subtle combination of all three major modes of conceptualising time as can be distinguished analytically. This is why the divination session constitutes the minimal ritual *par excellence* (Werbner 1989); in fact, much of what I have said about divination applies to ritual in general, and suggests that ritual, much like the music that often accompanies it (Zuckerkandl 1963), is a form of time art.

The argument so far suggests that the board-game and the divination session are not just alternative, parallel ways of dealing with time. They are not merely complementary to whatever may exist in the way of a conceptualisation of time in everyday life; alongside the latter they are the opposite of being unnecessary, playful, virtual. On the contrary, I submit that as implicit models of time the conceptual effects of these formal systems and the 'virtual' experience they engender, shades over onto everyday life. Here they provide some of the few available conceptualisations of time within the local culture. Starting out as models of everyday temporarily, they turn around and breed a more structured sense of temporarily in their own right. Thus they seem to provide the experimental grounds upon which a structured time sense is tested out and from which it may be extended so as to temporally restructure experiences in everyday life.

Our two formal systems never provide the only models of temporarily, of course. I have already pointed at ritual as a more general related category. Obviously, myth is another domain that comes to mind; it provides its own time machines, but not for the miniaturisation of time but for its inflation beyond human scale. A further model of temporality is offered by kinship, with its sequentiality of generations and (in most

rural settings) the projection of the latter's dwellings and wider localised social groups onto the space of the local landscape. And kinship in itself often offers conceptual models for political organisation even in the total absence of biological clues; here the classic example is Evans-Pritchard's (1967, p. 94f) famous chapter on 'Time and space' in *The Nuer.* Kingship, with a genealogical sequence of dynastic identity over time, and the narrative celebration of human achievement through legend and charter, offers a further temporal model for societies which, contrary to the acephalous type like the Nuer's, are organised around formal and enduring leadership. And perhaps the most significant set of time models on the African continent is to be found in healing rituals, of which divination incidentally forms an integral part, and which make selective and transformative use of the various time models available in the local culture.

4.7. RELATION TO SYMBOLISM AND MATHEMATICS

The formal nature of divination and board-games lies not merely in the existence of formal rules, but in the saturation of these rules with fundamental structural themes (e.g. such basic oppositions as odd/even, male/female, life/death, high/low, white/ black), which form the basis for a rich imagery and inform the dynamics of the session. At the same time these systems are formal and have been so also in archaic contexts where formalism was still *in statu nascendi*; hence their articulation would seem to be related to man's most fundamental formalism, the one with the highest survival value: early forms of counting, arithmetic, representation and manipulation of numbers.[21]

This point has a direct bearing on our two main empirical cases, mankala and geomancy. It is highly significant that both of them have given rise to sophisticated formal mathematical analysis[22] in terms of stochastic processes, topology, theory of graphs etc. The dynamic implications of these simple systems as revealed by mathematical analysis turn out to contain unexpected features which directly reflect on

[21] Cf. Seidenberg 1960, 1961; Schmidl 1915; Zaslavsky 1990.
[22] Jaulin 1966; Popova 1974; Deledicq & Popova 1977.

strategies in the case of mankala, on the distribution of positive and negative outcomes and on the diviner's overall management of the session's ongoing communication and interpretation process, in the case of geomancy. But even without such sophistication (which is beyond the consciousness of most real-life actors involved in mankala and geomancy) there are the simple arithmetic facts: in geomancy the dealing with odd or even (as reflected in the scoring of one or two dots in the composition of the geomantic symbol), obverse or reverse; in board-games like mankala the sheer act of counting, collecting and dishing out again, repeated as many times as the game session has moves, but anticipated in calculating strategy many more times than there are actual moves. Both forms of formal behaviour are impossible unless as applications of simple but fundamental mathematical accomplishments, and they are likely to provide an early use (and hence reinforcement, and celebration) of just those.

Thus while we would retain Groos's insight in the link between board-games and the emergence of writing, arithmetic would appear to be another fundamental of their emergence; and since we are arguing the religious context throughout this paper, all three Rs would seem to have made a crucial contribution, corroborating Murray's point[23] that board-games reflect the emergence of civilisation.

Let us now try to capture the historical questions which such emergence would seem to pose. Others have also asked such questions recently, and in inspiring ways. In a fascinating argument – which however does invite many corrections of the historical data on minor points – the psychologist Vroon (1991) has argued that divination, far from being a universal of culture, must be considered in the historical context of the emergence of writing; he goes on to claim that writing (and by implication divination) must have had such an enormous influence on the human mind (particularly through upsetting the balance between the two cerebral hemispheres) that for the first time in history qualitative changes in its functioning were brought about, even though man's genetically determined phenotype has not demonstrably changed since the appearance of Crô Magnon man, some forty thousand years ago.

[23] Murray 1952: 236f; cf. Huizinga 1952 to whom he rightly refers.

5. Historical problems posed by divination systems and board-games

5.1. APPEARANCE IN HUMAN HISTORY

Modern man takes for granted his or her capability of retrospect and prospect, of testing out the dilemmas of real life in parallel model situations of reflection, planning, strategy and game, without cost or engagement; however, I submit that the invention of such a vicarious (or, with a more up-to-date term, 'virtual') reality, as exemplified in divination and board-games, occurred at a relatively late stage in the cultural evolution of mankind. While reflecting major structural changes at the time, the amazing mental operations in inductive divination and in board-games may well in their own right have made a crucial contribution to the realisation of more complex social and productive arrangements in time and space.

Tentatively I would situate the invention of both board-games and material divination (if such a distinction could already be made by then) in a Neolithic context of emergent agriculture – without the slightest doubt man's most drastic redefinition of space and time. Let me try to spell out the terms of that revolution – without the slightest pretension of originality on my part.

The productive revolution involved in the shift (however gradual and over an extended area; cf. Renfrew 1979) from food gathering to cultivation amounted to a *redefinition of space*.[24] A specific section of the natural environment had to be demarcated (implicitly, as the point beyond which agricultural activity would not extend; conceptually, in order to guide the agricultural process and to define ownership rights over the crops as against rival individuals and more likely groups. And often also

[24] For a tentative theory of shrines in an agricultural context, cf. van Binsbergen 1981: 107f.

physically, by a fence, in order to keep marauding animals out. Internally, that bounded agricultural space, the field, had to be specifically structured and transformed: the ground would be opened in order to receive the seeds; invention of the plough would automatically systematise this transformation into more or less straight lines, furrows; and soon, in many of the early agricultural sites, a grid of irrigation or drainage trenches would become necessary.

In the same way, agriculture was to *revolutionarise the sense of time*, not so much by introducing an element of seasonality (for that must always have been part of hunting and gathering, given the built-in seasonality of the great majority of natural ecosystems), but of purpose: not by a passive undergoing of Nature's monthly and annual cycles, but only by man's timely initiative on the basis of calculated anticipation, in preparing the soil, planting, weeding and harvesting at critically appointed times could a year's agricultural cycle be brought to a success.

Without necessarily denying the possibility of preparatory stages of 'proto-science' in the Mesolithic and Palaeolithic (cf. Marshack 1971) it is clear that the sciences of the calendar, astronomy, geometry, arithmetic, were the direct intellectual outcomes of this Neolithic transformation of space and time, and they were soon carried to a level of formality and abstraction for which it is difficult to see a reason outside the context of agriculture. The true test for a different sense of time would appear to lie in the foresight which allowed people to save up their seeds for next season even in the face of virtually yearly food shortages, as well as investing so much energy in initiating an agricultural cycle whose pay-off would be many months ahead.

What I have said for agricultural also – but perhaps in a slightly attenuated form – applies to animal husbandry, from the clearing and fencing of a kraal (but without further active transformation of the area of soil thus enclosed) to the active response to seasonality in terms of transhumance, provisions for mating, pregnancy, birth and infancy of the animals, gelding, festivals involving animal sacrifice, etc.

Finally, the redefinition of space and time could only mean the redefinition (or the creation, in the first place?) of the notion of *person*, situated in new time and new space, and represented (both in board-games and in the divinatory apparatus) by external tangible, often

anthropomorphic material objects moving, in his or her stead, through time and space – usually interacting with other persons so represented. Board-games and divination externalise, and offer new models of, a redefined relationship between man and his physical environment, as well as between man and his social environment – with major roles of confrontation and competition being externalised in the apparatus and redefined as opponents in a schematised exchange dominated by explicit rules (board-games), or as likely partners, enemies and witches (divination).

Statistical cross-cultural comparison, an anthropological technique in fashion in the 1960s, has revealed that games of strategy, such as mankala, tend to be found in societies with a certain level of complexity.[25] Several authors (e.g. Simpson, in press) have postulated a specific link between the explicit, formal rules in board-games, and *the more complex nature of the societies* which became possible with the Neolithic revolution in food production: cities, states, large scale religious and political control over production leading to marked class formation, in short the emergence of civilisation. At first this may sound rather convincing, but on further anthropological reflection doubt sets in. Although rules are often stressed in a context of games as if they are the principal features of such cultural phenomena ('the rules of the game'), they are not in the least peculiar to games: language, kinship, social organisation, ritual, law, art, are similarly regulated by rules, and so are, in general, all aspects of social behaviour in whatever human culture. The rules of marital alliances in certain Aboriginal Australian societies,[26] whose food technology is that of hunting and gathering, are sufficiently intricate so as to render implausible any straightforward connexion between level of food technology, social complexity, and prominence of explicit, formal rules in a culture. More thinking is required on this point. Perhaps further formal analysis may show that the rules involved in board-games are of a very specific nature, incomparable with the rules governing marital alliance. But for the time being I suggest that we stress the Neolithic as a likely context for the emergence of board-games, while interpreting their regulation by rules as an instance, not of revolution, but

[25] Roberts & Sutton-Smith 1962, 1966; Roberts 1979.
[26] Lévi-Strauss 1949, 1962, and references cited there.

of continuity, as merely a sign of being cultural.[27]

As formal manipulations of space and time, my theory situates both divination and board-games in the Neolithic, where the emergence of agriculture brought about man's most drastic redefinition of space and time before the rise of modern communication and transport technology. In response to my first tentative statements to this effect, Irving Finkel kindly drew my attention to recent archaeological finds of a considerable number of Pre Pottery Neolithic and Bronze Age finds, involving artefacts which on the face of it could be mankala boards. Below, when considering alternative readings of the imagery of mankala and geomancy, we must address the fundamental methodological problems involved, but al least there is now some relevant archaeological evidence predating the oldest Egyptian possible mankala boards known to Murray, and never older than the Neolithic.[28] In the same vein, Deleqicq & Popova (1977), who wrote a brilliant study of the finite mathematics of the mankala game, claim that mankala originates in Mesopotamia. They qualify this claim immediately:

> 'Signalons en passant qu'aucun jeu de pions avec un tablier à quatre rangées de cases symétriques, sumérien, assyrien ou persan, n'a jamais été retrouvé jusqu'à présent.' Deleqicq & Popova 1977: **[add pages]**)

However, there are serious indications, and from the best authorities, that mankala-like artefacts, with four rows of cup-holes, have actually existed in Ancient Mesopotamia:

> 'I learnt from Sir L. Woolley, that from time to time during his explorations at Ur, bricks, of face 12 inches by 9, and ranging in date from 2000 to 750 B.C., were found. In one face of these bricks four rows of holes had been roughly ground. So far as he remembers, the two inner rows each contained eight holes and the two outer rows contained in their middle three holes. A similar brick had been found by him at Carchemish on the middle Euphrates. It is difficult to see any purpose which these bricks can have served other than as a game-board.'(Murray 1952: 36)

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[27] On formal aspects of rules in general, cf. Douglas, 1973; Ahern 1982; Black 1976.

[28] Anonymous 1990; Rollefson 1992. Considerably later are the Bronze Age allegedly mankala 'gaming stones' (mankala-like patterns in stone slabs) found elsewhere in the Eastern Mediterranean basin: Lee 1982; Swiny 1980; for an overview, cf. Simpson, in press (this volume), where further references may be found.

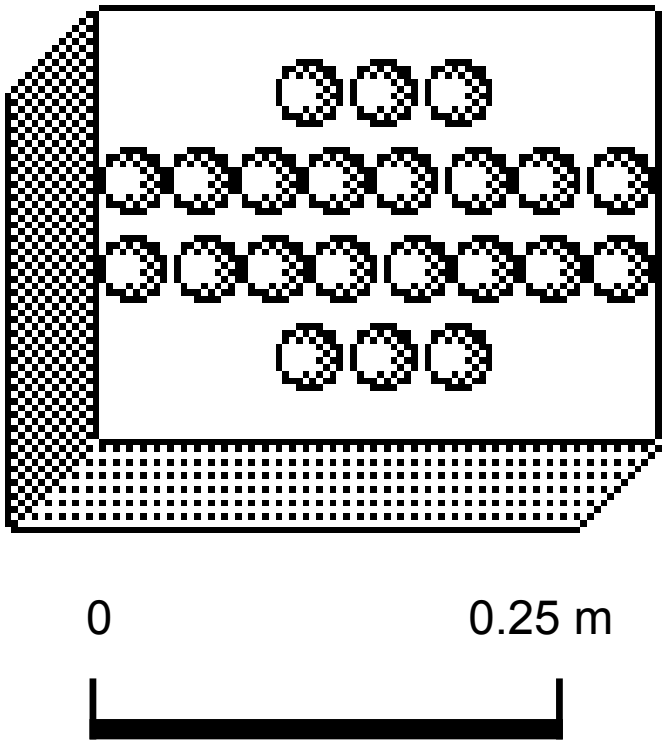

Figure 8. Reconstruction of a typical brick with four rows of cup-holes from Ancient Mesopotamia (c. 2000-750 BCE)

(as decribed by Murray (1952: 36) after Woolley)

Probably such artefacts reminiscent of latter-day mankala boards also existed in the Indus civilisation:

> 'A couple of bricks have been found roughly scored with lines marking out a game: one contains part of the whole pattern which might either have been similar to a known Sumerian games-board or another type from Egypt. The other brick has a row of depressions into which pebbles or something similar, such as beans, could be flicked, in the manner of the games of certain African tribes. Both bricks probably came from pavements, and contrive to give a convincing picture of household servants playing, and probably gambling, in a shaded corner of the courtyard.' (Piggott 1961: 190)

Whether this was mankala proper, or some kind of no-ludic proto-mankala, we may never know. However, from the Indus this type of four-row artefact may have inspired fully-fledged four-row mankala as it was recently discovered in Southern China (Eagle 1995).

If the Neolithic is really the base-line, this would mean that the distribution of board-games and inductive divination among the world's non-agriculturalists is to be interpreted as *borrowing*. It falls outside our present scope to systematically confront this hypothesis with the evidence in the archaeological and anthropological literature. However, it is certainly in line with this hypothesis that board-games are reported (Murray 1952: 4) to be near-universals of human culture, with the exception of Eskimos, Australians and New-Guineans before these human groups came into contact with Iron Age and post-Iron Age civilisations.

The only truly universal game which Murray acknowledges, and which therefore receives the honour of featuring in the last, slightly incoherent pages of *History of board-games other than chess*, is the string game or cat's cradle. Lévi-Strauss **[year: page]** points at their calendrical connotations throughout North American native cultures, but with reference to the winter solstice and in a hunting context, not an agricultural one. Incidentally, Meggitt (1958) reports a board-game played by Australian Aboriginals in the 1950s, but without hesitation attributes its presence to recent diffusion from India.

In terms of productive techniques, Eskimos (cf. Birket-Smith 1946: 473f) and Australians can be said to have perpetuated until only a century ago cultural forms already found in the Palaeolithic, while the New-Guineans' digging-stick agriculture would situate them just inside the Neolithic. It is moreover interesting that in four African hunter-gatherers societies divination was found to be absent in a context where it is very frequently resorted to in agricultural societies: to ascertain the causes of death of a group member (Woodburn 1982). The dynamics of borrowing and parallel invention are notoriously complex, and it would be very dangerous to assume that a specific level of the development of productive technique dictates a social-structural (let alone a mental) incapability for board-games. Of this we are reminded for instance by the case of the San hunter-gatherers of Southern Africa, among whom mankala is being played – but in a context where there is ample evidence, over several millennia at least, of a variety of relations (including trade, raiding, serfdom and conquest) involving not only surrounding Bantu- or Indo-European-speaking groups (Wilmsen 1989) but also, at the end of

long chains of exchange and dislocated, de-contextualised cultural influence, Middle Eastern and Mediterranean groups (Wilmsen & Denbow 1983; Breuil 1952).

Russ, who is clearly not a regional specialist, prefers to enlist the San ('Bushmen') in a rather more romantic capacity, as the mysterious, largely vanished and unattested, hypothetical *Urhebers* of the most complex and accomplished variety of the game:

> 'The origin and dispersion of mancala remain much of a mystery at the present time, but there are indications that the game is several thousand years old and was spread through the Bantu expansion, along trading routes (including those of the slave trade), and by the expansion of Islam. There is some evidence that two-row mancala is considerably older than three-row mancala, but the origin of four-row mancala is a particularly puzzling question. I can offer the observation that four-row mancala is played in the part of Africa formerly (and in some cases presently) occupied by the Bushmen.' (Russ 1984: 12; my italics).

In so far as this statement (probably inspired by Townshend 1976-77: 95) echoes the old Bushmen myth, we should not take it seriously (cf. Wilmsen 1987, 1991). However, towards the end of my argument I shall come back to the same issue: the early spread of mankala to Southern Africa, and there Russ' hint will turn out to make some sense, if for San hunters we read Khoi pastoralists, and for four-row mankala early, two-row forms.

5.2. THE RELATIVE A-HISTORICITY OF DIVINATION SYSTEMS AND BOARD-GAMES

The formal nature of divination and board-games lead them to be relatively a-historic (in the sense of being rather inert in the face of general social and cultural change) and to elude localisation (crossing cultural, linguistic etc. boundaries and, while allowing for local adaptation, diffusing in such a way that they can hardly ever be said to truly reflect the central orientation of a local culture).[29] Therefore attempts to show how, for instance, a local variety of the mankala board-

[29] Remarkable examples of the game's variants being persistence to change in the face of migration across vast areas and being surrounded by distinctly different variants, are for e.g. given by Townshend 1979a: 127f.

game so eminently fits the more general local culture miss the point: Townshend (1982) for *bao* in the Swahili context, and Barnes (1975) for the Indonesian context of Kedang. Both authors have succumbed – not surprisingly, considering the hegemony this paradigm has exerted since the 1930s – to the temptation of the structural-functional paradigm in anthropology stressing localisation, boundedness and functional integration of culture, even though they are in principle well aware of the problems I signal here (Townshend 1979b; Barnes 1975: 82f). Such a localising approach is based on the assumption of some local cultural core from which meaning and structure exclusively springs, rather than that the latter are fragmentarily conveyed across cultural and linguistic boundaries from multiple and disconnected distant origins – finding only a very partial local integration and stream-lining. In other words, they are examples of the earliest forms of the globalisation of culture.

This state of affairs would suggest that divination systems and board-games are very welcome guiding fossils in cultural history, but their own history (in the sense of movement in space and transformation over time under explained conditions) is far more difficult to write.

5.3. BASIC VARIANTS OF THE HISTORICAL RELATION BETWEEN DIVINATION AND BOARD-GAMES

On the basis of the parallelism between material divination and board-games their actual relationship in time and space can take a number of specific forms:

- Board-game and material divination complementarily serve identical functions, e.g. are used to mark, to visualise and to cross essential boundaries in the life of the individual and the social group. Hence the prominence of board-games in funerary and puberty rites: rites of passage whose being accompanied by divination anthropologists take for granted. Hence also, for instance, the co-occurrence of family board-games and drawing-room versions of divination at Christmas as a calendar rite in 19th-century Western Europe.
- The board-game, without denying its primarily secular, recreational nature, is interpreted by the actors as a divinatory device, i.e. its outcome is supposed to reflect on the fate of the players; examples of

this abound around the world.

- The divination system is routinised and profanised into a pastime and effectively becomes a board-game. This would seem to be the case with the astronomically- or astrologically-based board-games from the Ancient cultures of the Near East, Egypt and Crete.[30] I shall come back to this type of games below.

The most common relation meanwhile is the following:

- Board-game and divination system spring from the same pre-ludic and pre-divination context in the domains of production and/or ritual, and their genetic link is retained and remains detectable in their overlapping imagery.

It is therefore to an analysis of this imagery that we shall now turn.

[30] Murray 1952: 12f; Musées 1992; Herberger 1988; and extensive references cited there.

6. Exploring the imagery of mankala and geomancy

One of the most amazing features of the literature on geomancy, however large, is that hardly any author has systematically explored the imagery underlying the nomenclature of the geomantic figures and the conceptual and historical connections these suggest. By the same token, apart from a few passing references to cattle there has been hardly any attention to the underlying imagery of mankala, throughout the equally large literature on that board-game. Admittedly, in the absence of written texts spelling out that imagery for us, we need special and perhaps controversial forms of close reading of the tacit messages the material objects belonging to these two cultural systems display – but much of the study of early and exotic art revolves on this principle. What our exploration will reveal is the multi-referential complexity underlying geomancy and mankala; but that is as expected, considering that here we are dealing with formal systems which take a certain distance (not always the same) from productive activities and from the empirical proofs and refutations, in the form of demonstrable success or failure, hunger or satisfaction, they constantly offer.

6.1. NEOLITHIC PRODUCTION AS A POSSIBLE KEY TO THE IMAGERY OF MANKALA AND GEOMANCY

If the above argument concerning the Neolithic context for the emergence of board-games and divination cuts wood (which is a much older – Palaeolithic – productive activity in human evolution, albeit that remarkable concentrations of worn axes are found on Neolithic agricultural forest clearances) it offers one of the most obvious contexts in which to interpret the specific forms and imagery of both mankala and geomancy, and thus suggests a base-line beyond which we do not have to seek for historical clues and geographical connections.

The fundamental image of mankala is that of a series of a few (p) parallel lines on the ground, with a number (q) of demarcated and transformed spaces defined along each line (normally q>>p); identical elements are inserted and withdrawn from each of these spaces according to a fixed routine which yet invites human strategy and planning.

6.1.1. animal husbandry

In the existing literature there are some indications of a pastoral imagery underlying mankala (e.g. Townshend 1976-1977: 93), as if the holes are cattle kraals and the elements heads of cattle. In the simplified mankala described by Driberg (1933: 9, n. 2) the counters are called sheep and goats.

Also Townshend (1976-76: 93) recognises the link between mankala and animal husbandry, and even speaks of a 'mankala/ cattle/ women complex', although the concept of a cattle complex has far less currency among anthropologists today than it had in the mid-twentieth century (cf. Herskovits 1960; de Lame 1996).

Such an interpretation in terms of one of the Neolithic pastoral achievements has a certain appeal. Townshend's point (1979b) that, contrary to structural-functional theoretical pronouncements (Roberts et al. 1959), board-games do occur among pastoralists, is well taken. By the same token, pastoral societies have been found (Long 1977; Edgerton c.s. 1971) to display a marked propensity for divination – perhaps associated with the need to identify stray animals, perhaps also related to the vast geographical space in which their productive ecology revolves. The use of astragali derived, hardly ever from wild animals but in most cases from domestic animals, helps to pinpoint the Neolithic context of the board-games and divination systems in which these astragali serve as dice i.e. random generators.

Does the game-board then depict a number of non-adjacent kraal in a situation of cattle raiding? More likely, the board-game represents the peaceful and regular circulation and re-circulation of cattle such as is customary in most pastoral societies in the context of marriage payments. In the words of Sutton-Smith (1993), one of today's principal ludologists,

> ‘It is hard to play this game [mankala] without the feeling that one is participating in one of those basic stages of civilisation where the accumulation of property is what is at issue’.

Yet it is difficult to imagine adjacent cattle kraals whose contents undergo such rapid and continuous redistributions in the context of alliance.

The circulation of cattle as against that of women is quite likely the underlying social referent of the Sudan mankala-like *Umm al-banāt*[31] game first described by Davies (1925) and summarised by Russ in the following words:

> ‘Play is on a 2x6 board (usually hollowed out of the sand) with four seeds in each hole at the start of play. Each player, at his turn, picks up all the seeds from any of his holes (except for a ‘‘daughter’’ hole) and moves in laps (...) in a counterclockwise direction until the last seed of a lap falls into an empty hole, one of the opponent’s holes that contains three seeds (the last one dropped making a ‘‘four’’), or a hole already designated as a ‘‘daughter’’. A move may not begin from a ‘‘daughter’’ hole. If the last seed of a lap falls into an empty hole on either side of the board, the move is over and no captures are made. If the last seed of a lap falls into a hole on the opponent’s side containing three seeds (thus making a ‘‘four’’), this hole is designated a ‘‘daughter’’ and is somehow marked to indicate this. After making a ‘‘daughter’’, the player’s move is over with no captures being made. If the last seed of a lap falls into a player’s own ‘‘daughter’’ which must, of course, be on his opponent’s side of the board, the player’s move is over with no captures being made. The contents of a ‘‘daughter’’ cannot at any time be picked up and moved. If the last seed of a lap falls into one of the opponent’s ‘‘daughters’’ (which will be on the player’s side of the board), this seed and one other seed are removed from the ‘‘daughter’’ and put in the player’s store. The player then moves again, beginning from any hole on his side of the board that is not a ‘‘daughter’’ hole.’ (Russ 1984: 46)

6.1.2. agriculture

It is equally promising to consider the holes are referring to agricultural fields. The parcelling up of a local area in adjacent yet separately worked and administered fields, surrounding a localised community whose ritual

[31] The literal meaning of the name is: ‘the mother of daughters’. Not unlikely, it contains a pun on the standard Arabic term ‘*umm al-walad*’, ‘mother of children’, specifically referring to the female slave who has born her master children (male children being preferred over female children by far) and thereby has considerably improved her legal status; cf. Schacht 1974.

unity is expressed by a shrine or temple, a cemetery, a megalithic structure, etc. – a community whose main *raison d'être* may well have been to pool resources not only against outside attach but also against internal food shortages, through pooling and redistribution —, fits the Neolithic archaeological record (and the form and rules of mankala) fairly well. It also has a link with the iconography of historical early agricultural communities, in whose representations a grid-like pattern not unlike a mankala board is a recurrent feature, even although we may not assume the correspondence to be everywhere as neat as in the earliest forms of Sumerian and Chinese writing, where such a pattern indeed means 'field'.

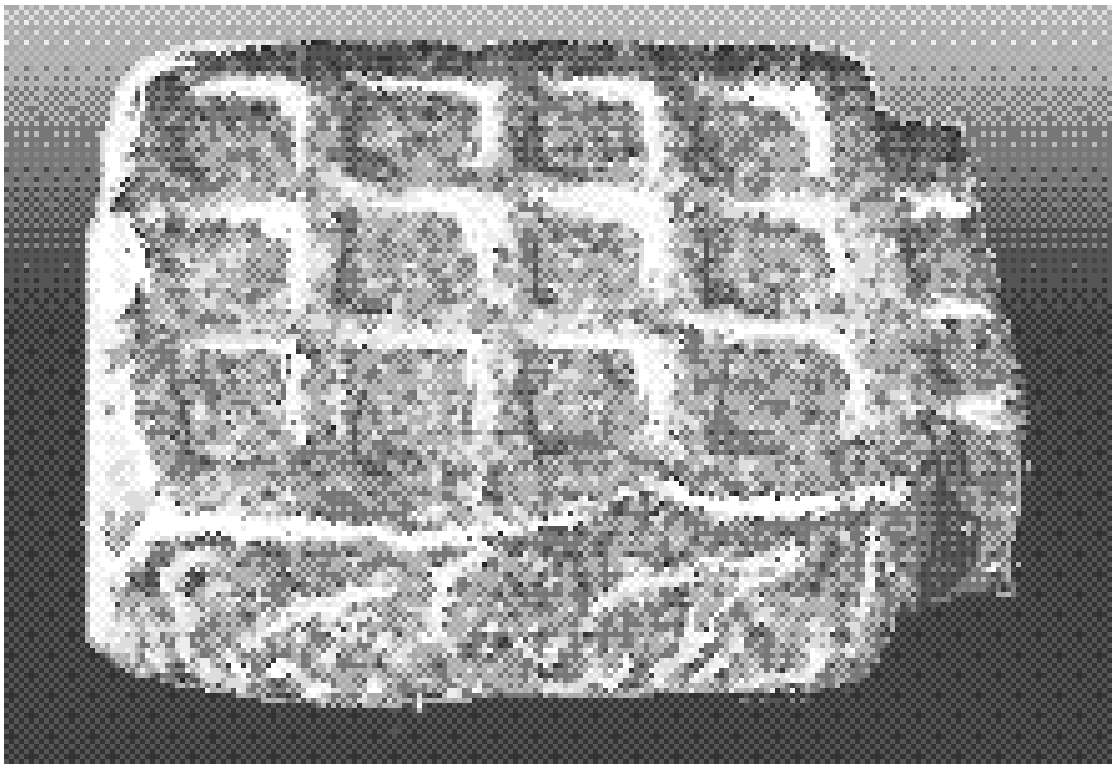

Figure 9. A game-board from Ancient Mesopotamia

(after Gadd 1934 **[check]**).

In the most archaic Sumerian writing (ca. 3000 BCE) the agricultural field was simply represented by a rectangle divided by vertical lines: the image of a field divided by irrigation ditches: ▯▯▯▯▯▯▯▯▯. In the subsequent

archaic script,[32] this was only slightly transformed into: 𓉔, which ultimately led to the standard character: 田.[33] Similarly, in Chinese (Hân Yîng Cídian 1988; cf. Wieger 1965: 316f) the character for field is: 田 (*t'ien*), which as a radical occurs in a great many combinations. In the combination signifying man (agriculturalist), later standardised as 男 this representation of 'field' is already attested in the most archaic Chinese writing on seals and oracle bones (2nd mill. BCE), as: 甲 (Needham c.s. 1956: 226). In Ancient Egyptian hieroglyphic, again, the oblong grid: 𓐍 has the cognate meaning of 'district', 'administered land area' (Faulkner 1962: 54, 178 and *passim*) – which was rendered in Greek as νόμος, and is generally considered to represent a (manually) irrigated field. Gilbert explicitly links the layout of Egyptian board-games with the pattern of irrigation ditches in the Egyptian agricultural landscape. Here may be an important key to the imagery of the mankala board and to other board-games.[34]

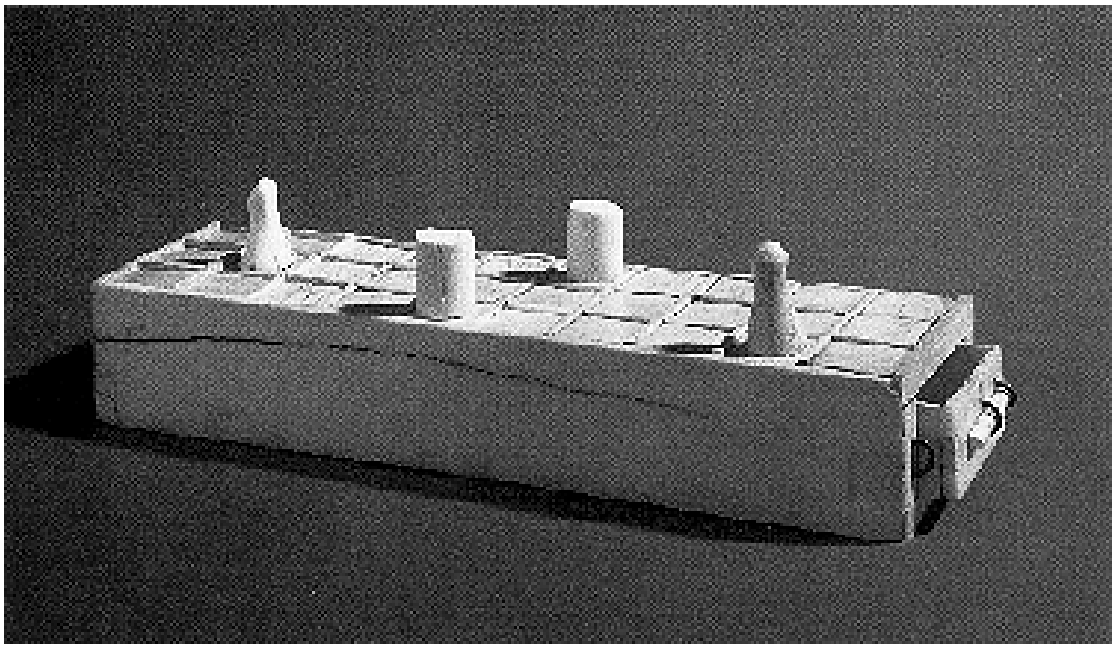

Figure 10. A specimen of the Ancient Egyptian *senet* game

[32] Borger 1978: 12; character no. 105 I.

[33] No. 105 I (77); Borger 1978: 87.

[34] The applicability of the agricultural grid imagery in Arabian divination including geomancy is suggested by the fact that the table, grid or plan in which the various significant figures or values are laid out for interpretation, is called *djadwal*, by a word whose semantic field also includes 'brook', 'watercourse'; Graefe et al. 1978.

(after Kendall 1992c).

The landscape represented by these game-boards was produced and maintained by a very simple agricultural technology:

> 'During the Old Kingdom and the Middle Kingdom, all a farmer (...) could do was put a yoke on his shoulders and bring the water to the fields with manpower, using a pair of wooden or earthenware buckets. (...) When fields or gardens had to be watered one divided them first into square sections by means of a grid of small dikes. Water was then poured from one section into the other, the dike retaining the water just long enough to allow it to enter into the soil. (...) Relief only came with the introduction of the shadoof at the end of the 18th dynasty. It clearly originated in Mesopotamia' (Strouhal 1993: 97) **[retranslated WvB; better take English edition]**

The postulated link with irrigation may not be limited to some very early Neolithic context. Irrigation was practised (Sutton 1984; Fleuret 1985) in the interior of Tanzania, and in Zimbabwe, and in both cases four-rank mankala is found.

Nor is the agricultural imagery limited to the lay-out of the game-board. Gaming pieces, especially those for the Ancient Egyptian game of *senet*, have the specific shape of granaries meant for the storage of consumable grain (seed being stored in trapezoid granaries) (Strouhal 1993: 100).

Also in geomancy one may see the many variations of the 'art of drawing lines in the sand' as primarily an evocation of the several transformations of space through which the environment is turned into a productive field, through demarcation, clearing, ploughing, irrigation perhaps, and harvesting.

These patterns are so widespread in the Old World, that Arabian divination practices might be better understood in the light of ancient Egyptian representations and even of customs in South East Asia. The representations on the Scorpion's King or Ka's maze head (Strouhal 1993: 96; Edwards 1985) were long interpreted as depicting the King's opening an irrigation canal. However, now that we have come to realise that (beyond the individual farmer's toil with buckets and little dikes) irrigation in Egypt was decentralised and relatively late,[35] the maze-head representation is read as the king's sanctioning the cleaving of the soil

[35] Schenkel 1978; Endesfelder 1979; Butzer 1976; cf. Strouhal 1993: 93f.

and the sowing of grain. These are the very acts which, millennia later and at the other end of the Old World, we find in South East Asia, where they must have been at the centre of agricultural ritual for a long time, probably several millennia:

> 'La tradition des rois cloche-pied s'est conservée au Siam et au Cambodge jusqu'au XIXe siècle. *Après avoir tracé un sillon (désacralisation du sol par le chef au début d'une campagne agricole)*, ils devaient aller s'apuyer contre un arbre et se tenir debout sur un seul pied (le pied droit placé sur le genou gauche). (Cf. Leclère, *Le Cambodge*, p. 297)' (Granet 1988: 486 n. 86; italics added by me – WvB).'

I am pointing out a parallel which is historically conceivable in the light of the (west-east) diffusion of agriculture as a human invention; but the last thing I could want to suggest is that the Arabian symbolism directly and specifically derives from South East Asian agricultural practices. The link is far more indirect. Even the Chinese *I Ching*[36] system, which via the Baṣra link probably had a more direct bearing on Arabian geomancy,[37] was only one of several formative influences that produced *ʿilm al-raml.*

Significant is that, whatever departure from more original forms we encounter in the context of geomantic divination, there is always the link with the ground. If the divination no longer takes place on the actual ground but in a miniature representing the earth – such as the square[38] West African divining-board —, then at least its bottom has to be filled with sand. If the soil imagery has been almost entirely abandoned and the system reduced to the fall of four tablets, these are at least cast upon the soil – typically a soil which is transformed by covering it with a sacred cloth or skin. It is highly significant that at the beginning of the session the Southern African diviner usually smacks down, with great relish, onto the soil the bag containing his tablets – thus awakening the spirits of the soil (his ancestors, particularly). Below I shall further discuss earth

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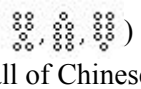
[36] Among numerous scholarly and popular editions I mention: Wilhelm & Cary 1951; Legge 1993.

[37] As the basis for the 2^n-based binary symbolism, one adopted for Islamic geomancy a representational symbolism in terms of single or paired dots that was most probably derived from Chinese hexagrams with their broken and unbroken lines (䷀, ䷁, ䷂) etc.; cf. in geomancy ) as used in *I Ching*, the latter being constitutive of a cosmology pervading all of Chinese life for millennia (Needham 1956; Maspero 1978: 281f).

[38] Cf. below, section of the earth cult and its square symbolism.

symbolism in geomancy.

In the face of these reminiscences of the agricultural cycle in the geomantic diviner's work (with the final, revelatory interpretation as harvest) we must not overlook that there are also (and this is explicitly recognised in some local cultures) remarkable parallels with other productive activities, such as spinning and weaving (like of a tale), and particularly hunting. Among the Zairian Yaka (Devisch 1987, 1991) the self image of the diviner is predominantly that of a hunter, who bags the outcome at the infinitesimal right moment, like the hunter his quarry. Much of the divinatory symbolism there is derived from the hunt, whose iconographic repertoire I shall discuss in the next section.

The image of the manually irrigated field is illuminating for some, but not for all board-games. Thus while in *senet* and the 'game of twenty fields' the basic lay-out of the game-board visually reproduces the raised dikes and sunken, strictly rectangular and identical fields of the local countryside, this basic effect is less apparent in West Asian variants (like the royal game of Ur, or the related royal game of Knossos) due to the alternation between rectangular fields and circular or rosette-ornamented fields, and it is absent in the Ancient Egyptian, round *mehen* or snake game whose roughly rectangular fields are laid out spirally, as the coils of the snake after which the game was named – a universally chthonic animal, but as such only indirectly and not necessarily connected with agriculture.

Figure 11. A specimen of the Ancient Egyptian *mehen* game

(after Pierini 1992)

The typical mankala board in its turn displays the basic rectangular grid of identical, irrigated fields. Its round and concave cup-holes however suggest a system for the storage and transport of fluids more than irrigated fields that could be the target of such fluids – a suggestion which is all the stronger in the very early (Pre-Pottery Neolithic B) so-called 'mankala boards' with continuous lengthways grooves connecting or skirting the holes (Simpson in press; Kirkbride et al. 1966); and while the cup-holes are the recipients of gaming pieces comparable with and often identical with agricultural seeds, the seeds do not remain there like in sown fields, but constantly circulate – as items of wealth, or as the fluids they seem to emulate.

Whatever the prima facie relevance of Neolithic food production for the emergence of board-games and divination systems, we should not allow ourselves to be plunged into naïve oversimplifications. The overall picture sketched above must be qualified on a considerable number of points. Even where the physical appearance of the common agricultural landscape seems to be reproduced in the lay-out of the game-boards, like in *senet*, the attending texts and iconography of the embellishments suggests that also recourse is had to other repertoires of knowledge and meaning, which do not, or only indirectly, reflect Neolithic productive concerns; they may even not reflect any productive concerns at all.

In general, the ludic and non-utilitarian nature of the board-games would be conducive to a superimposition of and oscillation between multiple repertoires of reference. These include mythical meanings, e.g. the number 30 also evokes the thirty judges assessing at the trial of Horus and Set, and the snake imagery underlying *mehen* refers to a mythical snake; when the latter acquires benefic qualities by the New Kingdom, the game falls in disuse.

This will lead us to a discussion of hunting and of astronomy/ astrology as iconographic repertoires, while a note of the cult of the earth – of obvious relevance for a divination method which is called 'earth divination' (geomancy!) – provides the link with what would appear to be, after all, the most ancient and fundamental representational repertoire involves in mankala and geomancy: funerary iconography revolving on cup-holes, which goes back to Palaeolithic times. But let us first look at the impact on mancala and geomantic imagery of another Palaeolithic achievement, hunting.

6.2. HUNTING

Food production through agriculture and animal husbandry may have made for a revolutionary redefinition of time and space – but let us not close our eyes for the temporal and spatial dimension of hunting as an earlier form of food production, and once perhaps just as much of a revolution as compared to simple food gathering, as the Neolithic revolution was as compared to hunting. Especially when using traps, hunting also involves the transformation of the natural environment in the

form of bounded space (the trap as against its surroundings) and articulated time (the rhythm of inspecting, emptying and re-charging the traps; and especially the cultivation of the right infinitesimal moment, for the trap to spring or for the hunter to make the kill).

It is of great significance that the grid image, which in Neolithic and later contexts predominantly refers to the agricultural field, abounds in Upper Palaeolithic (Magdalénéen) art, and then is generally interpreted by archaeologists as referring to traps or nets.39 Remarkably, also the prototype of the Chinese sign for field, 田, seems to originate in a context of hunting, where it is claimed to have represented footprints of game (Wang 1993: 61f).The grid-like pattern is of course extremely simple and so much occurs in rock art (e.g. Breuil c.s. 1954; Leroi-Gourhan 1976, 1984), vessel decoration, tattooing patterns (Marcy 1931), textile decoration etc., that there is unlikely to be one dominant iconographic interpretation. Another possible reference in the Palaeolithic context is the ladder, e.g. to approach a beehive (Pager 1975: 28). Yet another interpretation of grids is one in terms of the schematised human figure, which was advanced by Breuil (1928) and even more convincingly so by Leroi-Gourhan (1984: 468f). The latter author, who devoted his life to elucidating the representational language of the Palaeolithic, suggests that the grid may mark an advanced stage of the geometrisation typical of the Upper Palaeolithic, affecting representations of the female body (cf. Leroi-Gourhan 1976: 92, fig. 7).

39 König 1973: 97; Howell c.s. 1970: 161f; Mahoudeau 1909; Howell 1970: 161.

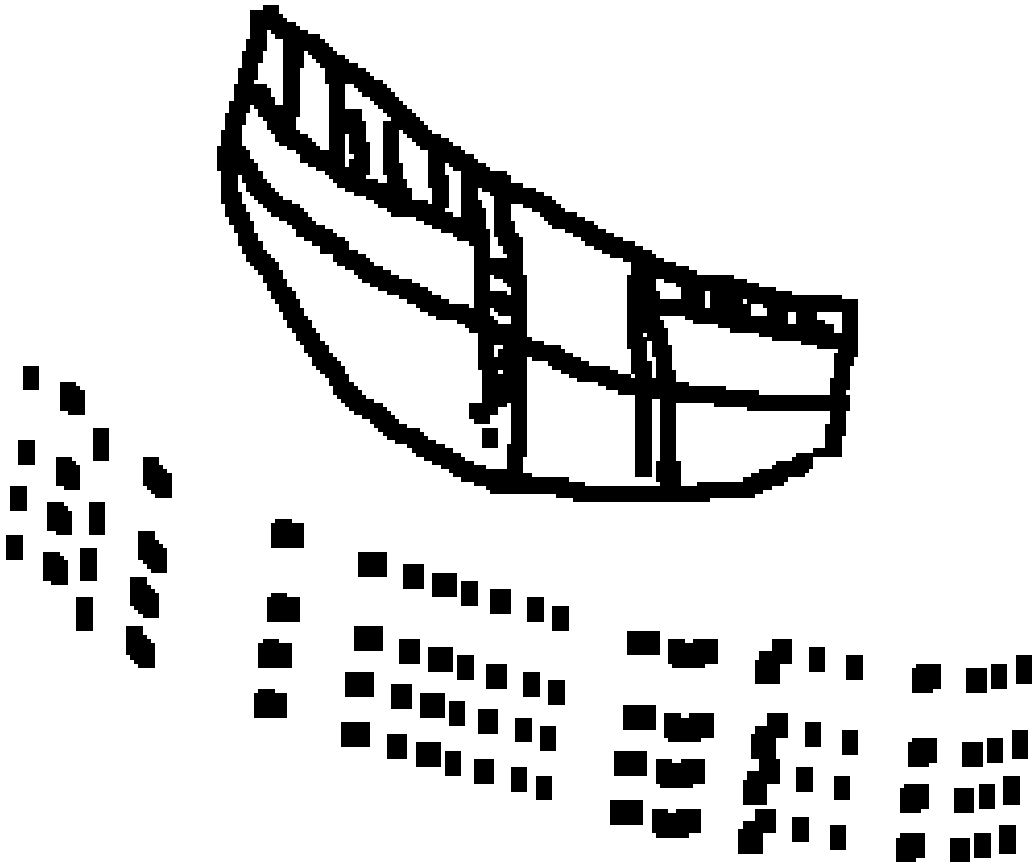


Figure 12. A grid pattern from rock art, El Castillo (Santander), Mid-Magdalénéen (12,000 E)

(after Moulin 1966: 350)

If the imagery of board-games and divination systems need not exclusively derive from a context of Neolithic production, but may also refer to hunting, this helps to arrive at greater precision and subtlety. My stress on the Neolithic in the preceding section of my argument has been based not on a reading of the visible iconographic forms these cultural products exhibit, but on an appreciation of the fundamental redefinition of space, time and person without which they would remain meaningless and out of place. Granted this, we should not fall into the trap (!) of assuming that between the structure of a production form, and the cultural forms associated with such a production form, a clear-cut one-to-one relationship should exist. Games emerging under conditions of Neolithic production *may* borrow – not only their underlying, tacit assumptions

about space, time and the person but also – their symbolism and imagery from agriculture and animal husbandry. But it is equally likely that, *while necessarily set within an implicit framework defined by these underlying assumptions*, their explicit iconography is not excessively or even mainly taken from topical Neolithic referents but rather from other, earlier forms of production. The latter were once dominant and have subsequently been relegated to the periphery of the overall production system, where they then yield additional delicacies instead of staples, allowing producers to engage in exciting pastimes and specialisms (such as hunting and fishing) instead of day-to-day routines shared by everyone (such as tilling and herding). After all, we are dealing here with *games*, which are about fun and escape, not with manuals about how to be a good farmer or herdsman. Free variation, departure from everyday forms, norms and routines, and a measure of impredictability, are the hall mark of recreation as indeed they are of art and religion. [40]

With this refinement we are much better capable of accounting for the imagery of actual board games and forms of divination encountered as material objects in archaeology and museum anthropology, and illuminated, if we are lucky, by accompanying texts, practices and actors' explanations in so far as we are dealing with ancient literate settings, and with contemporary settings open to the anthropologist's and ludologist's participant observation. There is no denying that, in addition to agricultural and pastoral themes, there are extensive references to hunting and fishing both in board-games and in divination (cf., e.g., the Dogon jackal oracle (Griaule 1937; Paulme 1937), and the totemic wild animals that have intruded the interpretative catalogue of the Southern African *Hakata* variant of geomancy). According to Montet[41] references to hunting abound in the texts relating to the *mehen* game, to the extent even that the game is claimed to be the representation of a hunting technique.

In the case of *senet*, by the New Kingdom (when it had become a major element in funerary ritual and furniture, with meaningful symbols attached, first to the final five, and ultimately to all of its thirty fields; Kendall 1992b) the iconography and accompanying texts predominantly

[40] For relevant discussions of imagery and production forms, cf. van Binsbergen 1991 and van Binsbergen & Wiggermann, in press.
[41] Montet 1955; cf. Ranke 1920; Pierini 1992; Piccione 1963.

revolve on conventionalised religious symbols such as the Djed pillar and the Isis knot, and makes minimum reference to the then current staple products of agricultural and pastoral production (one field with 'bread' being the main exception); by contrast, the only ecological context represented in a number of fields is the murky, liminal domain of the swamps, between land and water,[42] also the scene of hunting, fishing and birding as pastimes yielding delicacies. This is the final stage in the evolution, over nearly two millennia since the oldest pre-dynastic forms of the game (already attested in the hieroglyphic representation of the earliest dynastic incumbent, King Narmer), away from whatever original productive inspiration and towards functioning in a highly ritualised funerary context.

The hunting imagery is unmistakably relevant when we look at the board-games of the Ancient Near East. Here the agricultural imagery does not apply in all cases, and especially fails to match the Mesopotamia-derived, 'fifty-eight holes' game with a board shaped like an axe head,[43] whose imagery (to judge by the representations on the stick-shaped game counters) in partly derived from the hunt, as is also indicated by the name adopted by today's analysts: 'dogs and jackals'. A reminiscence of hunting and trapping in *senet* can also be seen in the fact that some fields on the game-board are traps from which only under specific conditions the player can be released again. Another example is the 1st dynasty steatite lid of gaming-box with inlaid representation of dogs chasing gazelles.[44]

[42] In which there are probably, like in the 'game of twenty fields' which is often laid out at the bottom of *senet* boxes, reminiscences of the Mesopotamian *apsu* as both ritual tank and primordial waters of chaos; cf. Kendall 1992.

[43] Among the abundant literature I mention only Gadd 1934; Murray 1952: 15f.

[44] Saqqara, tomb of Hemaka, 1st dynasty; Aldred 1961: 103 pl. 11, 128, 393.

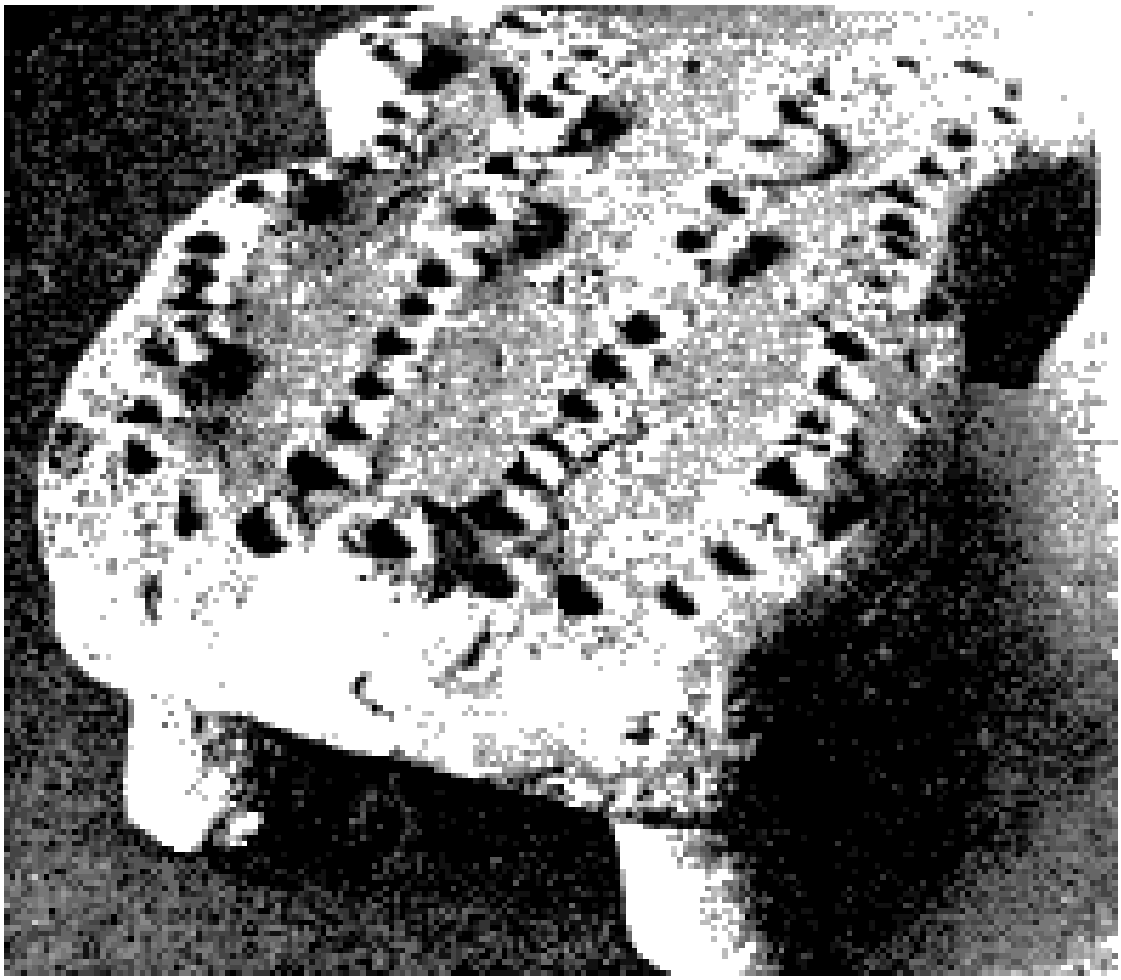


Figure 13. A terra cotta specimen of the fifty-eight holes game, Ancient Mesopotamia

(after **[check]** : **[add pages]**)

A remarkable archaic feature in mankala is the fact that in many (especially African) societies women are not allowed to play the game or even to see it (cf. Driedger 1972: 9; Townshend 1976-77) – by which the game reveals itself, like sacred flutes, masks and myth, as an aspect of an initiatory complex built around a strict division of genders and age groups; the complex – although other involving representations of hunting and of spirits of the wild – however is abundantly found among agriculturalists and is not a sign of pre-Neolithic origin.

Before we turn to another iconographic repertoire whose post-

Neolithic nature is obvious, that of astronomy and astrology, a final point needs to be made about hunting. The presence of hunting imagery in board-games and divination systems whose Neolithic connotations I have above argued on a number of counts, is probably not merely a playful, nostalgic reminder of obsolete, once dominant, forms of food production. Particularly the work of Leroi-Gourhan (but building on much older insights; cf. Kuhn 1955; Marshack 1971) suggests that a tangible development toward formalisation, geometrisation, abstraction was already taking place in the Upper Palaeolithic. In other words, the Neolithic is not a total break, a total innovation, and certain feature s of hunting (perhaps the ones singled out in the opening paragraph of this section) must have helped to prepare Man for board-games and divination, for formal systems in general, perhaps for religion in the stricter sense of the word, and possibly even, to some extent, for agriculture and animal husbandry.

6.3. ASTRONOMY AND ASTROLOGY

I conceded that board-games and divination systems may refer to iconographic repertoires which are not directly connected with production, either Neolithic or pre-Neolithic. One such a repertoire is that of astronomy and astrology, which went through an enormous expansion to reach a point, in Hellenistic and Imperial times, when astrological imagery hegemonically co-ordinated and re-interpreted most fields of symbolic production, including board-games and divination. But much earlier this repertoire was already fairly prominent.

In Antiquity, apparatuses for astronomy and for astrological divination (the two often coincided) included calibrated boards or tables, counters and other computational aids. If we need pre-existing artefacts which could be turned into game-boards, astronomic/ astrological apparatuses and computational aids would be a likely place to look, especially since these, already in Antiquity, often degenerated into grids within which the actual position of the heavens was no longer carefully calculated, but guessed through dice.[45] In view of the striking similarities between West

[45] A full discussion falls outside our present scope; cf. van Binsbergen, forthcoming. Let me

African divinatory boards, and the ordinary waxed or sand (!) -covered writing-boards of Antiquity, the latter might also be considered as proto-divinatory and perhaps also proto-ludic. By the same token, the divining bowls used in Southern Africa are likely to be localisations (with the same shift from state-of-the art scientific apparatus to a magical application) of the Chinese load-stone compass, with the magnet replaced by a cowry (van Binsbergen, forthcoming).

By the same token many board-games can be construed to have, among others, an astronomical or astrological reference. The grid, whose iconographic connotations with hunting and agriculture we have explored, and which is the basic pattern for the kind of structuration of space effected by the lay-out of the board-game, appears in Late Babylonian magic as the cuneiform representation of the constellations (Reiner 1995).[46]

Taking on these astronomical elements, board-games certainly reflect a Neolithic concern with time reckoning and determining the correct time for planting, but the imagery is no longer agricultural.

The thirty fields in *senet*, while on the outside reminiscent of irrigated fields, were conceived by their Ancient Egyptian players, not as agricultural fields, nor (with the exception of one or two specific cases on the board) as traps, but as houses, *prw*. There is a strong indication that these thirty houses represent the lunar mansions, the successive astronomical day-by-day locations of the moon against the fixed stars in its revolution around the earth.

A conceptual link can be surmised between the field and the stars: for the field is not exclusively a useful patch of soil, it also stands out as the most conspicuous way in which man imposes his imprint on nature and thus creates order, culture, out of chaos:

> 'For the cosmos has been won from the chaos that still surrounds it, as a cultivated plot from the encompassing wilderness' (Fontenrose 1980: 219).[47]

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merely mention the once enigmatic Tabula Bianchini as an example (Boll c.s. 1966: 60, 191f).

[46] Reiner's extremely rich and informative text suggests - against the background of the vast literature on the topic – many links between Ancient Mesopotamian, Seleucid cuneiform, and Ancient Greek magic; even proto-geomancies can be detected here.

[47] A similar argument could be developed for extispicy, a widespread divinatory tradition among the Ancient Near East: the liver model, covered with a grid and the cases thus formed

The game-board signifies both aspects, food and order, and as such can be said to be a veritable symbol of the world (Fink 1966). Thus we can understand how, around the turn of the first millennium CE, the Greek lexicographer Suidas defined the word ta‰bla ('backgammon'):

> 'C'est le nom d'un jeu inventé par Palamède, alors que l'armée des Grecs était rassemblée. Il n.est pas sans portée philosophique, car le tablier (ta‰bla) est l'image du Cosmos; les douze cases (dwdeka kasoi) sont les douze signes du zodiaque; le cornet à jeter les dés (yhfo‰bolon), dans lequel figurent les sept points (ta Ôepta ko‰kkia, en additonant les points de faces opposées) sont les sept planètes; la tour (pu‰rgoı)[48] c'est le zénith, d'où tout descend vers nous, bonheur et malheur.' (Becq de Fouquières 1869: 382)

6.4. THE EARTH CULT

A final symbolic repertoire, obviously overlapping with that of agriculture and the stars, but of such great antiquity and significance that it deserves to be considered as a referential complex in its own right, is that of the earth and its cult. We are dealing here with one of the most powerful symbols that Man has developed. Its antiquity is suggested not only by its ubiquity,[49] but also by the way in which the earth appears as a fundamental, independent moral category in myths, oaths and rituals from Mesopotamia, Greek and Roman Antiquity, West and East Africa, while the pacifist marabouts of North West Africa, administrators of collective oaths by saints associated with local shrines, may also be considered land priests in Islamic garb.[50]

Many layers of reference are piled up here, making for a multi-referential coding whose co-ordinates in space and time are typically complex and confused, but together elucidating the implied symbolism

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inscribed with divinatory clues, was at the same time a model of the landscape near the palace, and the diviner's instructions were in terms which referred both to the sacrificial animal's anatomy, and to the townscape (e.g. Jeyes 1978, 1989).

[48] A cylinder through which the dice are thrown, bouncing unpredictably on the tower's inside steps, so as to prevent cheating.

[49] E.g. it is a major aspect of religions throughout Africa (cf. Schoffeleers 1979; van Binsbergen 1976, 1981, 1988; and references cited there) and around the Mediterranean (van Binsbergen forthcoming (a)).

[50] Cf. Gellner 1969; van Binsbergen & Wiggermann, in press; Fontenrose 1980; Fortes 1945, 1949; Simonse 1992; van Binsbergen forthcoming (a); and references cited there.

and the possible original inspiration of geomancy in particular, and more implicitly of board-games.

There is the maternal (and psychoanalytically oedipal), nurturative, agriculture-related symbolism of unfathomable and ungraspable earth as the source of life.

But there is also the symbolism of fragmented and tangible earth, dust, mud, dirt, pebbles, as the lowly (psychoanalytically anal) origins of man and of life in general.

There is the combination of these two themes in the 'black and red', the fertile alluvial soil (symbolised by Osiris) as against the barren desert (symbolised by Set), which was how Ancient Egyptians conceptualised their country – and an inspiration (besides the moon's phases and the hemerology of lucky and unlucky days) for the binary symbolism underlying e.g. geomancy.

There is earth with its four cardinal directions (essentially derived from the specific symmetry structure of the human body: left and right, back and front, which makes for square representations (reproduced in many square game-boards), rectangular grids as subdivisions, and in general a preponderance of the figure 4 or higher powers of 2 (Pennick 1992).

There is earth as the time-less repository of the dead, as the underworld or the gate to the underworld, hence the alternative source of power, knowledge, legitimacy of political and ritual office.

And, particularly relevant in the Arabian context with its heritage of magical, demonological and astrological ideas from the Ancient Near East and Graeco-Roman-Judaeo-Christian civilisation, there is earth as the opposite of heaven, so that geomancy is divination not by the stars but by the earth, while the earth is the typical place where magicians, by hitting the very ground with a stick or a wand (e.g. Exodus 7: 8-12 on Aaron's rod, and Exodus 17 on water from the rock), assert their autonomous right to divine status and power, and by implication their kinship with Satan, as in the following Coptic formula for love magic (first millennium CE):

'...Shurin, Shuran, Shutaban, Shutaben, Ibonese, Sharsaben,... Satan the devil, who beat

with his staff upon the earth saying: ‘‘I am a god also’’...’[51]

Here the magician is speaking, in all likelihood, not only *to* the earth but also *on behalf of* the earth, thus asserting the latter's powers as the Great Mother, which despite repeated attempts in many later religions was never completely deprived of its divine nature and never completely subjugated to ethereal gods who literally represent the more advanced levels of sublimation.

Seeking to do justice to the complexity and heterogeneity of the referential repertoire underlying mankala and geomancy, we have now managed to dissolve an initially elegant and original argument about Neolithic production, and put in its place a model characterised by fragmentation and accretion of layer upon layer from heterogeneous repertoires. The sense of reality of my analysis may thus be considerably enhanced, but our sense of grasping essentials has greatly diminished in the process. Before we leave the discussion of imageries and origins behind and consider the careers of subsequent mankala and geomancy in space and time, let me make one final attempt to identify, under all this fragmentation, the probably fundamental and unique base-line.

I must start with a methodological discussion.

[51] Papyrus Berlin 8320 (Koptische Texte), as quoted in: de Jong 1921: 238f; further brief reference to this text in: Meyer & Smith 1994: 367, n. 75, l. 18, cf. p. 161; also cf. Isaiah 14: 13-14; Ezekiel 28: 2.

7. Alternatives to the uncritical interpretation of contextless artefacts as games: The funerary context of cupholes

7.1. CONTEXT, PRACTICE, CONJECTURE, AND JUMPING TO CONCLUSIONS

Before World War II, when Huizinga wrote his seminal *Homo ludens*, he could still claim that anthropology and kindred sciences reserved too little room for the concept of play (Huizinga 1952: viii). Meanwhile, however, cultural history and archaeology, more than mainstream anthropology, have discovered games as a fertile topic. Any artefact now risks to be interpreted in ludic terms, just like a generation ago the classification as 'magic object' or 'ritual object' was so standard that one could wonder how, with all this magic and ritual, people in the past still found the time to produce and consume their food and, indeed, how they recreated and adorned themselves.

The problem of identifying an object as ludic is (once we have defined what we mean by 'game') is largely one of context:

- the unique context in which an artefact which could be interpreted as a game-board or gaming piece, is found amidst other contemporary artefacts;
- the repetitive, systematic context provided, for any single newly found artefact, by earlier finds which the scholarly community has already agreed to consider as ludic; as well as by other finds which while similar in appearance and spatio-temporally related to the object in question, are arguably interpreted as other than ludic; and thirdly
- the interpretative context provided, in relatively few cases, by our explicit detailed knowledge concerning the actual human practices and

textual evidence attending the artefacts in question or similar objects.

The paucity of our data and the relative infancy of ludology have sometimes forced us to propose interpretations which, however plausible in substance, do severely tax our common assumptions on historical continuity and change. For instance when the *mehen* game is interpreted in the light of present-day ludic practices in a Sudan village (Pierini 1992; Corcelle-Bellessort 1991), one appeals to the possibility of continuity across three or four millennia and a distance of a thousand kilometres or more. When the Assyriologist Finkel (1992, 1995) claims to have found the rules for the royal game of Ur at the back of a Seleucid cuneiform tablet dealing with fortune-telling, there is a presumed continuity at stake across 2600 years (more years than separate us today from Seleucid times!), not to mention geographical distance. If these spectacular claims are rightly welcomed as fruits of serious scholarship, this is not only because of the authors' established reputation and experience, but also because it is beyond any doubt that, at both ends of the comparison that constitutes each case, we are dealing with a board-game, which by comparison with other similar pieces, by texts and by recorded practices is proven to be just that. Moreover, such extreme claims of historical continuity are less extravagant once we realise that board-games are exceptionally a-historical and impervious to change.

But what about cases when we cannot be so sure that we are dealing with board-games?

The fundamental problem is that we are tempted to assign a specific cultural practice to an object, under conditions where the full range of possible practices is unknown, and the theoretical reasons for matching a particular object with a particular practice are largely lacking. In this respect the present study (and most of my other comparative and synthetic work) has primarily a theoretical aim: not so much to establish origins, lines of evolution, linkages, involving specific board-games and divination systems, but to suggest a heuristic network of possible systematic connections within which specific hypotheses along all these lines could be inspired, formulated, and put to the test. An explicit and well-grounded refutation of anything I have to say in this paper would suit my purpose eminently – and would greatly enhance our

understanding, not only of board-games but also of global cultural processes, and the history of formal systems.

Meanwhile the difficulties are immense. Once a researcher knows that a family of board-games called mankala exists, this enables him to identify individual finds with such features as a mankala board, adding to an otherwise contextless find the context of an arguably related series of similar objects from elsewhere and from different time horizons. However, in the light of Murray's excellent point that the first game-boards were likely to be pre-existing non-gaming objects put to a gaming purpose, such a simple classification will never allow us to identify the *historical antecedents* of mankala boards; for whenever these present themselves to us, they are already spuriously classified as mankala boards and their potential contribution to the construction of a genetic sequence is lost.

On this point again the available literature shows considerable power of imagination. Any slabs which display regular arrays of cup-holes tend to be paraded as ancient mankala boards. But the alternative, spoil-sport, yet methodologically preferable, position is that we are dealing with non-ludic or proto-ludic artefacts unless there is unmistakable evidence as to a gaming context and practice.

7.2. THE ARCHAEOLOGY OF CUP-HOLES

It is important to realise that the context of mankala-like artefacts characterised by two to four rows of cup holes, is formed not so much by the set of all certified mankala boards (which could only lead to tautology), but by the set of all artefacts with cup-holes. The latter set is much larger, much more varied, has a much wider distribution in space and time, and is likely to include artefact which, while not yet mankala boards themselves, constituted the non-ludic prototypes for such boards.

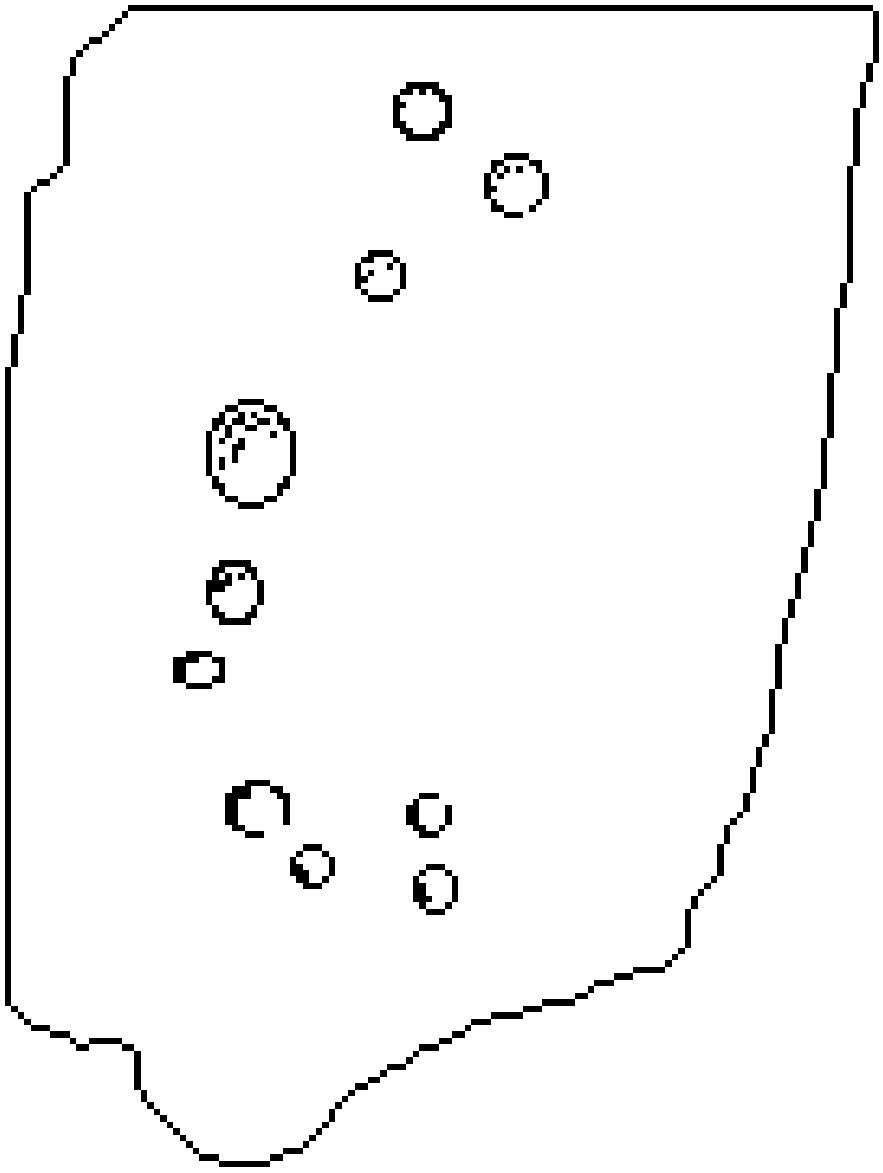

Figure 14. Moustéréen funerary stone with cup-holes, c. 60.000 BCE.

(after Levy 1948: 66, as based on Capitan & Peyrony 1921).

Among Upper Palaeolithic and later rock art, cup-holes occur perhaps as frequently as grid marks. The oldest evidence meanwhile is from a Neanderthal (Moustérien) grave at la Ferrassie (Dordogne, France), c. 60,000 BCE, where in a stone covering a body, and remarkably facing down to the earth and the dead, nine smaller cup holes and a larger one

were discovered, arranged in an S pattern.[52] Levy adduces several more examples, tracing the pattern through to more recent times (cf. Noy 1979; Morris & Milburn 1977). She writes:

> 'Their meaning to Neanderthal man cannot be conjectured,[53] but throughout their prolonged history they are connected with funeral rites.'

A ritual use is often attributed to them, in the way of offerings, libation or anointment. They may occur singly or in groups, sometimes in aligned groups reminiscent of certified mankala boards.

Cup-holes are a regular feature in Neolithic and bronze age ritual contexts , where they often appear on altars or 'libation stones'. A typical arrangement is that of a number (often seven) of smaller holes arranged around one large central hole; it is found in many parts the Eastern Mediterranean and West Asia over a period of several millennia right into historic Ancient Greece, where it is called ke‰rnoı (Gross 1979). Some randomly chosen examples of this admittedly heterogeneous class of objects include the offering table of Defdji or Djefda, Egypt, Old Kingdom;[54] a four-legged granary-shaped composite vase consisting of seven smaller basins and one larger basin, from Melos, Cyclades, c. 2000 BCE;[55] the altar with seven rectangular holes on the *ṣīt šamši* bronze model of a morning ritual, Elam, c. 1125 BCE.[56] As far as I am aware, examples of this genre are not conspicuous in Ancient Mesopotamia proper (for an alternative see below), but Sir Leonard Woolley's cup-holed bricks, for which Murray could not think of any use other than as game-boards, might have been mass-produced 'libation stones' as well.

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[52] Capitan & Peyrony 1921; Levy 1948: 6, 65f, and p. 41; cf. 125, 146.

[53] I am surprised by the statement that the meaning cannot be conjectured; of course it can, the real problem is that we have no direct means of verifying our conjecture – plausibility and persuasiveness are our main tools. The case belongs to the category of questions like

> 'what song the Sirens sang, or what name Achilles assumed when he hid himself among women, though puzzling questions are not beyond all conjecture' (Browne **[year]**).

This was the motto of Robert Graves (1988) *White Goddess*, which ingenuously answers these and, anyway, most other questions... Considering the imaginative thrust of Levy's pioneering book, it is hard to believe that she does not like that kind of questions, and her statement looks like a pious remark inserted in order to propitiate a more positivist editor.

[54] Rijksmuseum 1960: no. 33 and back cover; Anon. n.d.: 34 and pl. 40.

[55] Buchholz & Karageorghis 1973: 90 and pl. 1122b, with extensive bibliography.

[56] Gautier 1911; Parrot 1958: pl. vii a, pl. 44, and pp. 89-94; Labat 1987: 411, 496.

The number of minor holes may be considerably larger, like that on the Mallia libation stone disk (Ø 90 cm), which has 33 small holes and one larger hole around the rim, with in the centre a large hole surrounded by a concentric groove.[57] To these examples many more could be added. Ceremonial cosmetic 'palettes', with their characteristic central cup-hole, are likely to be related to this overall class of objects.

No doubt a variety of ritual functions can be attributed to these various vessels, and it would be rash to claim that over such a vast area and long period the same idea would have underlain the use of such lapidary vessels with multiple cup-holes – unless in a very general and vague sense. All the same, this material indicates that throughout the region where the earliest so-called 'mankala boards' were excavated, ritual vessels existed displaying an orderly array of identical holes capable of containing liquids, a function later partly diversified (for instance in the Greek case) into the carrying of granulated solids, e.g. as first fruit offerings.

[57] Later Palatial Crete; Buchholz & Karageorghis 1973: 34 and pl. 61a, b, with extensive bibliography.

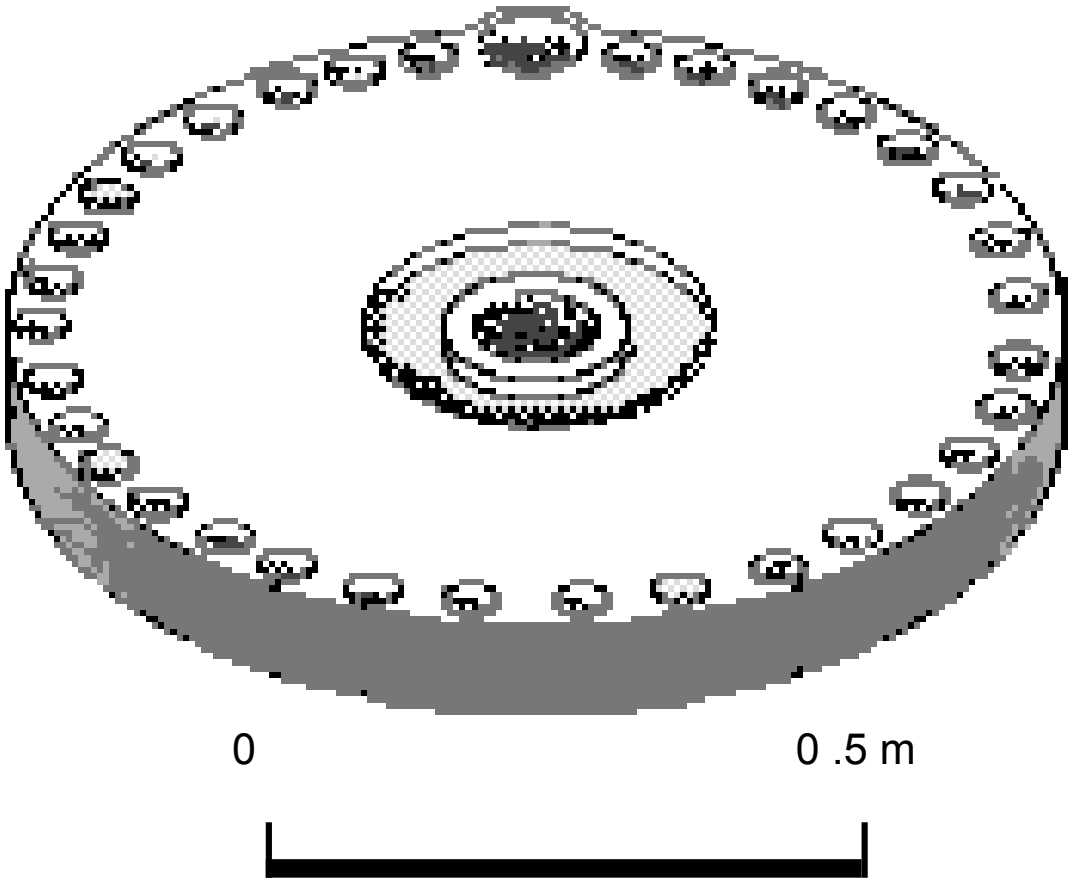


Figure 15. The Mallia libation stone disk

(after Buchholz & Karageorghis 1973: pl. 61a, b)

If this type of vessel is rather lacking in the Ancient Mesopotamian and Hittite context, a functional equivalent may be recognised in the *sacrificial procession* – one of the major themes of sculptural, glyptic and ornamental representation – , where a number of officiants each carry a single vessel of sacrificial fluid (beer, particularly); their multiplicity may reflect various ritual or political offices or sections of the community or realm, thus expressing the various segments of the socia unit which is constituted and legitimated by the ritual offering.

It is tempting to link the cup-hole theme, with its Palaeolithic and funerary connotations, to that of the circle-and-dot motif, which also has a very wide if patchy distribution, ranging from Nordic, circumpolar

ivory-working to Celtic, Hittite and general Ancient Near East contexts (Segy 1953). In Sumerian contexts the distinctive feature of what Assyriologists have called the 'Eye Goddess' largely coincides with the circle-and-dot motif. Besides the enduring contemplation by the worshippers it may indicate the introduction, and subjugation, of an earlier domestic cult of ancestors, in the domain of a later, more centrally institutionalised and universal deity. The motif's distribution area further extends to ritual contexts in sub-Saharan Africa, especially those related to the ancestral cult. In the iconography of the Southern African *Hakata* form of geomancy, a circle-and-dot motif often replaces the house icon in the senior female tablet (cf. Figure 4).

Much more typological and comparative ritual research is needed before we can arrive at conclusions. Meanwhile I submit that in the class of ritual vessels and slabs with multiple cup-marks we have found a non-ludic ritual context from which proto-mankala may have derived at least as plausibly as from the agricultural and pastoral context.

I would go even further and suggest that the early so-called mankala boards from the Near East and East Africa belong to the same family of cupped stones, and may again be nothing but non-ludic or proto-ludic. Calling them 'mankala boards' is begging the question.

7.3. A HYPOTHETICAL RITUAL MODEL AS A POSSIBLE ORIGIN OF MANKALA

In the light of this reasoning, one would no longer claim that, in general, board-games sprang from divination systems, but stress that they have probably a common origin in archaic ritual. Whatever multi-layered accretion of symbolism mankala may have taken on later, when we view the game-board as another variety of cupped stones this suggests an original context of funerary or commemorative ritual. This would generally have revolved around the offering, to the dead (and by extension to the spirits of the underworld, to the earth, or to heroes and gods associated with these beings), food stuffs or simulacrums of food stuffs, both fluids (including beer, milk, blood, perhaps meat stock) and solids (grains, meat, bread etc.).

Why was not just one vessel or one cup-hole enough, why the

multiplicity of holes or containers without which there would be no mankala?

One possibility (which was actual practice in Ancient Egypt and much later in the Eleusinian cult in Ancient Greece) is that the one offering had to be composed of a considerable variety of food stuffs, in order to suggest respect and generosity, perhaps also in order to make of the offering a mirror-image of the cosmos in its variegated complexity. This however leaves us to explain why there should be distribution and redistribution between holes.

I would instead suggest a sociological explanation, another version of Durkheim's perhaps, whose defective theory of magic was compensated by a genial insight in the nature of religion as a group affair. Perhaps the multiplicity of cup-holes, much like the multiplicity of officiants in the sacrificial procession, has to do with the familiar phenomenon[58] that smaller constituent segments in a wider society tend to express their identity by reference to specific bonds with particular shrines and gods, in a context where these have proliferated even when taken from the overall national pantheon. Ritual is among other things a way of producing group coherence. If funerary ritual is important for the group or organisation to constitute itself, one could do so by venerating only one ancestor or one deity through one offering. Given the internal segmentation, however (not only of a court and a city, but also of agricultural and pastoral societies, even at the level of the smallest constituent social units, through the constant influx of strangers – in-marrying women, herdsmen, priests and craftsmen – who at least initially cannot identify with that one ancestor or deity), cohesion may be more easily achieved by directing the cult at a number of ancestors/ deities, or by letting the various recognised segments each articulate their distinct identity and at the same time their merging into the whole by each bringing their own part of the common sacrifice. Multiplicity of cup-holes then stands for a multiplicity of ancestors of deities and ultimately for the multiplicity of internal segments; and circulation of gifts from one cup-hole to the other might then be a further expression of this ritual merging.

These funerary connotations could easily be combined with calendrical

[58] Attested throughout the Ancient World, from the Maghreb to Iran; cf. van der Toorn 1996; for a modern study dealing with the same phenomenon, cf. van Binsbergen, forthcoming (a).

ones, defining the proper times for commemoration and offering. This is may be the reason why mankala is still played not only in funerary contexts but also at times of special calendrical significance. From here also the link with the cult of the earth and of fertility can easily be made: the earth is where the dead are buried but also where (as the dead people's gift?) the food stuffs for the offering come from – as soon as one has agriculture. Cult of the dead, of the earth, of fertility and of agriculture shade over into each other. Townshend (1979a: 127, n. 5) therefore has a point when he suggest that mankala 'probably originated in some form of fertility cult'. The foodstuffs in the cup-holes would represent the food-stuffs on the ground: grains, beans – the typical pieces both in mankala and in cleromantic divination.

Indeed, this model, while strictly hypothetical, helps us to appreciate the emergence of certain forms of divination as a sister, rather than as a parent, of board-games. The contact with the earth is a contact with the dead as well as with the source of food. If through offerings one could maintain a relationship with the dead and the gods, the minute details attending these offerings in each specific case (of course, after being surrendered by the living and therefore consecrated to the supernatural) might also contain the clues as to the desires and intentions of these invisible interaction partners – and the apparatus would be read to pick up those clues. In this connexion it is illuminating to recall the existence of 'divination by means of a sacred (offertory?) table', attested in Ancient Greece, and in physical appearance close to our emerging picture of the use of cupped boards in funerary offerings:

> 'les pierres, les fèves, les baguettes taillées, les osselets, les dés, toutes les formes de cléromancie par jet ou tirage au sort doivent être classées dans la trapézomancie, pourvu qu'elles dépendent de l'usage d'une table particulière' (Le Scouézec et al. 1965: 144; cf. Bouché-Leclerc 1879: i 191f).

8. The distribution and diffusion of mankala and geomancy

Having thus established, and duly qualified, the early context in which mankala and geomancy may have emerged, and having explored the parameters within which the multi-layered imagery of these cultural systems may begin to be understood, let us now turn to the distribution and diffusion of these cultural systems in later periods.

8.1. GEOMANCY

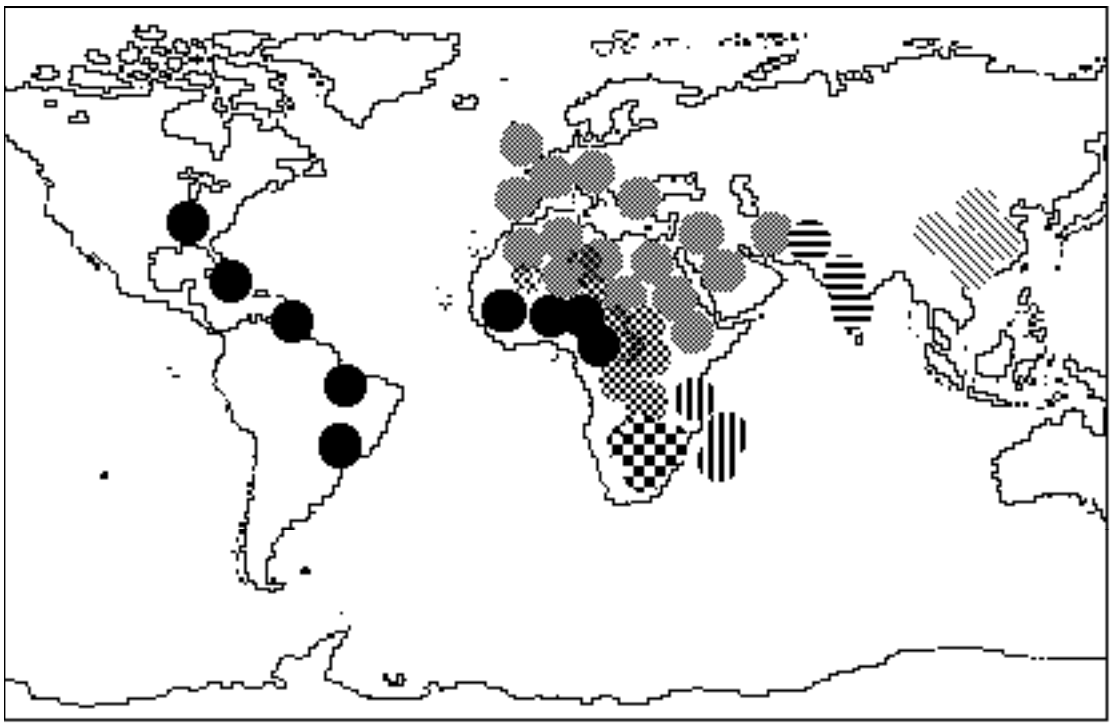
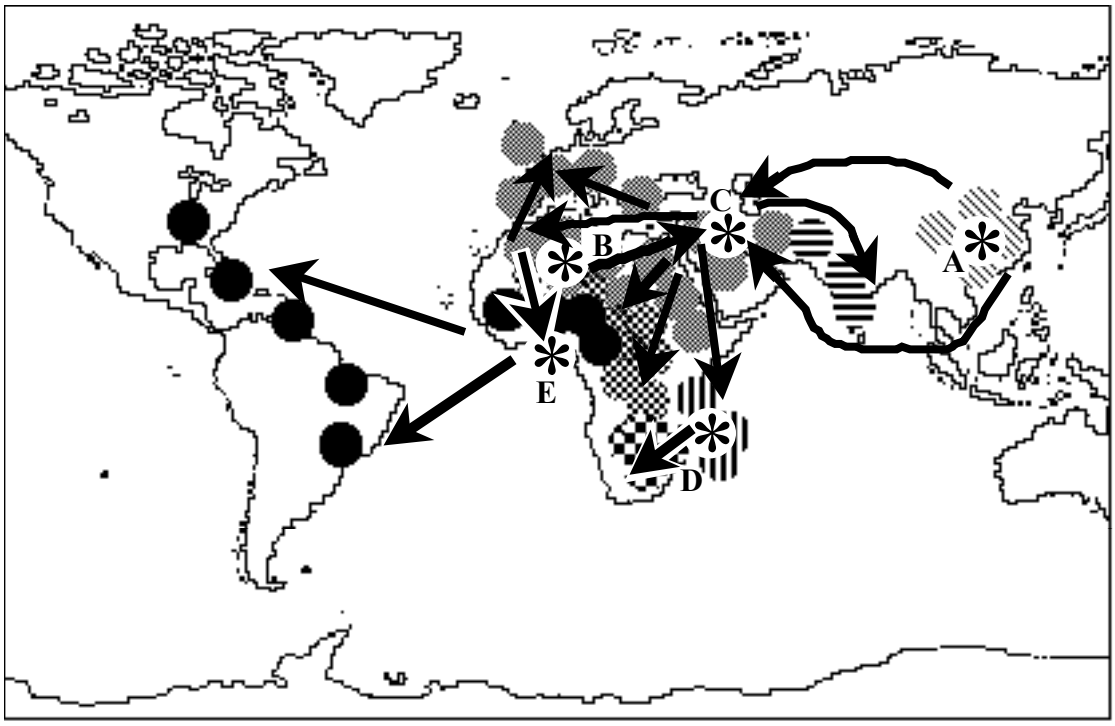


Figure 16. Distribution of the geomantic family of divination systems.



* focal points in the transformation and subsequent diffusion of geomancy:
A. China (1st mill. BCE); B. N.W. Africa (before 1st mill. CE); C. South Mesopotamia (end of 1st mill. CE); D. Madagascar (2nd mill. CE); E. West Africa (2nd mill. CE)

→ probable diffusion pattern of geomancy

Figure 17. Probable diffusion pattern of geomantic divination.

legend: as previous diagram

The available evidence allows us to map the geographical distribution of the geomantic family as in Figure 16, as a basis for the reconstruction of its geographical diffusion in Figure 17.[59] From our above discussion one would prefer to approach the history of geomancy along three, not necessarily coinciding, lines: the history of the random-generating apparatus (which is often strictly local and reflects local technology and symbolism); the history of the coding procedures and that of the interpretative catalogue – the latter two being more universal and often supported and standardised by literacy. However, our present scope only allows a combined treatment of these features.

[59] Van Binsbergen 1994, 1995a, 1995b, forthcoming.

According to the current state of historical reconstructions, the Hellenic, Hellenistic, Hermetic, Jewish, Persian, African, Indian and Chinese borrowings[60] into the Arabic literate corpus of geomancy point to a drafting (after unsystematic earlier forms) of the classic, strongly astrological geomantic system in Southern Mesopotamia (probably *Baṣra*) in an *Ismāᶜīlī* context' in the tenth century CE. The Indian Ocean trade took care of an spread from China to the Persian Gulf; the land route via the Silk Road appears to have been less important in this exchange. After the geomantic system was formulated in Islamic circles, the Indian Ocean was again the main context for its broadcasting. Meanwhile, the system's rapid and successful spread over the Arabic and Jewish intellectual world, and hence into Europe, Africa and the Indian Ocean region, was largely due to its re-formulation (in a famous and much circulated treatise known, among other titles, as *Kitāb al-faṣl fī uṣūl ᶜilm al-raml*) by the Berber shaykh *Muḥammad al-Zanātī*, who probably lived in the early thirteenth century CE: He is considered a contemporary of 13th-century geomancer al-Munadjdjīm, and his treatise on geomancy was translated into Greek verse, from the Persian, by the monk Arsenius in 1266 CE.

An early, original North West African input into the system is suggested by *al-Zanātī*'s origin, by the early circulation of Berber names for the sixteen basic geomantic configurations, and by the prominence of proto-mankala and proto-geomantic cultural forms in the latter-day North West African material, to which I shall come back below. Yet the latter-day *Ifa* and *'Sixteen Cowries'* in West Africa derive directly from the Arabian prototypes.

Above I stressed, in general, the importance of the mathematical aspect of board-games and divination. Their underlying mathematical structure can be a most effective pointer to otherwise hidden relationships, because this structure may well survive regardless of the transformations the systems go through at the surface. Thus a careful examination of the binary, 2^k pattern dominating the mathematical structure of both the Southern African four-tablet divination system, and

[60] Not by accident, a similar mix (except the Indian and Chinese material) went, in the same period, into the compilation of that famous piece of Arabic magic writing, *GHāyat al ḥakīm* also known as Picatrix (Pingree 1980; Hartner 1965; Ritter & Plessner 1962).

the more directly Arabian-derived forms of geomancy found in the Indian Ocean region (including the well-studied *Sikidy* system at Madagascar) led me to hypothesise historical connections which could subsequently be ascertained when I found identical items in the interpretative catalogues attending the divination system in these two more or less adjacent regions. It turned out that the four horizontal lines of the standard geomantic symbols (e.g. 0), where each line can take two values (uneven or even, one dot or two), was redefined as four tablets, whether each tablet can take two values (obverse or reverse); in the process, the attending Arabian interpretative catalogue was partly maintained (it is still very conspicuous in the Madagascar and Comoro Islands variants), partly localised.

8.2. MANKALA

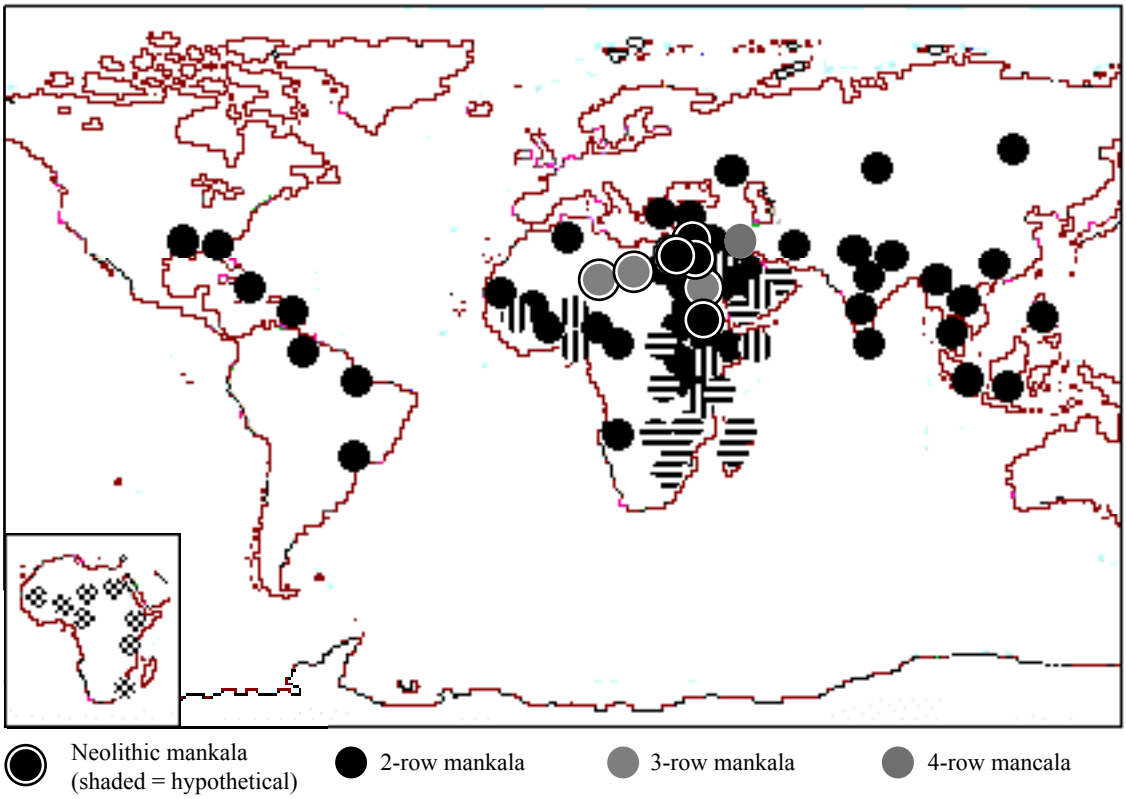


Figure 18. Geographical distribution of mankala.

inset: distribution of the *dara* game

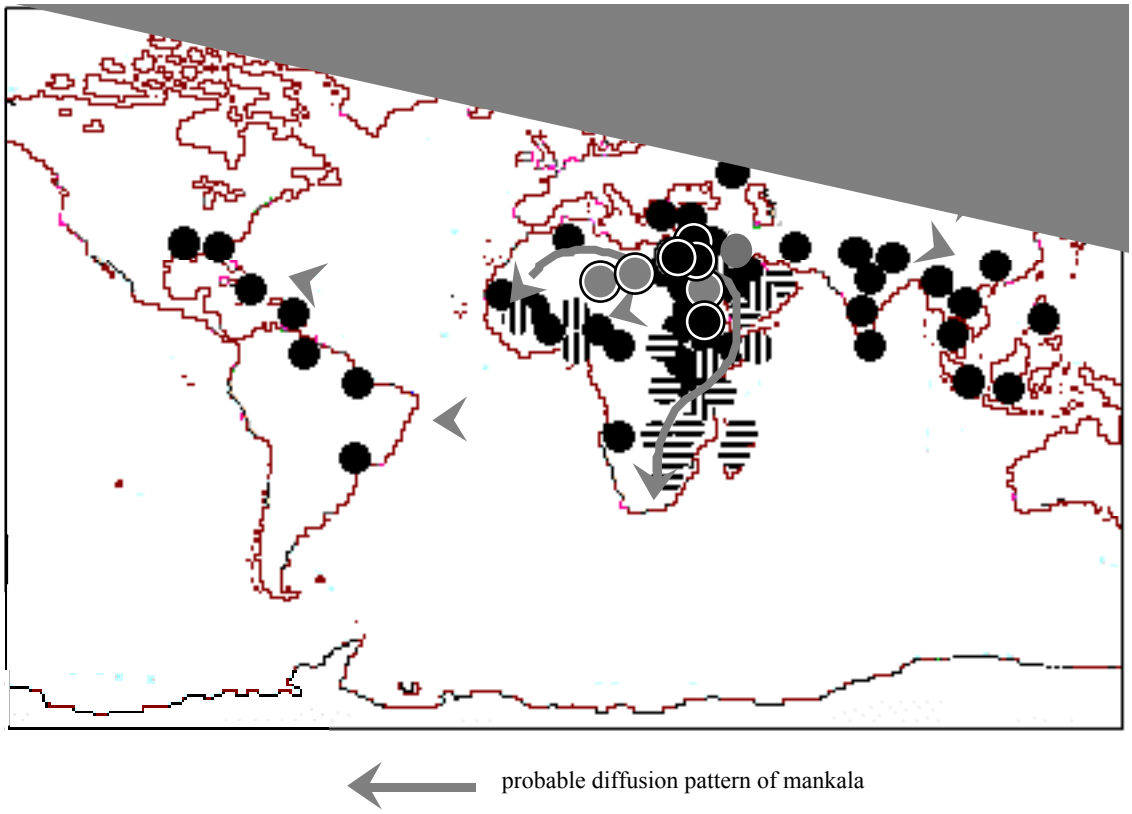


Figure 19. Probable diffusion pattern of mankala.

legend: as previous diagram

Figure 18 summarises the world distribution of mankala (broken down into two-, three and four-row varieties of the game), while Figure 19 suggests the underlying pattern of diffusion.[61]

Townshend has extensively argued against the central role Murray had attributed to Asia and to Islam in the spread of mankala, and in favour of a uniquely African origin and transformation of the mankala family of board-games, so much so that even their distribution in Asia should be directly derived from African models alleged to be recently imported to South Asia by black slaves. Already twenty years ago he complained

[61] On the basis of Murray's detailed data: o.c. pp. 178, 240f; with additional input from Townshend (1979, 1979, 1980, o.c.), and well as from the other references on mankala quoted in this paper.

(Townshend 1976-77: 95) that everyone (except Leakey[62]) seemed to be determined to find by all means a non-African origin for this family of board-games. In 1979 this point was repeated even more forcefully:

> 'The conclusions I personally draw from all this are:
> - that 4-row Mankala is of black-African origin;
> - that there is a better prima-facie case for 2-row Mankala being of African than of Asian origin;
> - that there is a distinct possibility of Mankala having been introduced whether by slaves or returned travellers from Africa to Asia (Leakey's conclusion of 40 years ago); and
> - that the 'ki-Arabu' forms of 4-row Mankala may have been brought to the East African coast from the interior (e.g. the Lake Malawi region) by Arabs or their African employees or possibly by some earlier current of cultural diffusion.' (Townshend 1979a: 127)

Townshend's comparative research on mankala remains impressive for its dextrous and subtle handling of the enormous literature, which includes several brilliant part analyses for distinct regions and variants. This demonstrates the analytical advantage of comparatively handling formal systems whose mathematical properties are so well defined and so easily classified. Yet, in addition to his emotional Afrocentrism inspired by a condescending desire for political correctness,[63] there are other theoretical and methodological flaws in his argument. Out of every minute variant of the mankala game he makes a separate genus, with its own logic and history presumed to be unique and without intersections with the other genera, as if the parallel invention, in various parts of the world, of minor variations in the rules, on the basis of reception of the overall package, is entirely out of the question. And contrary to the diffusionist law of the preservation of archaic forms in the periphery of a geographical distribution, he claims that the origin of the game must be sought at the place where the rules are most elaborate and where most variants occur. What would happen to our understanding of early Christian church history, or of the origin of Indo-European languages, or of wheeled traction, or printing, or the magnetic compass, if this view

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[62] Leakey 1937: 165-173; here the interesting claim is made that mankala is not only essentially African, but also goes back to the Neolithic, thus converging with my own argument on Neolithic connotations.

[63] For a more detailed discussion of the same material in the context of the kind of Afrocentrism found in popular distortions of the Black Athena thesis (Bernal 1991), cf. van Binsbergen, in press (a) and (b).

were adopted? It would make the North Atlantic region, where today the elaboration and variation on all these points is extreme, the unique origin of human culture. Is that what we want?

Townshend's view concerning the exclusively and intrinsically Black African origin of mankala is misleading. It forces him to manipulate the data. He has to close his eyes for such evidence as I have discussed above on four-row mankala outside Africa:

> 'In the case of four-row Mankala the evidence is clear: not one such game has been recorded outside Africa.' (Townshend 1982: 186)

Moreover he has to deny that the Ancient Egyptian examples are mankala boards, *not because context and information on the attending practices is lacking (that would be an excellent point to make, and sums in fact up my own position in the matter)*, but simply because they are too early to fit his Afrocentric hypothesis; and he has to propose an unrealistically late date for the Ceylon artefacts, which he does accept as being genuine mankala.

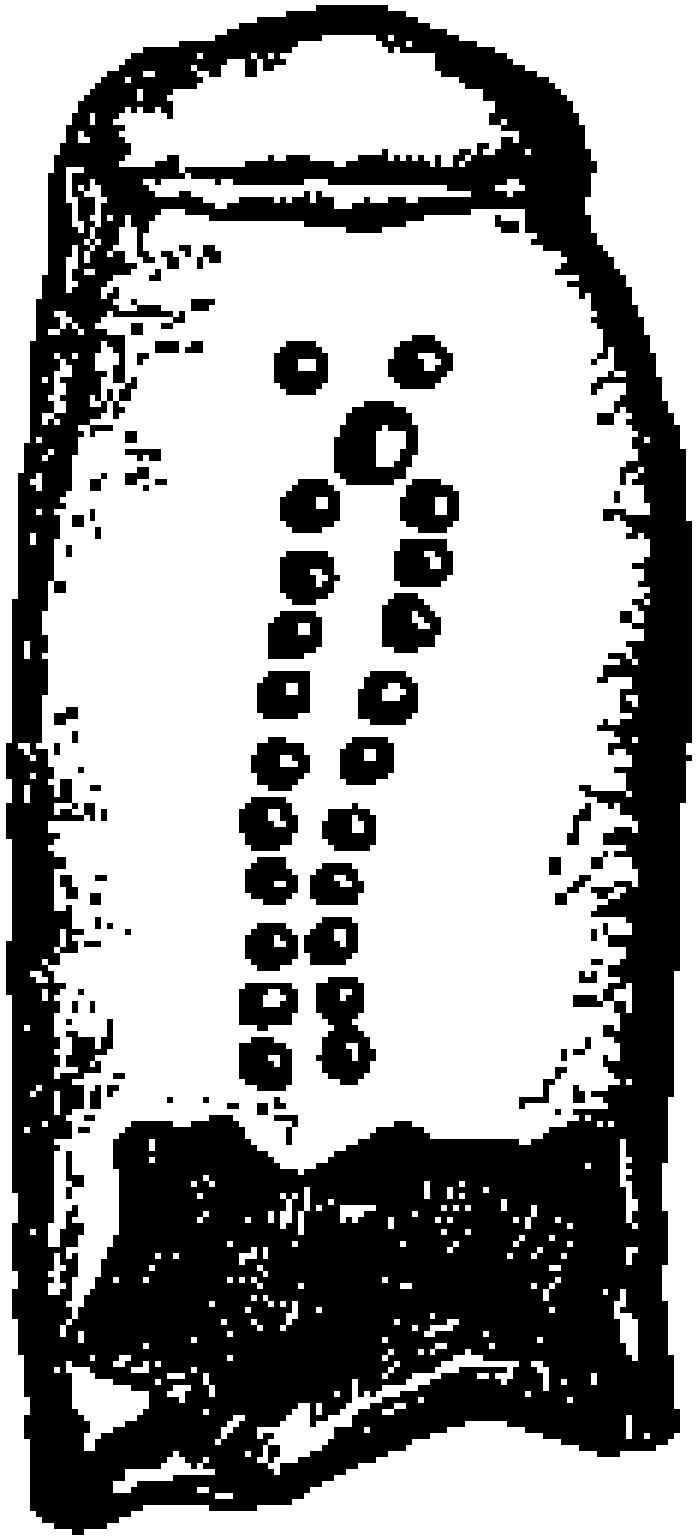


Figure 20. A vertical mankala-type monolith from Gada (Ethiopia)

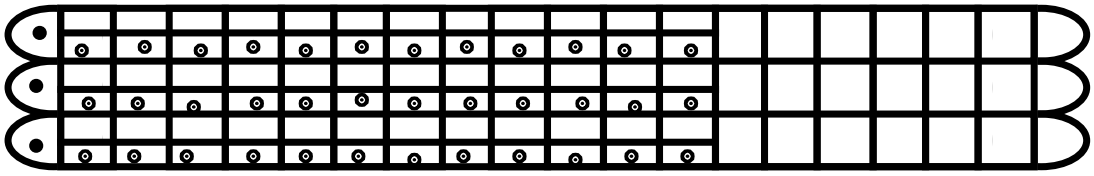
(after Zavslavsky 1990: 126, as based on Jensen 1936).

How do we escape from this dead end, without resorting to the stratagem of simply calling a mankala board everything that has straight rows of cup-marks and that suits our theory? How can we make the best of the by now substantial archaeological evidence, both from the Near East and from Eastern Africa, concerning regular rows of cup-holes in stone slabs, steles and rock faces? The East African examples are very difficult to date and may be Neolithic but then again they may be Iron Age. Their vertical placement defies their being actually or finally used as mankala boards. And although we can always interpret this vertical position as a result of recycling, for funerary purposes (as grave slabs), of pre-existing proper game-boards to be initially used in a horizontal position (cf. Simpson, in press), the devastating antiquity of funerary cup-marks in human history suggests otherwise. Situating this material against the background of cup-holes, cupped altars, keŸrnoi, sacrificial processions etc. as discussed above, the following conclusion presents itself. These mankala-like stone slabs from relatively independent corners of what now looks as one extended Asian-African Fertile Crescent teeming with the Neolithic productive revolution, *are nothing more but evidence that by that time indeed suitable non-ludic material was available for the emergence of the mankala game as an expression of a revolutionised sense of time, space and the person.* We are back at Murray's point concerning the necessary availability of suitable non-ludic artefacts waiting to be put to a ludic purpose. The mankala game still had to crystallise out, but it was around the corner.

The geographical parameters of the Fertile Crescent were formulated (Breasted 1935) before it was generally realised that in Africa, both in the once fertile central Sahara and in the Ethiopian highlands, independent neolithic domestication of crops and livestock had taken place (Camps 1982; Phillipsen 1985). I am therefore inclined, with Townshend (who can judge the archaeological record just as little as I can) and with the palaeontologist Leakey, to view the East African archaeological evidence on rows of cup-holes in this light. Combining this with the evidence on Neolithic mankala-like objects from Egypt, Jordan and Cyprus, we can see that any strict distinction between Africa and Asia becomes irrelevant

and misleading: the Neolithic transformation process presumably producing mankala touched parts of both continents, as did the attending linguistic processes which were to lead to the rise of the Afroasiatic language family. Thus mankala did not spring from 'Africa' anymore than it sprung from 'Asia': it was produced in the Fertile Crescent, a concept to be redefined so as to stretch deeply into North West and North East Africa, and straddling both continents.

Although so far North West Africa has yielded no archaeological evidence of mankala-type finds, I would certainly include this part of Africa here, and not merely because it also took part in independent domestication of plants and livestock. North West Africa stands out as an interesting area for a further exploration of a possible original African contribution to mankala and geomancy Here ritual and divination offer many converging examples of grid-based procedures. One instance is jackal divination (Griaule 1937; Paulme 1937), where in the evening the soil is divided by a rectangular grid in order to be able to inspect, in the morning, if and how a jackal has disturbed the surface in that grid; the interpretational catalogue used is remotely reminiscent of geomancy. Another example concerns the harvest ritual as described by Pâques (1964), and which is locally depicted exactly as if it were a three-row mankala board, with small piles of grain deposited as sacrificial offerings in the middle of each square cell, i.e. each field (Figure 21). In addition to an actual description of a mankala-type game (1964: 91), Pâques also presents (1964: 83) intriguing diagrams of patterns of irrigation in arid circum-Saharan communities, which almost read as descriptions of mankala (Figure 22). As far as hints of possible formative influences upon both mankala and geomancy, the North West African material is of such abundance and consistence, and presents the imagery of these two formal systems with such clarity, that a historical contribution from this region to their initial formulation must be considered quite likely.



Mali: Serpent triple figurant le champ cultivé au Soudan avec une butte de mil dans chaque morceau découpé après le sacrifice (dessin d'informateur Bobofin)

Figure 21. An harvest ritual in North West Africa

(after Pâques 1964: 157).

'Mali: threefold snake representing the cultivated field in the [western] Sudan, with a pile of sorghum in each section cut after the sacrifice' (from top to bottom the three vertical series are marked 'red', 'black' and 'white'

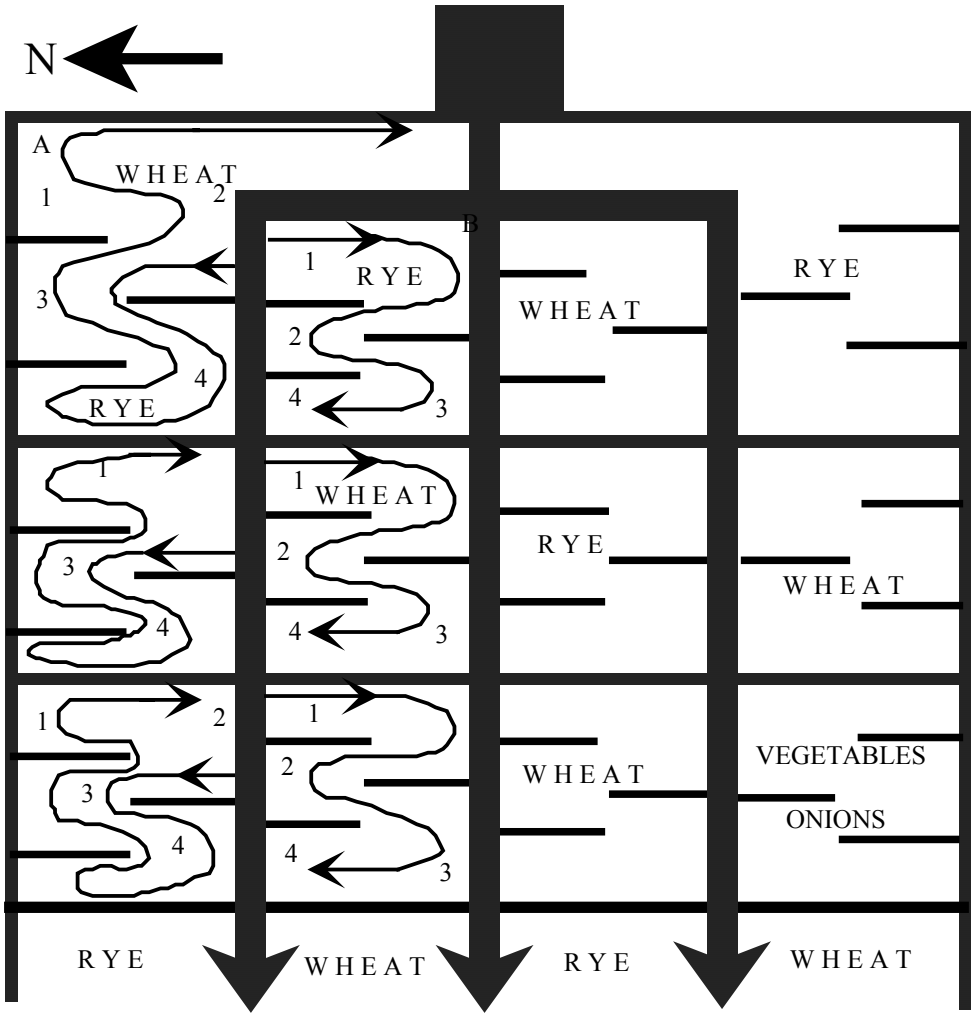


Figure 22. An irrigation pattern in North West Africa

(after Pâques 1964: 82).

But we should add, to the increasingly discredited argument of origins, an argument of subsequent maturation. If part of the cultural material that went into the making of both geomancy and mankala originally derived from cultures situated on the African land mass, it is clear that both cultural systems owe much of their latter-day form, spread and success to the Islamic connexion: by decisively re-formulating this material in terms of a fully-fledged board-game and as the, strongly astrological, divination system of *khaṭṭ al-raml*, – and by putting the effective and pervasive vehicle of Islam and Islam-oriented trading at the disposal of both

geomancy and mankala as a main vehicle of spread. But on this point a further discussion is required, to which we now turn.

8.3. ISLAM AND MANKALA

While Islam and Arabian culture in general was undeniably the vehicle of spread of geomancy after its first formulation in an Islamic context by the end of the 1st millennium CE, scholars are less in agreement on the relation between Islam and for mankala.

When Murray adopted the Arabic name for this family of board-games, this was on excellent grounds.

At the end of the nineteenth century, Bent (1969: 85f) was convinced of an Arab connection, but the very phrasing of his text reveals such anti-African bias (including the later hotly debated claim of a non-African inspiration for the Zimbabwe ruins) that we can hardly accept his authority:

> 'In short, wherever Arabian influence has been felt this game in some form or other is always found, and forms for us another link in the chain of evidence connecting the Mashonaland ruins with an Arabian influence. The Makalangas are also far superior to other neighbouring Kaffir races in calculating, probably owing to the influence of this very game.'

A similar stress on the role of Islam (but without the racialist overtones) was laid by Luschan (1906, 1919) and more recently by Bell:

> 'Boards have been found in Arabia dating from the time of Muhammad **[check how Bell spells this name]** , and the followers of the prophet carried variations of the game to the countries influenced by their culture.' (Bell 1960: 113).

The evidence which Murray cites concerning mankala on the Balkan and the Greek islands would be a case in point, since this part of Europe was partially Islamised under the Ottoman Empire since the middle of the second millennium CE.

Townshend (1976-77, 1979) is opposed to this emphasis on Islam and Arabian culture, and not only because of his Afrocentrism, but also for concrete distributional reasons: the pastoral, Arabian-associated presence in the northern half of Africa is – in his view – primarily characterised by other types of board-games than mankala, so that mankala is hardly found

in some of the most strongly Arabianised parts of Africa (North Africa, northern Nigeria). We have already seen that he underestimates the positive evidence on mankala in Islamic North West Africa. But probably the case is more complex. In the Maghreb the Arab identity for centuries has sought to dominate an older substratum of West Atlantic continuities linked with the cult of the earth, megaliths, irrigation practices, and the Berber languages; it is quite likely that here mankala became a boundary marker between an Berber identity (pursuing the game e.g. in the *zig* variant) and an Arabianising identity rejecting the game even though in the Middle East it has strong Arabian connotations.[64]

Dismissing the Arab connection, Townshend postulates a special link between mankala and the intra-lacustrine Bantu area, but not with the more westerly proto-Bantu area, and even does not rule out the possibility (quoting Kidd 1904: 338, who refers to a 'Hottentot' i.e. Khoi origin) of four-rank mankala being an invention of pre-Bantu hunters in East Africa. My discussion, below, of the links between four-rank mankala and geomancy suggests, by contrast, a fairly recent (after 1500 CE) emergence of the four-rank variety in East Africa. In the light however of my discussion of the Neolithic including pastoral context of board-games and divination in general, the idea of some Khoi connexion (albeit not with four-row mankala but with older, simpler forms of the game) may be very much to the point. The pastoral Khoi have long been accepted as descendants of Africa's Neolithic pastoralists, and the latter's migrations east and south provide a likely vehicle for the spread of earlier forms of mankala (two-row and three-row) across the African continent. In rather the same vein (considering the Neolithic role of Ethiopian) Avelot (1906, 1908) considers the mankala game to originate from Ethiopia and hence to have been brought to West Africa by pastoralists.

Others again (Jones 1964: 198f; Béart 1955) claim diffusion from Madagascar and ultimately Indonesia, which may apply to specific East African variants but can be dismissed as an overall explanation of provenance in view of a whole bundle of reasons: the late date scholars are now beginning to prefer with regard to the Indonesian migrations to

[64] Such a travesty of ethnic boundary markers in space and time is quite common in the study of identity; for a South Central African example involving male puberty rites including circumcision as a boundary marker, cf. van Binsbergen 1993.

Madagascar (6th-13th century AD; cf. Adelaar 1994), i.e. largely overlapping with Arabian and Persian migrations to the same island; *Abū'l Faradj*'s contemporary reference to the game in a context where Indonesia does not come in; and the archaeological evidence on forerunners of mankala from the extended Fertile Crescent including parts of Africa.

8.4. THE CONVERGENCE OF GEOMANTIC DIVINATION AND MANKALA

What strikes us is the similarity between the distribution and diffusion patterns of mankala and geomancy. Although their earliest histories differ, both took root, diversified and transformed in Africa, and both spread from there the New World. The differences concern the periphery of their geographical distributions. Contrary to geomancy, which from the early second millennium CE spread to Europe across the Mediterranean, mankala never made it to Western Europe before the toy manufacturing industry along with the African airport art industry seized on the idea. In the Far East mankala was a bit more successful than its mystically-inclined sister, geomancy, in penetrating Indonesia and the Philippines. But whereas geomancy, in the form of *I Ching*, has been a very old and central (although not necessarily indigenous)[65] part of the culture of China as a whole, it is only in Southern China that we encounter mankala.

Within the African continent, this convergence is also to be found at the regional level. As a detailed study of the iconography and the interpretative catalogue of the four tablets indicates,[66] geomantic divination has reached Southern Africa via a corridor (for many centuries an important trade route, along which notions of more or less divine kingship, Asian trade goods against gold and cattle, and Indonesian as well as – much later – Islamic cultural influences travelled) linking

[65] As such I Ching may not even be strictly Chinese in origin, as its binary nature (as against the five and five directions elements of Chinese cosmology; cf. Needham 1956), and the puzzling un-Chinese (Tocharian i.e. Indo-European?) etymology of such key concepts as *kuan*, 坤, I Ching symbol R, the receptive earth-like principle (cf. χθων?) suggest; I owe this suggestion to the sinologist Martin Bernal.

[66] Van Binsbergen, 1996 and forthcoming; partly based on Nettleton 1984.

Tanzanian and Mozambican groups like the Konde to the Shona-speaking groups on the highlands of Zimbabwe, and from there on to Sotho/ Tswana speaking groups to the south and west of Zimbabwe. For students of mankala this must ring a bell: in this part of South East Africa, the pattern of spread of four-tablet divination coincides with that of four-row mankala. It is a tantalising question for further research to decide whether

- four-row mankala caused the apparatus of geomancy to be altered towards a four-tablet system, or
- four-tablet geomancy caused the incomparably more complex four-row variety of mankala to be produced out of the existing two- and three-row variants, or, finally
- it was the classic four-line geomancy (*ʿIlm al-raml*) which produced both the four-tablet geomancy and the four-row mankala.

My hypothesis is that four-row mankala was created among the East African coast in the course of the present, second millennium CE on the basis of the combined inspiration of locally already available two-row mankala, and geomancy (whose late 1st millennium CE origin we can convincingly argue on the basis of Arabic and Hebrew documents) coming in on the vehicle of Islam; and that from there mankala was diffused westward. Of course it remains possible that the prominence of the number four both in East African mankala (*bao*) and in geomancy (particularly in the Southern African tablet form, whose northernmost and presumably earliest form can be traced to the Mozambican Konde corridor) is purely accidental, or simply goes back to cosmological symbolism – most Old World cultures and languages distinguishing four cardinal directions as a pivotal element in their cosmology. In any case, my hypothesis runs counter to Townshend's (1979: 127) hypothesis, which claims that the process went into the opposite direction, so that to a region never known for its independent impact on African cultural history, around Lake Malawi, falls the honour – according to Townshend – of having inspired the Swahili coast (with its rich and long-standing hybridisation of African and Asian cultures) to its most popular and complex recreational achievement, four-row mankala.

But perhaps this particular bit of my argument, although its original

inspiration, is by now a red herring, since the various Asian indications for four-row cup-marks reminiscent of mankala suggest that that variety is much older than geomancy, whose Arabian formulation is a mere thousand years old. If the scanty evidence from Ur, Carchemish and the Indus is anything to go by, four-range mankala could have spread quite early to the East African coast, which was an established part of the Indian Ocean trade system.

8.5. MANKALA AND KINGSHIP

Overlooking the literature on mankala in Africa, one is surprised how often the game occurs in a context of kingship, for instance in Zaire, Rwanda, West Africa.[67] Also in the aristocratic context of the Zimbabwean Khami ruins (ca. 1700 CE) a four-row mankala board was excavated, along with our oldest archaeological evidence of a divinatory set of four tablets.

[67] E.g. Townshend 1976-77: 95f, 1979a: 118, 127 – the famous case of the Kuba king Shyaam aMbul aNgoog introducing mankala, under a West African name, after a journey to the west —, 134; Frobenius 1931; d'Hertefelt & Coupez 1964: 169.

Figure 23. A four-row mancala game board excavated at Khami, Zimbabwe (ca. 1700 CE)

(after Robinson 1959: plate xxvii)

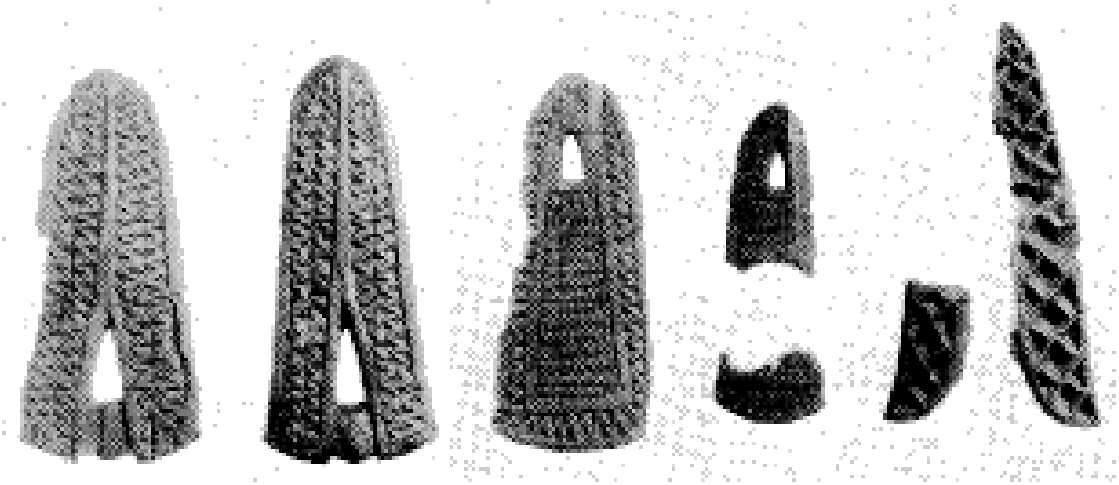


Figure 24. Ivory divining tablets excavated at Khami, Zimbabwe (ca. 1700 CE); the carving style, especially of the piece extreme right, displays continuity both with western Indian Ocean and (cf. Nettleton 1984) with contemporary local, Shona wood-carving

(after Robinson 1959: plate v).

Perhaps by analogy with legends claiming a courtly origin for chess, and its subsequent diffusion in a framework of medieval chivalry, the link between mankala and African kingship has often been accounted for in terms of a royal pastime, by which kings rendered splendour to their courts. More to the point would be that by such conspicuous waste of time as a board-game involves, they could articulate themselves (cf. van Binsbergen 1992) as not engaging in productive activities but solely living on tribute. Other considerations attach themselves to this argument. The implicit link with irrigation (but, as far as I know, not with iron-working) suggests the game to be an attribute of Culture Heroes (represented by the king, who is often considered their descendant) alleged to have introduced (imported or invented) the essentials of civilisation, including agriculture. As a royal attribute, the mankala board is especially comparable with royal instruments (xylophones, drums) which in many parts of Africa constitute the king's standard, and whose introduction is often also attributed to the founding Culture Hero. In this

respect Jones's (1964) claim that mankala and xylophones have the same distribution in Africa (although rather equivocal in view of the virtual ubiquity of mankala) may yet have a deeper significance.

Further perspectives open up here. First, early African kings seem to have been ritual guardians of the soil rather than politically and militarily powerful figures;[68] their main source of power lay in cosmological myth and ritual (which gave them a unique place in society, and a basis for conflict regulation), and in their being foci of redistribution of food. Both elements can be seen to converge on the mankala board, which at a level of deep structure we can identify as an image of redistribution as well as an image of the cultivated soil, even if the actors' conscious conceptualisation in the local cultures in which mankala occurs, may lay uneven stress on these two aspects and adduce other aspects e.g. pastoral, hunting and astronomical elements.[69] Secondly, there are indications that the above form of kingship, with its ceremonial culture and attributes, was not independently re-invented time and time again in all the many parts of Africa where it was found in historic times. Instead, a prolonged and complex process can be postulated of chains – often broken and displaced, and with none of the unilineal compulsion of the Egyptianising diffusionism supported by scholars in the first decades of the twentieth century – of local innovatory responses to the diffusion of a package consisting of elements of political, ceremonial and economically productive culture, and demographic immigration of specialists carrying those elements. Mankala may often have been part of that (ill-defined, and protean) package.

8.6. MANKALA AND CONTROL: OR WHERE DO FORMAL SYSTEMS COME FROM

If African kings relied at first primarily on ritual, rather than political, economic and military power, their close association with mankala finally brings us to issues of social hierarchy and power, which otherwise may

[68] Schoffeleers 1979; van Binsbergen 1981, 1992; and references cited there.

[69] In the light of current insights in the nature and periodisation of irrigation in Ancient Egypt it is no longer tempting to follow Wittfogel (1957) and Harris (1978) and claim a direct relationship between irrigation and kingship.

have been rather underplayed in the course of my argument. It is true that I have done little with the fact that board-games (however formally similar to divination sessions) construct the players as *opponents*, as people in conflict. Board-games' and divination systems' persistence over time and relative imperviousness to local cultural orientations, constitute well-established empirical facts. But does the explanation of those facts primarily lie, as I suggest in the present study, in these cultural item's formal and ludic nature, in the technology of the object form they have taken? Or does the explanation lie, as Morris Bloch (e.g. 1992) has argued – much like I myself did in earlier work (van Binsbergen 1981) – for the (comparable, even partly overlapping) case of ritual, in these formal systems' contribution to *the raising of authority and power relationships to a plain of immutable transcendence*. In other words, is their formalisation less neutral and less innocent than admirers of formalisation (mathematicians, computer scientists, Platonists) would tend to think – is it ultimately an aspect of social repression, of a sublimation meant to conceal rather than reveal the true nature of social reality? Are insignia of exalted status and legitimacy required so as to conceal and justify the violence and exploitation that surrounds kingship even when still largely a ritual office? Since board-games do function as royal, courtly attributes, there can be no denying that they have precisely this obscuring dimension, too. We may even go as far as claiming that they prepare the players, not so much for reality, but for an unreality in which the supernatural underpinning of the power of elders, kings and priests is more easily achieved. Then there would be a considerable similarity between the formal systems treated in the present study, and the 'virtual reality' of computer games today (cf. van Binsbergen 1996), equally alienated and structurally disciplined, and reflect the increasing isolation, atomisation, and socio-political powerlessness of the post-modern individual, and the virtuality of his general social experience. Perhaps the kind of multi-layered complexity which was introduced with Neolithic conditions meant for all mankind a downright expulsion (cf. Genesis 3: 23) from the immediate, momentaneous, Paradisal reality (the shortest possible lines between need and gratification) revolving on hunting and gathering. If board-games and divination systems are the hall-mark of a fundamental, fairly recent transformation, not just of

thought but also of socio-political control, than their intransigence in the face of change and cultural specificity suggests the continued presence, even if at first overlooked, of such a context of control wherever they occur. Agriculture and animal husbandry (opening up opportunities for the unequal accumulation and appropriation of wealth, between elders an, youth and women, as well as between classes), kingship (which is not just about redistribution, but also about hoarding and control), literacy, legal authority, the state, organised religion... This is the implied but undeniable context of control of board-games and divination systems if they are indeed a Neolithic development. The conspicuous role of Islam in the global success stories of both mankala and geomancy may then simply be attributed to the fact that in much of the Old World distribution area of these cultural forms, and particularly in Africa, the encounter with organised religion, literacy and even statehood was often brought about with the penetration of Islam.[70] Goody (1968: 25f) makes the point specifically in connection with geomancy.

Did then the formalism of board-games and divination systems derive from socio-political control more than control over nature which I have stressed? Are both two sides of the same coin? Is the emergence of formal systems a precondition or a result of the emergence of formal political and ritual systems, and the possibilities of standardisation, remote control, storage of resources, reliance on the market instead of personal production for subsistence, exercise of legal authority, they entail? This remains a point for much further reflection.

In other words, if board-games and divination systems are formal systems, such formal systems do not simply fall from the sky nor simply materialise as spontaneous expressions of some universal systematic principle underlying the universe as a whole. They are produced under specific social conditions, which include the Neolithic revolution in food production, but also more general features such as externalisation,

[70] Often historical indications lie hidden in seemingly meaningless details waiting to be read in their proper light. E.g., among the West African Dogon any game involving pebbles can only be played outside the house lest it omens disaster for the family; while the playing of mankala, as one of these pebble games, and in general any game which may lead to one's enslavement, is viewed as a bad omen (Griaule 1938). In this gerontocracy without elaborate political organisation, do these fears reflect past experiences with slave raiding and with a more central political organisation featuring – like in so many African contexts – the mankala game as a sign of royal power?

appropriation and alienation, exploitation and its legitimation, the imposition of discipline, and the rise of legal authority supported by the written word, as against traditional authority merely underpinned by status and cosmology.

9. Conclusion

This complex argument has sought to pull together the available evidence on one prominent class of board-games, mankala, highlighting its formal structure, imagery and history by stressing its close parallels with geomantic divination; in the process it has formulated such theoretical and methodological considerations as a fair assessment of the scattered and heterogeneous evidence necessitated.

I have ventured into archaeological, art historical, philological and philosophical realms far outside my specialist field, which is that of the anthropology and (oral, pre-colonial) history of Africa, especially its religions and ethnicities.

For the main-stream anthropologist and the documentary historian my argument will be too speculative, doubly damned since it shows a diffusionist and evolutionist inspiration – both anathema – at the same time; hence it is obviously eclectic and methodologically flawed; and it is vainly looking for origins rather than being satisfied with sound history – or with the impossibility of threshing such history out of the scanty sources we have on board-games and divination systems. The reader can rest assured that I am rather aware of the theoretical and methodological dilemmas I have sought to confront, and I will discuss them at greater length at the appropriate place (van Binsbergen, forthcoming). Contrary to the tendency to extreme, entrenched localisation and fragmentation – the denial or ignorance of comprehensive continuities and systematic transformations, over vast expanses of space and time – which has been typical of anthropology during most of the second half of the twentieth century until recently, I have sought to demonstrate how the practices and meanings attaching to artefacts are not rigidly confined within local or regional ethnic, linguistic and political boundaries, but spill over and ramify across the continents while remaining – although in a very loose sense – attached to the objects that function as material foci of their meanings and practices.

The art historian, Assyriologist, Egyptologist and archaeologist will

see that I have scarcely scraped the surface of topics to which they may have devoted a life-time; hopefully the thrust of my synthesis may redeem at least in part my factual blunders. My argument, for what it is worth, is primarily intended as typological and theoretical, far more than descriptive. Ludologists and students of globalisation may see the point.

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