REGIONAL AND HISTORICAL CONNECTIONS OF FOUR-TABLET DIVINATION IN SOUTHERN AFRICA[1]

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(African Studies Centre, Leiden/Free University, Amsterdam/Netherlands Institute for Advanced Studies, Wassenaar)

1. *Introduction*

Anthropological research in the Francistown area, Botswana, since 1988, has drawn my attention to a system of divination which is widespread there and which features conspicuously in the area's various non-cosmopolitan medical systems (van Binsbergen 1991, 1994, 1995 and in prep). The system involves the manipulation of four small rectangular or triangular tablets made out of wood, bone or ivory; in the area's main languages these tablets are named *hakata, akata,* or *ditaola.* Being typically handmade by the diviner or his or her teacher, there is some variation among the tablets, but a typical set can be described as follows. A zigzag border on the front side of each tablet identifies this from the back, so that it is clear which side is up. The four tablets are distinguished from one another by name and features. Two have notches at the bottom; these are considered the junior tablets, the male—commonly called Lumwe—with one notch, the female—commonly called Ntakwala—with two notches. The remaining two, senior, tablets are marked as either female—commonly called Kwame—by the incised picture of an eye or a house on the upper side, or as male—commonly called Chilume—by the picture of an axe or a spear (cf. diagram 1).

Being thrown all in one go out of the cupped hands in which they have been shuffled, the fall of the four tablets assumes different configurations, depending on which tablets face up and which face down. If we consider the set of four tablets as the random generator which it clearly is, its mathematical properties can be summarised as follows: the tablets constitute four (k) ordered elements (for they are unequivocally distinguished by physical characteristics and name), which can each assume two (N) different values (facing up or down), resulting in a total of $N^k = 2^4 = 16$ different configurations, e.g. ▨⊞▢▢, ▨■■■,■⊞■■, ▨⊞■▢,■■▢▢,■⊞▢▢, etc., which all have
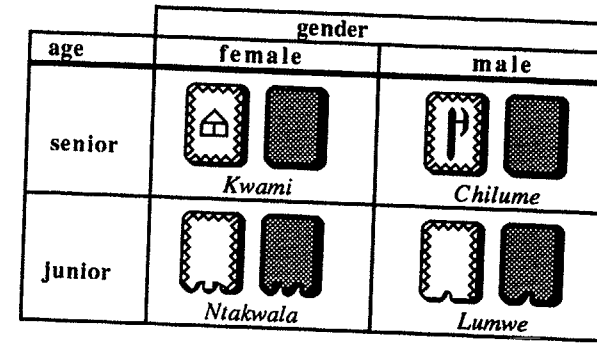
Diagram 1. *A typical oracular set from Francistown (shaded tablets upside down)*

the same probability (of 1/16) to occur at any throw. All these sixteen configurations have been recognised and named, each has its standard praise which the diviner may utter as a first reaction to the fall, and each is interpreted according to a complex, conventionalised yet unwritten catalogue which the diviner has learned by heart in the course of his or her years of training. In the catalogue, each configuration can be interpreted under a number of different aspects at the same time (ancestors, sorcery, property, totem animals and clans, bodily referents, social referents etc.), so that there is considerable room for manoeuvring in order to suit the client's predicament. A divination session consists normally of a series of twenty to forty throws, interlaced with questions and commentaries by both diviner and client; under the diviner's skilful management, the series of falls present an unfolding, revealing story of which the client is the protagonist. The system as practised in Francistown today does not display what Werbner (1989) in his penetrating study of a kindred rural divination system among the Tswapong of Botswana has called *microdramatics*: the configuration is interpreted abstractly and as an ensemble in its totality, merely on the basis of which tablets face up and which down; no allowance is made for the spatial positions which the tablets occupy vis-à-vis one another, nor are the individual tablets seen as representing protagonists in the social dramas, hunting activities etc. in which the client is involved.

A striking feature of the Francistown system consists in its fragmented and kaleidoscopic nature in terms of nomenclature, iconography and interpretative catalogue. The oracular system as described shows features which do not match closely with the local symbolic system, language and cosmology of contemporary users. To my knowledge, no

users of the system in Francistown feel capable of explaining these features in terms of their local culture. Nor is it possible to analytically identify derivational rules linking the various interpretational aspects of the same configuration and tying them to the underlying basic meaning each configuration is supposed to have. All this betrays a lack of systematics which points to the alteration and erosion of local elements and the accretion of foreign elements. A purely synchronic and local, ethnographic study of the four-tablet oracular system cannot provide insight on these points; it is only through such excursions in space and time as constitute my present argument that we may hope to understand the local system in its proper context.

It is as if we encounter the system, in its Francistown version, in a greatly transformed form, somewhere in the course of a long journey across time and space. Nor does it seem to have made this journey entirely unaccompanied: the four-tablet system is often seen to be combined with sets of nutshells, animal bones (astragali, mainly) and cattle hoofs, which also in their own right feature as divination sets and which, despite their very different material characteristics and far less elegant mathematical properties, are interpreted by reference to equally unwritten interpretational catalogues fairly similar to that applied to the four-tablet system.

2. The distribution of four-tablet divination in Southern Africa

The Francistown system far from stands on its own. Four-tablet divination, with similar tablets (although differing in details of marking, shape and material used), with identical or kindred names for the tablets and for the configurations which they form, with identical mathematical properties, and with interpretative catalogues which broadly converge, have been described for many parts of Southern Africa. On the basis of the extensive literature available[2] it is possible to indicate on a map of the region (cf. diagram 2) (a) the geographical distribution of the system in Southern Africa in the nineteenth century, as well as (b) the recent expansion of the system in the course of the twentieth century.

Perhaps the first scholar to map out the distribution of the four-tablet system was Frobenius (1931: 45, map 8), whose inspired study however limited itself largely to the Zimbabwe highlands. At the same time, Coertze (1931) made one of the first comparative studies of the system, entertaining the idea of diffusion between the peoples of Southern Africa, and even exploring West African connections.

four-tablet divination (end 19th century)

probable expansion of four-tablet system in the 20th century

astragali divination (end 19th century)

four-tablet and astragali systems combined (end 19th century)

nutshell divination (end 19th century)

Sikidy divination on Madagascar

other divination systems in West, Central and East Africa and on the Comoro Isl. accepted to derive from Arabian geomancy

●   Francistown

selected ethnic groups

1. Tsonga; 2. Pedi; 3. Venda; 4. Leya, 5. Karanga; 6. Totela; 7. Ila; 8. Lozi; 9. Kalanga, 10. Tswana (Western Sotho); 11. Southern Sotho; 12. Shona; 13. Zulu; 14. Ndebele

Diagram 2. Geographical distribution of several divination systems in Southern Africa

The extensive literature on the four-tablet system contains many concrete suggestions as to borrowing within the Southern African subcontinent. Before we can explore that literature, a theoretical point is in order. At the present stage of our descriptive and historical knowledge, and of our theoretical understanding of ethnic categorization, it is both inevitable (because the primary data were almost invariably cast in ethnic terms by their original authors), as well as thoroughly unsatisfactory (because scholarship no longer considers ethnic groups as a-historical and self-evident, bounded and self-contained units of cultural

practice), to identify the many specific records of variants of the four-tablet system in the Southern African subcontinent not merely by spatial and temporal co-ordinates, but by an ethnic label. In defence I submit that the consistent translation of ethnic labels into simple spatio-temporal co-ordinates would merely add a fashionable cosmetic embellishment to the present analysis, would greatly depart from the social perception of the people of Southern Africa, and would overlook the fact that the broader ethnic clustering (e.g. Sotho/Tswana as against Shona/Kalanga and against Nguni) does correspond with underlying main currents of cultural history; as is also brought out by the cluster analysis presented below.

Eiselen, then, (1932: 6) considers the markings on the female tablets of the Masemola (northern Sotho) as imported from the north via Vendaland. Junod (1927: ii, 604f) shows the isolated introduction of a Pedi[3] set among the Tsonga, and the same phenomenon is described by Berglund (1989: 194 n. 64) for the Zulu. Throwing of 'bones' (oracular sets predominantly featuring, among other items, astragali, and which may or may not be combined with the four-tablet system) is reported to be spreading among so-called 'popular' diviners both among the Zulu and among the Swazi (Berglund 1989: 194 n. 64; Kuper 1963: 65). In this connection Kuper speaks of 'a technique associated with Sotho and T[s]onga influence.' Also Berglund's Zulu informants stress Sotho influence in the use of the four-tablet system among the Zulu, and Berglund refers to the literature on Sotho four-tablet oracles[4] in order to clarify the relevant 'Zulu thought-patterns.' The Zimbabwean Ndebele, who allegedly as Nguni people originally did not use the four-tablet oracle, are claimed to have taken it over from the Shona whom they had subjected (Willoughby 1932: 119f; H.M.G.J. 1928: 10); incidentally, the system which Garbutt described in 1909 for the 'Makalanga/Matabele' is in nomenclature and iconography identical to the Francistown system. Also Reynolds (1963: 104, 154f) admits the rapid, twentieth-century spread of the four-tablet system over Southern Africa all the way to Zambia; in the latter region the four-tablet system has especially competed with the more complex and specialised, highly microdramatic *basket divination* of the Lunda and Luvale, whose practitioners tend to be older, tend to specialise in the identification of witches, and whose status as accomplished professionals is alleged to be sealed by human sacrifice (Reynolds 1963: 102). Reynolds (1963: 104) claims that an earlier wave of spread into Zambia, not from the immediate neighbours to the south (Shona, Kalanga, Tswana) but from relatively distant Transvaal, has been responsible for the occurrence of Sotho-

like sets in Barotseland, which would go back to the Kololo invasion of 1840; the Kololo were a Sotho group and the dominant language in Western Zambia, Lozi, is a variant of Sotho. Nettleton's (1984) painstaking analyses have shown that the Venda divining bowl, at least in as far as its iconography is concerned, springs from the Sotho four-tablet system, although the Venda tablets themselves show closer affinity with the northern Sotho ones. Meanwhile she observes that today among the Venda it is not only the village doctor *(nganga)* but also the court priest *(mungoma)* who uses divining tablets, while the latter in the past had the monopoly over the now increasingly rare, divining bowl—and by implication did not use tablets (Nettleton 1984: i, 311). De Jager & Seboni (1964: 5) said about the Tswana *thlabana*, i.e. *ditaola*: 'There are strong indications that this latter form of divination bones was taken over from the Shona and that they are not originally Tswana.' Until 1930 most authors[5] were of the opinion that the four-tablet oracle in Southern Africa derived from the Kwi (or San, or Sarwa, then still called Bushmen), but this idea was discarded when it turned out that the system was especially used by those Kwi who entertained abundant contact with the Tswana, as if they had borrowed the system from the latter.[6]

The historical pattern rising from these data can be supplemented by the synchronic study of geographical distribution patterns. Table 1 presents the names of the four tablets in a considerable number of Southern African settings in the twentieth century. The variation in nomenclature can be traced to four principles: *linguistic variation, substitution, inversion* and *diversification*.

Linguistic variation in this data set is obvious: the same names appear under a number of *related forms*, such as *Kwami/Hwami, Lekh(w)ame(n)*; or *Tokwadzima, Thwagadima, Thwalima, Gwadima* etc. But also *substitution* occurs in the sense of names which cannot be regarded as linguistic transformations of other names in the data set: *Moremogolo* (under various linguistically related forms, and with the meaning of 'old man') replaces *Kwami* or *Tokwadzima* as the name for the senior male tablet, *Lumwe* replaces *Nhokwara/Ntakwala*, and we see the appearance of kinship terms such as *Khatsana (junior wife), Mmakxadi* (mother-in-law), and the names of offices such as *Kgosana* (junior ruler). Moreover a process of *inversion* is manifest: a name used among a particular ethnic group for one of the tablets as defined by gender and seniority, appears among a different ethnic group as the name of a tablet with different gender and seniority; for instance, the name *Chirume*, reserved for the junior male tablet among the Shona, among the Kwena (a Tswana group) is used for the senior male tablet, and among the Masemola (a northern

Table 1
Nomenclature of the four basic tablets in Southern Africa

group/location	senior male	senior female	junior male	junior female	source
'Botswana'	Lekwame, More Mogolo	Kgadietona	Silume, Faro	Kgatsane	Staugård 1985
Francistown	Chilume	Kwami	Lumwe	Ntakwala	my field-work; Junod 1927: ii, 604; Garbutt 1909; Coertze 1931
Gananwa	Lekhamen	Gwadima	Selume	Lumwe	Nettleton 1984: i, 318 and sources cited there; Roberts 1915
Kwena	Moremogolo, Jaro, Legwame, Serumi	Mmamotse, Pubagadi	Thwagadima	Thogwane, Pootana	de Jager & Seboni 1964
Masemola	More o Moxolo	Mmakxadi	Selumi	Selumi	Eiselen 1932
Ndebele	Kwami	Dagwala	Chirume	Lumwe	Nettleton 1984: i, 318 and sources cited there
Ngwaketse	More Mogolo	Kgadi-etona	Jaro	Kgatsene	Campbell 1979
Pedi (Tsonga)	Legoame	Thoagadime	Selume	Thogoane	Junod 1927, iii: 603f
Shona	(Chi-) Tokwadzima	Kwami	Chirume	Nhokwara	Nettleton 1984: i, 318 and sources cited there; Hunt 1950, 1954, 1962; Gelfand 1956, 1964; Bourdillon 1976
Sotho	Legwame	Thwagadima	Selumi	Thogwame	Hammond-Tooke 1989: 114
Tati	Moremogolo Thlwagadima	Pubagadi, Tome, Caro	Kgosana	Khatsana	Willoughby n.d.
Tswapong	Legwame	Thwagadima	Selome	Lengwe	Werbner 1989
Venda	Hwami	Thwalima	Tshilume	Lumwe	Nettleton 1984: i, 318 and sources cited there; Stayt 1931

Sotho group) it applies to both junior tablets regàrdless of gender. Finally we can mention *diversification*: occasionally more than one name is used for a tablet defined by a specific gender and seniority.

Can we derive from table 1 information concerning the varying degrees of convergence between the various 'ethnic groups' (here largely taken as labels of variants in a spatio-temporal grid) in their use of the four-tablet system? The large number of different names does not allow

us to discern patterns of convergence at first sight. Here the statistical technique called cluster analysis comes to our rescue.

When preparing our data for cluster analysis, there are reasons to take the Shona situation as our point of departure. As we shall see, it was by reference to the Shona that the four-tablet system was first attested in writing, around the year 1600 A.D. If a striking feature of the Francistown system consists in its fragmented and kaleidoscopic nature in terms of nomenclature, iconography and interpretative catalogue, this feature also occurs among the Sotho, Tswana, Venda and other local variants of the four-tablet system in Southern Africa,[7] but far less so among the Shona. The above discussion of the literature on the spread of the four-tablet system in the sub-continent also suggests the central position of the Shona in this connection.

Cluster analysis leads to the pattern represented in diagram 3.[8]

The cluster analysis shows that the differences in tablet nomenclature do not amount to an arbitrary free variation within indifferently distributed cultural material in the Southern African region, but follow a significant pattern which coincides with the broad ethnic groupings and cultural historical developments in the region, and which provides further indications as to the Shona origin of the four-tablet system.

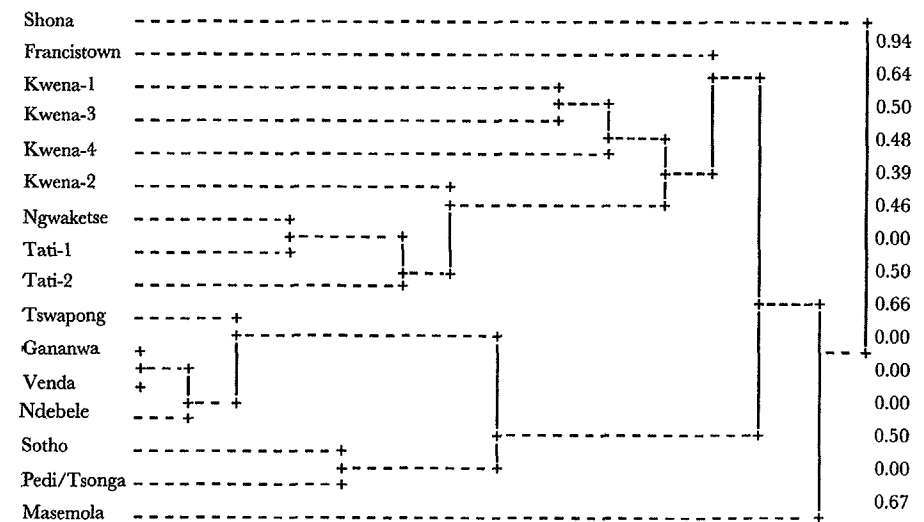|	
Shona	
Francistown	0.94
Kwena-1	0.64
Kwena-3	0.50
Kwena-4	0.48
Kwena-2	0.39
Ngwaketse	0.46
Tati-1	0.00
Tati-2	0.50
Tswapong	0.66
Gananwa	0.00
Venda	0.00
Ndebele	0.00
Sotho	0.50
Pedi/Tsonga	0.00
Masemola	0.67

Diagram 3. Cluster analysis of the nomenclature of the four tablets among various ethnic groups in Southern Africa

The Shona group remains strikingly distinct from all other groups in the diagram. Even the Francistown material, although close to the Shona group, clusters more convincingly with the other data from Botswana and particularly with the Tswana groups (Kwena, Ngwaketse, and Willoughby's Tati material whose origin is most probably Khurutshe i.e. another Tswana group). It is remarkable that the Tswapong, who are likewise Botswana Tswana and who in the diagram according to expectation appear in a position adjacent to the other Tswana groups, still cluster more closely with the South African Gananwa (or Malaboch, northern Sotho), Venda, and with the Zimbabwean Ndebele of whom we know that they were late-comers in the use of the four-tablet system. This cluster is adjacent to the other northern Transvaal groups (Sotho and Pedi)[9] while the Masemola occupy a peripheral position at the far end of the range. By the combined effects of inversion, substitution and diversification the nomenclature of the four-tablet system deviates more and more from the Shona variant as we move south, and the Tswana groups appear to be strategically placed in this process, not only geographically but also in so far as they represent a number of transitory variants between the Shona and the Northern Transvaal forms.

The cluster analysis suggests that, from a Shona origin, the system has spread to, and via, the various Tswana groups, distancing itself more and more from the Shona form—or, in information terms, in a process in which the original, Shona structure of nomenclature was more and more covered under intervening noise.

It is only among the Shona that the tablet names which in the course of this postulated diffusion process were transmitted in more or less altered form, have retained a sharply demarcated, cosmologically anchored meaning (Bourdillon 1976; Nettleton 1984; von Sicard 1959).

In the Shona four-tablet system, *Tokwadzima* ('That which becomes weak and blind') refers to the liminal position which the senior man occupies between the living and the ancestors, and in its symbolic and iconographic elaboration the crocodile occupies a central position: it is the inhabitant of the mystical Great Pool where the ancestors, the principle of creation, and the supernatural powers of divination are located. *Kwami* ('Togetherness') refers to the solidarity of the family group as centred on the senior woman, and its symbolic and iconographic elaboration revolves on the eye (referring both to the Pool and to seeing of whatever is hidden, as in divination); as Nettleton (1984) has brilliantly demonstrated, its iconography is characterised by two blocks filled with triangles or diamonds at either side of the latitudinal axis of

the tablet. *Nhokwara* ('That which scratches'), the Shona name of the junior female tablet, refers to female pubic hair, and its iconography revolves on an interlacing motif, which is in principle reminiscent of the snake. However, the snake is more explicitly associated with the next tablet, *Chirume*. The name of this junior male tablet, finally, simply means 'maleness,' and its iconographic expression is dominated by two belts filled with triangles, at either side of the longitudinal axis of the tablet.

The contemporary Shona system as applied to the tablets which are currently for sale in, for instance, the traditional medical section of Bulawayo's main market, can be schematically represented as follows:

Kwami   Tokwadzima   Nhokwara   Chirume

Diagram 4. Schematic representation of the Shona four-tablet system (shaded tablets upside down)

Of this presumably original pattern already much is lost even in the Francistown system. There *Kwami*'s eye, the Pool, has been replaced by a house, although in some sets the *Kwami* tablet is characterised by both markers. With regard to the senior male tablet, *Chirume* has replaced *Tokwadzima* and its crocodile symbolism, becoming '*Chilume*' (associated with an implement, the axe, which seems more properly an attribute of the junior, productive man than of the senior man). Meanwhile, *Chirume* in its turn has been replaced by *Lumwe*. *Nhokwara*, despite her change to '*Ntakwala*,' has retained both her identity according to gender and seniority, and her snake-like connotations: brilliant colours and lightning, as recorded in the Francistown interpretative catalogue, are still considered to be associated with the snake's skin.

The iconography of the Francistown system (diagram 1) lacks the wood-carving skills of the Shona tablets, puts the name and characteristics of the junior male generation in the place of the senior male one, instead of the complex Shona iconography introduces simple notches at the underside of the tablets in order to mark the junior generation (and not the female gender!).

Comparative iconography shows how strange the latter is: almost anywhere else in Southern Africa[10] such indentures at the low end of

the longitudinal axis are reserved for female tablets, and then they represent the human vulva, particularly (in the case of two indentures) the *labia minora*. In other words, *Lumwe* in the Francistown system did not only lose its Shona name (*Chirume*) to the second tablet but iconographically has turned into a woman . . .

It is hardly possible to find a more convincing corroboration for my thesis that the Francistown system is fragmented and kaleidoscopic and lacks symbolic anchorage in the local culture.[11] Probably this is also why we could not find (van Binsbergen, 1995) any systematic derivational rules for the relationship between a particular configuration's aspect (dimensional) interpretation on the one hand, and basic meaning on the other: when the identity and nomenclature of tablets can shift so unmistakably, it stands to reason that also the original derivational rules, if any, have been shifted and fragmented in the process. *Here we capture the transition, from a microdramatics which is based on concrete, recognisable projections as can be traced back to the general local culture and systemism, to a more abstract, conventionalised interpretative catalogue whose elements hang together no longer through their substance or contents but largely through formal arrangements.*

Such lack of substantive direction and symbolic anchorage can be also detected in table 1 with regard to the other ethnic groups. Here I cannot go into all the variations in form, material use and markings as found among the tablets throughout Southern Africa (cf. Nettleton 1984). Let it suffice to say that the iconographically, i.e. symbolic significant decorations in the wood-carving of the Shona tablets, as we move south give way to markings in the form of lines, dots, series of dots, the circle-and-dot motif, while the shape of the tablets from rectangular tends towards triangular, and wood gives way to ivory and bone.

Also highly revealing *semantic* shifts can be detected. Thus we should not fail to note the shift in meaning from *Chirume* (Shona) to *Selomi* (Tswana), which is pronounced almost identically. *Selomi* means 'That which bites; biter,' and the symbolic interpretation of the tablet is adapted to this meaning which undoubtedly is a popular etymology, invented when the name *Chirume*, having been introduced into a Tswana linguistic context, found itself deprived of its original meaning since in Tswana (and Sotho), and contrary to many other Bantu languages, the stem √r/lum does not stand for 'man; male' (the corresponding Tswana/*Sotho* stem is √nna); it is the superficial sound correspondence between the Shona √r/lum ('male') and the Tswana √/lom ('bite') which gave the Tswana tablet its meaning! *Do we need more convincing evidence of Shona/Tswana borrowing in the context of the four-tablet system?* Many cases

of inversion in table 1 point in the same direction. Among several groups the name *Kwami* has come to be attached not to the senior female but to the senior male tablet, and among the Venda and Pedi these senior tablets have even completely traded places. In the nomenclature of the four-tablet system among most ethnic groups in Southern Africa we can only detect faint echoes any longer of the Shona system, and we may suspect that the case with the interpretative catalogues is not very different.

In such a situation microdramatics based on fundamental kinship categories can hardly work any more. The shifts which have occurred in the four-tablet system in the course of its journey across Southern Africa led to the collapse of such derivational rules as may at one time have been in operation, causing microdramatics to give way to automatic and abstract systematics of the interpretative catalogue. I suspect that in the process also the fixed praises associated with each configuration were affected: at any rate they play a very minor role among my Francistown informants.

3. *The early history of the Shona four-tablet system*

If all this suggests a gradual spread of the four-tablet system over Southern Africa from a Shona epicentre, what then would have been the original shape, and the origin, of the Shona system?

Four-tablet divination was recorded in 1616 A.D. in a report (Godigno 1616) on the famous trial in which Father Gonçalo da Silveira (the first Christian missionary to the Shona royal court) was sentenced to death by the Mutapa (king) in 1561. This Latin source does not offer any other cues than that we are emphatically dealing with *four* tablets, operated as a random generator ('as dice'). A more detailed description is found in dos Santos' (1609) travelogue *Ethiopia Oriental*. There it turns out that at the time the tablets already corresponded in detail with the contemporary Shona tablets, and were already called *hakata* (dos Santos 1901: 29f). From the same time (Beach 1930: 107) dates an incomplete set of divining tablets, consisting of only three tablets and found in the Zimbabwean Khami ruins (Nettleton 1984; Robinson 1959, pl. V.1). They show great similarity with the tablets which in the early twentieth century were described for the Gananwa (Roberts 1915). Toward the end of the nineteenth century Bent was travelling in the surroundings of the famous Zimbabwe ruins. In his description we recognise the Shona system as I discussed it above, now even with *Chirume*'s axe (Bent 1892: 39f).

It is remarkable that the most ancient sources should stress the fact that the tablets were threaded to a string. The iconographic patterns which Bent describes indicate that towards the end of the nineteenth century the four tablets had certainly found their specific individual form, by which they could be told apart in fulfilment of the ordering principle, mathematically required if one wants to produce sixteen different, equiprobable configurations with only four tablets. Also the three Khami tablets can be unequivocally identified in terms of gender and seniority. This means that already at an early stage threading the tablets to a string cannot have served to impose, on four *identical* elements (not distinguished by names and marks), an ordering principle on the basis of which yet sixteen equiprobable configurations were to be produced. However, the four stringed tablets are strongly reminiscent of the divining chains which are in use in West Africa (in the context of the *Ifa* oracle, among others)[12] and which are likewise interpreted with a sixteen-based catalogue. Their being pierced may have survived after threading was no longer mathematically required, since the (now tablet-shaped) elements in the oracular apparatus had come to be ordered by distinct names and markings.

What is involved here is not so much mathematical speculation, but a search for the origin and meaning of the term *hakata*, the Shona name for the four-tablet apparatus. In Shona and related language the stem √*kata* stands for 'round,' 'roundness,' 'circle' (von Sicard 1959). Partly based on a defective English translation of the above cited passage in dos Santos, earlier researchers have suggested that the original tablets must have been round—or, since there was overwhelming evidence that the oblong four tablets (although possibly somewhat rounded in cross section) were never round at any time in their recorded history:

> it seems as if the Karanga [Shona] 'bones' did not originally belong to a Bantu culture (. . .) and that the name of the older divining shells or seeds or circular pieces of tortoise shell or wood were used for the new dice, though these were not round. (van Sicard 1959: 26)

In Tsonga *hakata* is the name of the nutshell oracle; in Lozi (originally a Sotho language) this is called *makakata* (Reynolds 1963: 104). Here the reference does seem to be to the individual, semi-spherical elements, the nutshells themselves being designated by the same term. One could very well imagine that the much simpler[13] nutshell oracle of unmarked and unnamed, identical elements (which the Tsonga expressly considered as childish: Junod 1927: ii, 541) did lend its name to the later four-tablet system which is far more sophisticated. One could even consider the four-tablet system as a radically transformed

nutshell oracle, whose elements have been named and marked and on which specific connotations of gender and seniority have thus been projected, and whose microdramatic interpretation (with themes such as hunting, and interaction and conflict at the village level) and symbolism—which used to be largely anchored in the local society and culture—was supplanted by a formal, multi-dimensional interpretative catalogue with sixteen entries, introduced from outside.

Meanwhile it is equally plausible that already at an early moment in time (say, the middle of the present millennium) the word *hakata* referred not to the individual elements of a divinatory apparatus preceding the four-tablet system, but to the *total set* (whose elements then did not have to be round at all): 'a circle of elements,' initially all identical but stringed together for mathematical ordering.[14]

An interesting additional perspective would stress the similarity between the name *hakata* and the Arabic stem √*hkk*. The latter means 'truth; speaking the truth' and in its various conjugations may produce the sound 'hakat' (von Sicard 1959; Al-Faraïd 1967). The tablets would then be literally 'sooth-saying' ones, and have at least partially Arabian connotations.

4. *The Arabian connection*

Ever since the decolonisation of Africa, international scholarship, and African elites, have been less than enthusiastic for comparative historical analyses relegating the social and cultural forms of contemporary Africa to intercontinental connections and continuities. The obvious case in point is the debate, in the first half off the twentieth century, concerning the alleged non-African origin or inspiration of the Zimbabwe ruins. Only too often the suggestion has been that in the kind of international cultural relationships depicted by the (non-African) scholarship of an earlier age, Africa could only find itself at the receiving end. Some contemporary researchers are undertaking attempts to radically reverse this image and to declare Africa, for instance, to be the true cradle of Ancient Mediterranean civilisations (e.g. Bernal 1991).[15] Whatever may be the politically correct position with regard to this question (largely determined by the sociology of colonisation, decolonisation and re-colonisation of the African continent since the nineteenth century A.D.), there are strong indications that the Southern African four-tablet system in its current form did emerge about half a millennium ago on the Zimbabwean Plateau under Arabian influence—probably by grafting Arabian ideas onto pre-existing forms of the nutshell or astragali oracle.

These indications are not limited to the name *hakata*, but include considerable formal parallels between the four-tablet system on the one hand, and, on the other, the divination systems (related to one another and undoubtedly derived from Arabian sources) of West Africa, the Swahili coast, the Comoro Islands and Madagascar. In contrast with the microdramatics of elements which retain their individual meaning and reference within the ensemble, a more or less fixed, conventionalised interpretative catalogue (in which, without microdramatics, the constituent tablets and their meanings dissolve into a foursome) somehow strikes one as a typical product of a class of literate intellectual specialists—like the classical Arabian civilisation, to which half a millennium ago a considerable part of Africa served as periphery.

This leads the trail of our explorations to Arabian geomancy[16] (*khatt bi-raml*, 'calligraphy with sand,' i.e. *psammomancy*), a relatively old, widespread and well-documented genre of literate divination. One of the earliest references to *khatt* is found in Ibn al-A'rābī, who died 230 H./ 844 A.D. (Fahd 1966: 196). But its most famous representative was, four centuries later, Shaykh Abū 'Abd Allāh Muḥammad al-Zanātī, whose last name suggests membership of the Moroccan Zanata ethnic group (cf. Monteil 1931: 89; Fahd 1966, 1978). His main work is often quoted under the title *Kitāb al-fāsi fi usūl 'ilm al-raml*, 'Book on the discrimination of the principles of Sand Wisdom.' No dates are attached to his life; however, since his work is close to that other geomantic protagonist, Ibn Maḥfuf al-Munadjdjim, who died before 664 H./1265 A.D. (Fahd 1966: 201), and since al-Zanātī's own work was translated, via Persian, into Greek verse by Arsenius as early as 1266 A.D. (Fahd 1978), it would be safe to situate him in the first half of the thirteenth century A.D. Geomancy was a central feature of Islamic high civilisation (Ibn Khaldūn 1958, i: 226-234), capable of spreading not only (in Greek and Latin versions) over Europe, but all over the Old World:

> Like oneiromancy [the interpretation of dreams as a form of divination], Arab geomantic science extends beyond the frontiers of the Muslim empire, both to the Indian coasts and the coasts of Byzantium, and to the Latin West and Black Africa and Madagascar (. . .). This expansion has led to a great number of manuals and treatises, examples of which can be found in almost all the Arab collections in the East and the West. (Fahd 1978: 1129)

Uncritically copying Jaulin (1966: 14), Adler & Zempléni (1972: 63) situate al-Zanātī's work in the sixteenth century, at least three centuries too late. To postulate an influence from Arabian geomancy, and particularly in the thirteenth-century al-Zanātī variant, at the Zimbabwean highlands in the sixteenth century (the time of Silveira's trial) would at

any rate not be anachronistic. But are there also more positive reasons for doing so?

In this connection it is illuminating to consider the spread, from one clearly identified geographical focus, of Arabian geomancy over Madagascar, in the form of the *Sikidy* system, on whose early forms we are well informed through the writings of the seventeenth-century French traveller de Flacourt:

> According to Flacourt [1661: 172, 195], Matatane country in southeastern Madagascar (. . .) where the Antemoro (. . .) live was a center of astrological study as early as the fourteenth century (. . .). This area was also the site of early Arab settlements, although strict Islamic observances were lost centuries ago (. . .). Historical evidence shows that Antemoro diviners, bearers of the astrological system, infiltrated nearly all the ancient kingdoms of Madagascar beginning in the sixteenth century. (. . .) Today, although many persons claim to be *ombiasy* [diviners], only the Antemoro diviners are considered true professionals. The area is still a famous place of learning where specialists go for training and then return to their home communities with a certain body of knowledge. Now we can better understand the degree of similarity of divination forms found throughout Madagascar. For centuries Matitanana has remained a training center for diviners who have migrated widely, usually attaining important positions in their home communities and with various royal families. (Vérin & Narivelo Rajaonarimanana 1991)

In view of the relatively short distanced between the Zimbabwean highlands, Madagascar and the Comoro Islands we must now ask ourselves whether, in the early history of the Southern African four-tablet system, similar conditions for geographical spread in the hands of literate specialists might have obtained. Beach (1980; cf. Gregson 1973) estimates that on the Zimbabwean highlands in the sixteenth century A.D. from one thousand to two thousand Muslims were involved in diplomatic and trading activities. Arab influence on the Mutapa court was very considerable, as e.g. brought out in style of dress. Local Muslims felt the arrival of Father Silveira, the representative of a rival world religion and of a rival expanding network of mercantile and political relations, as a serious threat; the juridical divination, with four tablets, which ensured this missionary's death sentence was, as all authorities agree, most probably conducted by Muslims. *In its earliest recorded form the Southern African four-tablet oracle appears in Zimbabwe in the sixteenth century A.D. in a contact situation between Muslims (presumably furnishing the khatt interpretative catalogue) and African courtly culture.*

In its classic form, *khatt* consists of the automatic and arbitrary drawing of any number of marks in the sand (often in a special shallow vessel, and by an apprentice; later other materials especially pen and paper were admitted); procedures of elimination caused one to end up with one or two marks, which yielded one line consisting of only one

or of two dots towards one of the sixteen four-line tetragrams e.g.
⸚, ⸚, ⸚, ⸚, etc.) that the underlying mathematics of the system make possible. Zanātī c.s. enriched the geomantic catalogue so as to incorporate astrological notions, and specific bodily referents. For instance, if the first, second and fourth draw are uneven, and the second is even, this results in the geomantic configuration ⸚, whose Arabic name is *al-kaūsadj* ('One who has a sparse beard,' i.e. 'boy'—'Puer' in Latin translation), is associated with the star sign of *al-Mīzān* (Libra), and with the vagina and the liver as parts of the body (Hébert 1961: *passim*).

Beyond the circumstantial evidence of identical underlying mathematics and the presence of a demonstrable literate Arabian periphery both in West-Africa, Madagascar and the Zimbabwean Plateau, there are concrete, substantive points of correspondence between the Arabian system, *Sikidy*, and the four-tablet system. Some salient data on this point I have summarised in table 2.

The upper section of the table presents a summary of six out of the sixteen geomantic configurations, as in *khaṭṭ* the tetragrams, their standardised Arabic and Latin names and meaning, the associated star signs and bodily referents. The second section presents the *Sikidy* versions of the same configurations. The Malagasy names of the corresponding configurations turn out to be very similar to the Arabic ones. Many slightly different interpretative catalogues of *Sikidy* have been recorded, and in the table I have limited myself to that presented by Vérin & Narivelo Rajaonarimanana (1991), augmented with a few details (placed between parentheses) from de Flacourt (1661).

Comparison between *khaṭṭ* and *Sikidy* is a straightforward matter, since both use the same tetragrams for the distinct configurations. But how to link up these two systems with the materially very different four-tablet system—in other words how do we match a particular configuration of four lines of single or double dots e.g. ⸚ , with a configuration of four distinct tablets in open or closed position e.g. ■⬚■⬚? The insight which we have gained in the related mathematical structure of the Arabian and Malagasy system on the one hand, and the four-tablet system on the other, provides us with the key for comparison of divination systems which at first view would appear to be incomparable. The number of four lines in the former, ordered from top to bottom, correspond with the number of four distinct tablets, identified both iconographically and through their names, gender and seniority. The four ordered elements in the tablet oracle can assume two values: either 'open' or 'closed,' and this would be the exact mathematical equivalent to the 'even' or 'uneven' values in the Arabian and Indian

Ocean systems. But does 'even' correspond with 'open' or with 'closed'? Moreover we do not know how the order, from top to bottom, of the four elements in the former systems, should be matched with what specific order of the four distinct tablets in the Southern African system. Permutational logic has it that there are as many as 24 different ways[17] in which we can put *Tokwadzima*, *Kwami*, *Nhokwara* and *Chirume* in a fixed order.

Our puzzle however is brought to a solution once we realise that there are only two possible four-tablet configurations (notably: 'all four tablets closed' and 'all four tablets open') which could possibly correspond with the Arabian and Sikidy configurations which I have listed as V and VI in table 2, and where all four lines, or elements, assume the same value (either 'even' or 'uneven'). Here the answer is already unequivocally given by the data brought together in the table: the 'group' or 'multitude' which is the basic meaning associated with 'all four tablets open,' corresponds splendidly with *al-djamāʿa*/*Asombola*: 'meeting, people, abundance; while the one-dimensional extension of the 'path,' as well as 'emaciation, emptiness, void' (*ṭarīḳ*/*Taraky*), in the four-tablet system returns clearly as 'all four tablets closed' ('emptiness, absence, whatever is long and thin, a patch of burnt grass'). Also the astrological meaning supports this relationship: the Ear [of Grain] (the fixed star Spica, α Virginis, the brightest star of the constellation Virgo) has been the symbol of abundance and multitude since Antiquity (Allen 1963: 467), whereas Cancer,

> showing but few stars, and its lucida [brightest star] being less than a 4th-magnitude (. . .) was the *Dark Sign*, quaintly described *as black and without eyes* (Allen 1963: 109)

—a striking characterisation of the *hakata* configuration where all four tablets are upside down.

Now that we have found that in the Arabian and *Sikidy* system 'even' corresponds with 'open' in the four-tablet system, we are able to identify, in the table, the correct match vis-à-vis their Arabian and *Sikidy* equivalents of another four configurations in the four-tablet system, notably those with only one open tablet: the Francistownian, and Shona, series of *Senior Woman*, *Senior Man*, *Girl* and *Boy*, provisionally retained in that arbitrary order.

This yields again, among four more items, at least two more hits. Of the four corresponding 'one-even-three-uneven' configurations of *khaṭṭ*/*Sikidy*, two are known as *Girl* and *Boy* ('beardless cheek' = girl, 'one with a scarce beard' = boy), whereas yet another, designated 'cool speech' (*Karija*) comes close to the meaning of *Lumwe* ('uvula,' etc.).

Table 2

Substantive correspondences between Arabian geomancy, Sikidy divination from Madagascar, and the Southern African (particularly, Shona) four-tablet system

		I	II	III	IV	V	VI
Arabian and European geomancy	configuration[1]	°°° ‾ °°°°	°°° (⠿)	°°° (⠶)	°°° (⠿)	°°°° (⠿)	°°°° (≡)
	Arabic name, meaning, and zodiacal sign	al-'atabat al-dākhilat inward threshold al-Khas	al-nakT al-khad beardless cheek al-'Akrab	al-kaūsadj man with scarce beard al-Mīzān	al-a'tabat al-khāridjat outward threshold al-Djuzahir	al-tarik path al-Saratān	al-djamā'a assembly al-Sunbalat
	Latin name, meaning, and zodiacal sign	Caput Draconis Dragon's Head[2] Sagittarius (♐)	Puella Girl Scorpius (♏)	Puer Boy Libra (♎)	Cauda Draconis Dragon's Tail[3] Cauda Draconis (☋)	Via Cancer (♋)	Populus Ear=Spica=α[4] Virginis (♍)
	bodily aspect		thigh	liver, vagina		breast	breast
Sikidy of Madagascar	configuration[5]	°°°°	°°°	°°°	°°°°	°°°°	°°°°
	name meaning	*Alakaosy* child; evil thoughts	*Alakarabo* robbers, thugs; misfortune;	*Alikasajy* medicine; mourning	*Karija* slave; cool speech	*Taraiky* emaciated; path	*Asombola* abundance
	De Flacourt	Caput Draconis	Puella	Puer	Cauda Draconis	Via	Populus
four-tablet system, Southern Africa	configuration[6]	○ • • • •	• ○ • •	• • • ○	• • • • ○	• • • •	○ ○ ○ ○
	gender and age Shona name	senior woman *Kwami*	senior man *Tokwadzima*	junior woman *Nhokwara*	junior man *Chirume, Mashangara*[7]	all closed *Masununguro,*[8] *Maten[?]o,*[10] *Rutsva,*[13] *Zungal Zungamana*[14]	all open *Musasu, Manu,*[9] *Zari,*[11] *Rutsva,*[12]
	Francistown name	*Kwami*	*Chilume*	*Ntakwala*	*Lumwe*	*Mashangula*[15]	*Mbunga*[16]

1. ° = uneven
   ° ° = even
   Between parentheses appears the notation as favoured in Arabic texts: a line of two dots is replaced by a horizontal line.
2. The northern lunar node, i.e. the northern end of the intersection of the moon's plane with the ecliptic plane in which the earth turns around the sun; in classical, Arabian and European astrology includes the two lunar nodes in many ways are treated as if they were planets in their own right; and like planets (which concept astrologically includes the luminaries Sun and Moon) they rule a specific sign of the zodiac. In Arabian astrology, the star sign al-Sunbala is virtually equivalent, in connotations and meaning, with Virgo in the classical and European astrological tradition.
3. The southern lunar node.
4. In astronomy, major stars of our galaxy are designated, per constellation (an apparent grouping of stars as seen from the earth), by a Greek letter from α to ω in order of magnitude, i.e. apparent brightness. As the brightest star of the constellation of Virgo, Spica some 3000 years ago found itself in the star sign of Virgo, but due to the precession of the earth axis, zodiacal star signs (i.e. 30° sectors of the apparent celestial globe measured along the ecliptic) and constellations have since drifted apart.
5. ° = uneven
   ° ° = even
6. ° = open
   • = closed
   Order used here: *Kwami-Chilume-Ntakwala-Lumwe*, the usual order when naming the tablets in Francistown. This order is arbitrary.
7. 'You are burdened.'
8. 'That which opens.'
9. 'Shelter, sanctuary, liberation.'
10. 'Fee for consultation.'
11. 'Open!'
12. 'That which is long and thin'/'A patch of burnt grass.'
13. 'That which is long and thin'/'A patch of burnt grass.'
14. 'Foursome.'
15. Cf. the alternative name of the Shona configuration with only the junior male tablet open.
16. Cf. *Zunga, Zungamana* in Shona nomenclature, column V.

Admittedly the *Girl* configuration in *Sikidy* does not appear neatly in the same column, immediately over *Nhokwara/Ntakwala*, nor the *Boy* configuration immediately over *Chilume/Lumwe*, but our analysis of the journey of the four-tablet system through Southern Africa has offered enough instances of shifts between the configurations not to be surprised at such shifts occurring between the Arabian-derived imputed prototypes, and the four-tablet system as a whole.

Thus, *unmistakably, the four-tablet system has at least partially sprung from northern, Arabian-associated predecessors.*

Conclusion

Yet we should not try and make too much of this Arabian background. Whereas on Madagascar the interpretative catalogues still betray their literate origin and abound with Arabic words and concepts, in West and Southern Africa they have been for centuries in the hands of illiterates, who memorise and transfer the complex and often massive contents[18] mainly by means of the praises—without any specific reference to the Arabian origin of this body of knowledge, and in a local cultural environment where other Arabian elements are largely inconspicuous or even absent. Also the forms of the four-tablet systems, their iconography and interpretative catalogues, have become decidedly African: the themes of the Great Pool, crocodile and snake (even if possibly local projections on more widely distributed themes such as the circle-dot motif[19] and the astrological concept of the Dragon's Head and Dragon's Tail); the central symbolism of the family unit in which (in a very un-Arabian way) a senior and a junior wife occupy decisive positions; as well as an aetiology in which sorcery and ancestors constitute the central concepts—all this leaves no doubt that the four-tablet system, even if developed under Arabian influence, has been effectively localised to become Southern African culture. The process is similar to what happened for instance to the Semitic religious traditions which in the course of two thousand years have been localised so as to become fully-fledged parts of West European Christian culture.

Identifying, far beyond the recognised realm of popular Islamic expansion in Black Africa, an unmistakable Arabian connection in a cultural complex, notably 'bone throwing,' which to most researchers would be self-evidently and undeniably Southern African (its untraced origins subconsciously projected in some particularly archaic and stereotypical local village order), raises at least two major questions for further research (van Binsbergen, in prep.). What about the origins, African or

otherwise, of *khaṭṭ* itself? And what about the possibility of more comprehensive intercontinental exchange patterns (of the type diffusionists like Frobenius were so fond of—and perhaps with more justification than the contemporary contempt for his work would suggest), in the fields of divination, world-view, classification, ritual etc.—of which the four-tablet system, with all its ramifications and variations within the Southern African sub-continent, might be merely one particular manifestation among many.

If ours is the time when the colonial order in Africa truly, dramatically and violently comes to an end, the pretexts (both of the condescending, and of the militant type) for an isolationist view of African cultural history can at long last be discarded for a perspective on an Africa which has always (and not merely by today's 'globalization' through fax machines, communication satellites and mass consumption) been part of the entire world.

NOTES

1. Earlier versions of this paper were presented at the '8e Marktdag Medische Sociologie/Antropologie,' Amsterdam, November 1990; Annual Conference, Association of Anthropologists of Southern Africa, Durban-Westville, September 1992; the conference on 'Symbols of change: Trans-regional culture and local practice in Southern Africa,' Berlin, 7-10 January 1993; and the African Studies Centre seminar, 12th January 1993. I am indebted to many colleagues present on those occasions for constructive criticism, particularly to Sjaak van der Geest, Gina Buijs, Ed Wilmsen, Jim Denbow, Ute Luig and Elizabeth Colson; further to Louis Brenner, Aron Mazel, Adrian Hastings and the Librarian in charge of Oriental manuscripts at Leiden University. Without the untiring enthusiasm of the library staff at the African Studies Centre and the generous financial support from that institution's Board this study would not have been possible.

2. Sources on the four tablet system in Southern Africa include: Bent 1892; Berglund 1989; Bleek 1928; Bourdillon 1976; Buijs 1992; Campbell 1968; Coertze 1931; de Jager & Seboni 1964; Dornan 1923; Eiselen 1932; Frobenius 1931; Garbutt 1909; Giesekke 1930; Hunt 1950, 1954, 1962; Junod 1927; Laydevant 1933; Nettleton 1984; Reynolds 1963, 1968; Roberts 1915; Stayt 1931; Tracey 1963; von Sicard 1959; Watt & van Warmelo 1930; Werbner 1989; Willoughby n.d.

3. According to van Warmelo (1974) the Pedi are a branch of the Kgatla Tswana.

4. Among others: Watt & van Warmelo 1930; Eiselen 1932; Laydevant 1933.

5. Dornan 1923, 1925: 55, 174; Junod 1927, ii: 604, 608.

6. Bleek 1928; Stayt 1931: 290f; Schapera 1930: 200f. The hypothesis of Kwi origin has however recently been revived (Buijs 1992) on the spur of new ideas concerning the presumed 'entoptic' characteristics of Southern African rock art (Lewis-Williams & Dowson 1988), i.e. hypotheses interpreting rock art and other decorative designs as visual stimuli which, given the physiological and psychological properties of seeing, are conducive to trance.

7. Nettleton 1984 presents an adequate overview, although she shuns from drawing the historical implications.

8. For cluster analysis the nominal scale of the data in table 1 (measuring a variable, called 'tablet name,' which obviously can assume dozens of different values) have to be converted into a numerical scale amenable to statistical processing. Starting from

the Shona nomenclature, a simple but effective method is then to assign to each name the value +1 if (linguistic variation aside) it corresponds with the Shona name; the value 0 if inversion occurs (i.e. the same name is applied to any of the other three tablets); and −1 in the case of substitution: if the name takes a form which does not belong to the Shona repertoire. It would be equally acceptable to reverse the values 0 and −1, but this turns out to lead to practically identical statistical results. From the data set we omit the item 'Botswana,' because it is not sufficiently specific (it derives from Staugård 1985, who largely bases himself on Campbell 1968 anyway). The data for Tati and Kwena produce multiple items because of diversification (multiple nomenclature which cannot be coded in one unique value). These multiple values do not upset the cluster analysis at all: the multiple items appear adjacently and can be treated as one. Use has been made of a cluster analysis with centroid connecting procedure and Euclidean distance measure (Wilkinson 1986: ch. 16). Under certain boundary conditions this choice of parameters is not permitted but those conditions do not apply here (Fischer & van Ness 1971). Connecting distances do not increase monotonously. Therefore no horizontal scale was used in this diagram; instead the connecting distances have been printed in the right-hand margin.

9. The Pedi four-tablet system as imported, in one isolated case, to the Tsonga and described there by Junod (1925-1927).

10. The female aspect of these identures is e.g. stated by Willoughby (n.d.). This author presents two indentures as the sign of the senior woman, one of the junior woman. Similar indentures are found in the Pedi system as described by Junod (1925, 1927), and in other North Transvaal systems (Nettleton 1984: ii, illustrations V.30, V.31, V.32; Stayt 1931: plate xlii opposite p. 286). Among the Kwi, however, the indentures mark male tablets (Dornan 1923, 1925; Coertze 1931); Kwi influence on the Francistown system cannot be ruled out. Understandably, the iconographic theme of the female notch at the bottom is widespread in the history of representational art since the late Palaeolithic.

11. Such case also occur outside the Francistown system. Just one example: the iconographic basic patterns as reconstructed by Nettleton for the Shona tablets also occur among the Kwena as described by de Jager & Seboni (1964: 5), but there *Kwami*'s iconography is displayed by the junior woman, *Nhokwara*'s by the junior man, and *Chirume*'s by the senior woman; only *Chitokwadzima*'s crocodile-inspired iconography is found back here in the proper (senior male) tablet, in the abstracted form of two chevrons situated along the longitudinal axis of the tablet and pointing to each other.

12. Cf. Monteil 1931; Maupoil 1943; Bascom 1969, 1980; Peek 1991; and references cited there.

13. Specific formal and mathematical reasons why the nutshell oracle should be considered less sophisticated and less efficient than the four tablet oracle are given in: van Binsbergen, 1994, 1995.

14. For instance, in a discussion of the material culture of the Gwembe Tonga (southern Zambia), Reynolds (1968) presents a picture of an ornamental head ring (originally meant to facilitate the carrying of loads) consisting of a circle of fourteen cowry shells; this circle of non-round elements, too, is a *kata*. It may be significant that cowries are in use as unmarked elements in divination in many parts of Africa, e.g. in West-African systems related to Fa and Ifa (Bascom 1980).

15. Well-intentioned and obviously inspiring as these efforts are, they are methodologically flawed and tend to play down the far more established, immense impact upon Hellenic civilisation from the interconnected civilisations of the Fertile Crescent, of which only the Egyptian one qualifies as African.

16. The neologism *geomantica*, for divination (μαντικη) by the element 'earth' (γη) rather than air, fire or water, as a distinct type, is first attested in fragments from the Roman encyclopaedic writer Varro (second century A.D.) (Bouché-Leclerc 1975, I, 1: 119). Ancient divination being full of chthonic elements, it cannot be reconstructed if Varro referred to any specific technique. From the late middle ages onwards the term

geomancy was exclusively applied by European translators and practitioners (including Hugh of Sankt Gallen, Cornelius Agrippa von Nettesheim, and Robert Fludd) to Arabian *khatt* divination, which in their hands became a cornerstone of European esoterism. Under the alternative names of *punctatton* or *Punktierkunst* (in reference to the dots used, see below) such Arabian-derived geomancy was a common divination technique in all walks of European life until the nineteenth century.

17. $P = 4! = 4*3*2*1$.

18. E.g. Bascom 1980, a book of nearly 800 pages, mainly contains one Nigerian diviner's interpretative catalogue in verse.

19. Segy 1953.

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